

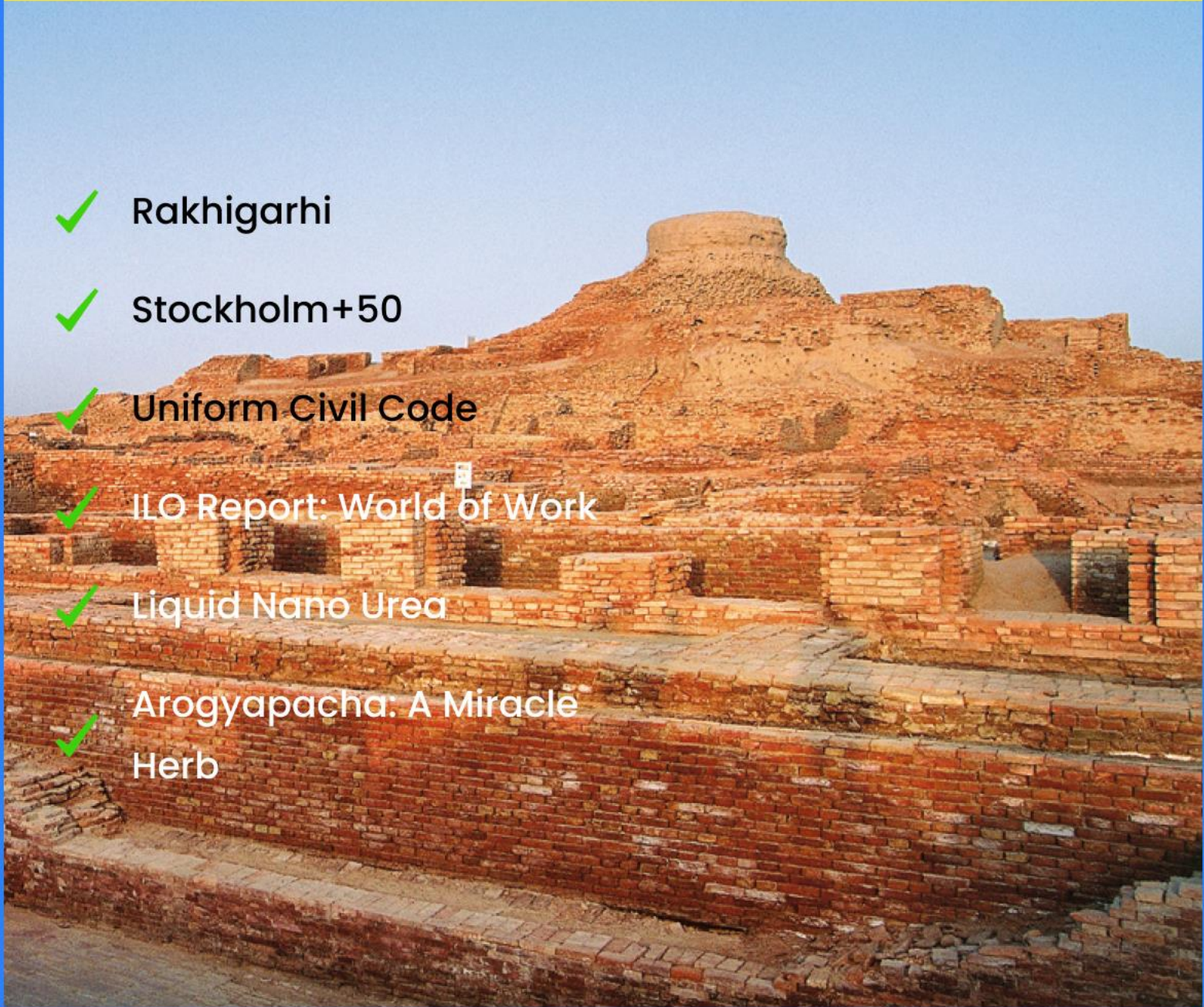
Monthly



# Current Affairs

## Notes

**1st May – 31st May**

- 
- ✓ Rakhigarhi
  - ✓ Stockholm+50
  - ✓ Uniform Civil Code
  - ✓ ILO Report: World of Work
  - ✓ Liquid Nano Urea
  - ✓ Arogyapacha: A Miracle Herb

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## GENERAL STUDIES 1

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

### BURIAL EVIDENCE FROM RAKHIGARHI

Priority: High



Primary Source: The Indian Express

**Prepp Prelims Booster:** Mature Harappan Sites: Rakhigarhi, Harappa, Banawali, Kalibangan, Dholavira etc.,

**Prepp Mains Booster:** Significance of Rakhigarhi discovery; Other Burial practices during Harappan Civilization

#### Context:

DNA samples from two human bones (both women) discovered in a cemetery of a Harappan site (Rakhigari) in Haryana have been sent for scientific analysis.



#### About Rakhigarhi site

- Rakhigarhi is located around 150 kilometres from the national capital in the **Hisar district of Haryana**. The site was first excavated by the ASI in **1998-2001**.
- It is one of the Largest sites of the Indus Valley Civilization (IVC) and has evidence from the early and mature phase of the Harappan civilisation.
- **Mature Harappan phase characteristics:**
  - Planned township
  - mud-brick and burnt-brick houses
  - proper drainage system.
  - **Potteries** found here include
    - Red ware,
    - dish-on-stand, vase, jar, bowl, beaker and perforated jar.
  - Animal sacrificial pit and circular fire altars:- signifies the ritual system.
  - A cylindrical seal with five Harappan characters.
- **Other antiquities found here**
  - blades; terracotta and shell bangles;
  - beads of semi precious stones,
  - copper objects;
  - animal figurines,

- toy cart
- wheels of terracotta;
- bone points;
- inscribed steatite seals and sealings.

- Rakhigarhi is one of the **five iconic places** mentioned by Union Finance Minister **Nirmala Sitharaman** during her Budget Speech in February 2020.
- **Hastinapur** in Uttar Pradesh, **Sivasagar** in Assam, **Dholavira** in Gujarat, and **Adichanallur** in Tamil Nadu are the other locations.

#### Significance of this discovery

- Its result might reveal information about the **genealogy and eating habits** of people who lived thousands of years ago in the Rakhigarhi region.
- According to ASI authorities, pots and other items were discovered buried beside them in a pit as part of **Harappan Civilisation burial practices**.

#### Harappan Burial customs

- In terms of magnificence, the Harappan civilisation has produced no monuments to the dead that can compare to the pyramids of Egypt or the Royal Cemetery of the Mesopotamian city of Ur.

#### Burial Practices

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Extended Position</b>       | <ul style="list-style-type: none"> <li>• The most frequent manner of burial in an extended posture in a small pit or brick chamber, with the head facing north.</li> <li>• The corpses were usually arranged in a north-south direction.</li> <li>• The bodies were positioned on their backs.</li> </ul>                                                                                                         |
| <b>Presence of Grave goods</b> | <ul style="list-style-type: none"> <li>• Food, pottery, tools, and decorations (such as shell bangles, a necklace, and an earring) were all put with the body, but they were never excessive or extravagant.</li> <li>• The burial was filled with a significant number of earthen pots. Copper mirrors, mother of pearl shells, antimony sticks, and other items were sometimes buried with the dead.</li> </ul> |
| <b>Coffin burial</b>           | <ul style="list-style-type: none"> <li>• Normally, no coffin was used, architecturally or otherwise, but archaeologists discovered a woman's remains in a wooden coffin lined with reed mats at Harappa.</li> </ul>                                                                                                                                                                                               |
| <b>Symbolic burials</b>        | <ul style="list-style-type: none"> <li>• At <b>Kalibangan</b>, there were symbolic burials with grave items but no skeletons.</li> </ul>                                                                                                                                                                                                                                                                          |

|                    |                                                                                                                                                                                                                                                                                                   |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | <ul style="list-style-type: none"> <li>There have been small circular holes discovered with big urns and ceramics. They didn't have any skeletal remains, though.</li> </ul>                                                                                                                      |
| Fractional burials | <ul style="list-style-type: none"> <li>At <b>Mohenjodaro and Harappa</b>, fractional burials (where the corpse was exposed to the elements and the bones were collected and buried) were discovered.</li> </ul>                                                                                   |
| Urn burials        | <ul style="list-style-type: none"> <li>Urn burials were also discovered in <b>Mohenjodaro and Harappa</b>, indicating that cremation was practised.</li> </ul>                                                                                                                                    |
| Multiple burials   | <ul style="list-style-type: none"> <li>At <b>Lothal</b>, an unusual funeral ceremony involving the burial of two people in the same grave hole was seen.</li> <li>In <b>Rakhigarhi</b>, the first anthropologically proven combined burial of a couple buried together was discovered.</li> </ul> |

These customs suggest that the Harappans had a distinct approach to burial than those who came after them. Cremation appears to have been the main system throughout history. At the same time, the meticulous arrangement of bodies with decorations and toiletries suggests a belief in life after death. As a result, it may be deduced that the Harappans' religious and funeral beliefs and customs were quite diverse.

### IRON IN TAMIL NADU: 4200 YEARS AGO



Priority: High



Primary Source: The Indian Express

Prepp Prelims Booster: Prehistoric sites of Tamil Nadu:

Prepp Mains Booster: Importance of Iron discovery; comparing the Iron age of northern and southern India

#### Context:

Carbon dating of unearthed artefacts in Tamil Nadu reveals evidence of iron used in India as far back as 4,200 years.

#### What are the findings?

- Prior to this, the first evidence of iron use in India dates from 1900–2000 BCE, and in Tamil Nadu, from 1500 BCE. The most recent evidence dates the discoveries to 2172 BCE in Tamil Nadu.
- Mayiladumparai**, near Krishnagiri in Tamil Nadu, lies roughly 100 kilometres south of Bengaluru.
- Mayiladumparai is a significant archaeological site containing artefacts spanning from the Microlithic (30,000 BCE) to the Early Historic (600 BCE) periods.
- Togarapalli, Gangavaram, Sandur, Vedarthattakkal, Guttur, Gidlur, Sappamutlu, and Kappalavadi** are among the archaeological sites nearby.

#### Timeline before this discovery

- Iron usage was traced back to **1300 BCE in Ahar** in Rajasthan in 1979.
- Later, samples from **Bukkasagara in Karnataka** dated back to 1530 BCE, confirming iron manufacturing.
- Excavations discovered evidence of iron smelting at **Raipura** in the Mid-Ganga valley pushed the dating back to 1700–1800 BCE, and then to 1900–2000 BCE based on examinations at **Malhar near Varanasi** and **Brahmagiri** in North Karnataka.
- Prior to this finding, the oldest evidence of iron used in Tamil Nadu was found at **Thelunganur** and **Mangadu** near Mettur **about 1500 BCE**.

#### Iron age in North India

- The Iron Age in North India was coeval with Painted Grey Ware Culture, and in South India, it was associated with **Megalithic burial** mounds.
- The painted grey pottery may be traced back to about **1100 and 800 BCE**.
- More than 1000 sites of painted grey ware pottery have been discovered in northern India, with the **Ganga-Yamuna valley** having the highest concentration.
- In the eastern Ganga valley and Central India, these ceramics replaced the **Black and Red Ware Culture**.
- The pottery was fine grey in colour with painted geometric designs. The painted grey ware laid the foundation of the early political formations. It correlates with the **Kuru-Panchala kingdom** known from the Vedic texts.
- The Painted Grey Ware cultural phase is followed by **Northern Black Polished Ware culture (NBPW)**, which is associated with the Mahajanapada and Mauryan periods.
- The Painted Grey ware sites reveal the **development of agriculture and pastoralism, and the settlements of this period grew in dimension**.
- They show a **large-scale population increase** in the northern part of India.

## Historical Importance of Iron Discovery

- Iron is not known to have been utilised in the **Indus Valley**. **Copper** is thought to have originated in India.
- When iron technology was established, it led to the development of **agricultural equipment** and **weaponry**, allowing civilisation to advance economically and culturally.
- Copper tools were helpful, but they were **brittle** and not as robust as iron ones.

It would have been impossible to cut deep woods and put the area under cultivation using copper tools, which is why **deforestation** occurred only after people discovered iron.

### VADNAGAR'S TIES WITH BUDDHISM

Priority: High



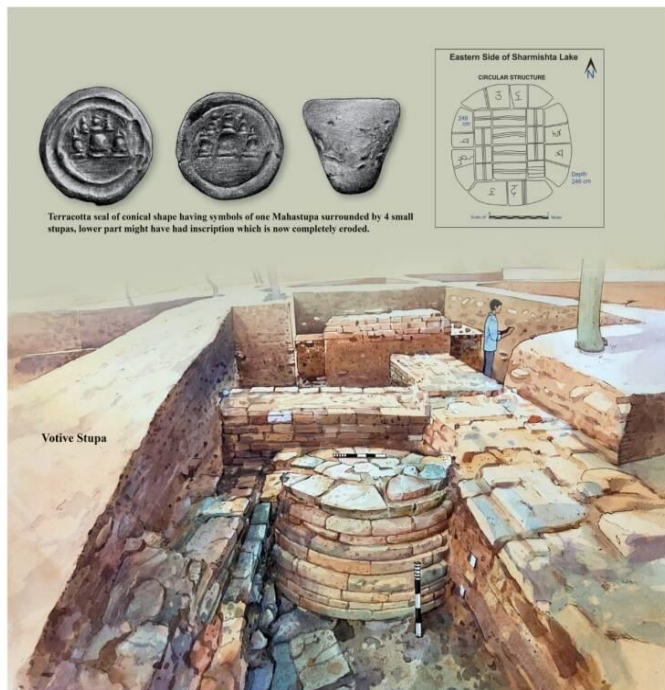
Primary Source: The Indian Express

**Prepp Prelims Booster:** Buddhist sites in India; Travellers who visited India

**Prepp Mains Booster:** development of Buddhism in India.

### Context:

In Lumbini, Prime Minister Narendra Modi noted that his hometown, Vadnagar, was a significant centre for Buddhist study centuries ago.



## History of Vadnagar

- Vadnagar is described as a prosperous town in the **Puranas** and even in the chronicles of the renowned Chinese explorer **Hieu-en-Tsang (7th century)**.
- In 1152 AD, **King Kumarpal** fortified the city, according to an inscription on the Arjun Bari Gate.
- Chamatkarpur, Anandpur, Snehpur, and Vimalpur** are some of the other historical names for Vadnagar.
- The push to promote **Vadnagar as a historical and cultural destination** began during Narendra Modi's

tenure as Gujarat chief minister when the Gujarat government established the **Tana-Riri annual music festival** in Vadnagar in honour of two sisters who were gifted singers who, according to Gujarati folklore, gave up their lives rather than agree to sing in Emperor Akbar's court.

- The **Kirti Toran of Vadnagar**, an arch from the **Solanki period**, was chosen as Gujarat's "symbol."

## Buddhism in Vadnagar

- In 2006, the Gujarat state archaeology department began excavations at Vadnagar, a tiny town in the Mehsana district of north Gujarat.
- Around 20,000 objects and Buddhist relics, some going back to the 2nd century, have been found here.
- An **elliptical structure** and a circular stupa, as well as a square memorial stupa measuring 2×2 metres and 130 centimetres with a walled enclosure, are among them.
- It resembles a platform with a central chamber that resembles a **pradakshina route**.

During the excavations, **monks' bowls** with a terracotta sealing with inscriptions of **namassarvagaya** and a face-shaped pendant with the **triratna symbol** were discovered.

### SHREE JAGANNATHA HERITAGE CORRIDOR

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** About Jagannatha Temple

**Prepp Mains Booster:** Impact of the Puri Heritage Project; AMSAR Act

### Context:

In May, the **Archaeological Survey of India** informed the Orissa High Court that no authorization was provided to the State government for development surrounding the Jagannath temple.

- The **ASI** stated that the excavation work for the corridor had the potential to harm archaeological relics at the historic site.
- The Archaeological Survey of India (**ASI**) said on May 17, that during excavation for the controversial heritage corridor project surrounding the 12th century Jagannath Temple in Puri, Odisha, a sculpture of a lion, potentially dating back to the **Ganga dynasty**, was discovered.
- This is the **third lion sculpture** discovered during excavations.

## What is the Puri Heritage Corridor Project ?

- The Puri Heritage Corridor Project is a ₹3,200-crore reconstruction project in Puri that includes the **800-year-old Jagannath temple**.
- The **Shree Jagannatha Heritage Corridor (SJHC)** or the **Shree Mandira Parikrama Project** falls under the

umbrella project for the renovation of the land surrounding the temple.

- Among the 22 development projects planned under the scheme includes –
  - The **temple corridor**, redevelopment of the SJTA building.
  - a cultural centre with a library,
  - the **Bada Danda (grand road outside the temple)** Heritage Streetscape Project,
  - a plan to improve temple amenities such as building cloakrooms and toilets,
  - a control and command centre,
  - multi-level parking,
- The **Odisha Bridge and Construction Corporation (OBCC)**, which is part of the State's Works Department, is the project's implementing authority.



### Why has it become a point of contention?

- The Archaeological Survey has declared the Jagannath temple as a **monument of national importance** and it is a centrally protected monument.
- Construction is forbidden inside a **100-meter peripheral of a protected area**, according to the **Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act (AMSAR)**.
- A **controlled area** is defined as an area that extends 200 metres in all directions surrounding the monument.
- According to the AMSAR Act, the **National Monuments Authority (NMA)**, which was established in 2011 under the **Ministry of Culture**, is responsible for conserving and preserving ASI-protected sites by regulating the forbidden and regulated area around them.
- Permission from the NMA is necessary if construction is to be done in a restricted or regulated area.

Modern Indian history from about the middle of the eighteenth century until the present- significant events, personalities, issues.

### RAJA RAM MOHAN ROY

Priority: High



Primary Source: The Indian Express

**Prepp Prelims Booster:** About Raja Ram Mohan Roy; Brahmo Samaj; Newspapers by Raja Ram Mohan Roy

**Prepp Mains Booster:** Raja Ram Mohan Roy as a religious reformer, social reformer, educationist

### Context:

Ram Mohan Roy, one of the most significant social and religious reformers of the nineteenth century, would have turned 250 today.

- He was born on **May 22, 1772** in what was then the Bengal Presidency's Radhanagar in Hooghly district.



### Raja Ram Mohan Roy: A Religious reformer

- Raja Ram Mohan Roy is regarded as the forefather of modern India because he initiated religious and social change in modern India.
  - He rejected the walls of **caste-divisions, idol worship**, and sacrificial rituals.
- Mughal emperor **Akbar II** bestowed the **title of Raja on Roy**.
- Rammohun absorbed **rationalism** through his early education in eighteenth-century Perso-Arabic literature.
  - He studied **Vedantic monism** and was exposed to **Christian Unitarianism** after moving to Calcutta in 1815 after quitting from the East India Company's service.
- Raja Ram Mohan Roy was a religiously **liberal**.
- He denounced idolatry, priestcraft, and polytheism, and translated the Upanishads into Bangla to show that ancient Hindu texts promoted monotheism.
- Islam's **monotheistic** and Christianity's **moral values** affected him.
- His first effort was the founding of the **Atmiya Sabha**.
- On August 20, 1828, he founded another organisation, which was known as the **Brahma Samaj**, with **Tarachand Chakravarty** as its secretary.
- However, the **orthodox organisation** known as the **Dharma Sabha**, opposed Raja Ram Mohan Roy's Bengali Weekly, **Samvada Kaumudi**.

### Raja Ram Mohan Roy: A social reformer

He put up a lot of effort to end the practice of **Sati among Hindus**.

- He addressed many letters to **Governor General Lord William Bentinck**, urging him to take legal action against anyone who supported Sati.
- He asserted that even **Hindu religion was against the practise of Sati** by invoking ancient texts.
- When the Hindu conservatives brought a petition to parliament to preserve this inhumane practise, Raja Ram Mohan Roy countered with a petition claiming that the Sati practises were inhumane and unfair.
- Because of his efforts, Governor General Bentinck issued a government decree prohibiting sati in 1829, which was not reversed by a Hindu appeal to the Privy Council from the anti-abolitionist Dharma Sabha in 1830.
- He preached in favour of **widow remarriage** alongside the repression of Sati, as the suppression of Sati would otherwise be useless.
- To elevate the position of Hindu women, he drew extensively from **Vedic literature**.
- He also urged that women be given the **right of inheritance to property** in order to elevate their standing.
- He also **denounced polygamy**, stating that it would be impossible to provide a safe haven for women until polygamy was abolished.
- He said "As a result of their lack of education, the Indians fell prey to countless superstitions and pointless ritual"
- To fight these evils, it was vital to bring **western education and literature**.
- He assisted Lord William Bentinck in **spreading English literature and sciences in India**.

### Propagator of modern education

- Ram Mohan Roy was one of the first proponents of modern education, which he saw as a key tool for spreading modern ideals throughout the country.
- **David Hare**, a watchmaker who came to India in 1800 and dedicated his entire life promoting modern education in India, created the famed **Hindu College in 1817**.
- Raja Ram Mohan Roy enthusiastically supported Hare in this and other educational endeavours.
- In 1825, he founded **Vedanta College**, which provided courses in Indian learning as well as **Western social and physical sciences**.
- He was also passionate about making **Bengali** the language of intellectual exchange in Bengal. He put together a **Bengali grammar book**.

### Brahmo Samaj

- The Brahmo Samaj was the **first modern reform movement**, heavily inspired by contemporary Western ideals.

- In 1828, Rammohan founded the Brahmo Sabha, which was eventually renamed Brahmo Samaj.
- Roy's initial organisation, the **Atmiya Sabha**, was created in Calcutta in 1815 and evolved into the Brahmo Sabha in 1828.
- It arose as a prominent religious movement among Bengal's educated middle class, founded on the fundamental premise of monotheism.
- The Brahma Samaj advocated for
  - one God's conception,
  - love for humankind,
  - and service to humanity as the greatest objective of love.
- Because of the opposition to idol worship, no priesthood or sacrifices of any kind were permitted.
- It was never intended to be a new religion.
- The Dharma Sabha was founded by orthodox Hindus led by Raja Radhakant Deb with the goal of opposing Brahmo Samaj.

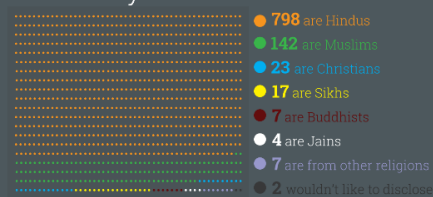
### Raja Ram Mohan Roy's Journalism

- He studied Oriental languages such as **Arabic, Persian, and Sanskrit**, as well as European languages such as English, French, Latin, Greek, and Hebrew.
- He published magazines in **Bengali, Persian, Hindi, and English** to disseminate scientific, literary, and political information, to educate the public on current events, and to voice popular demands and grievances before the government.
- In 1821, he established the **country's first printing press**.
  - He founded India's first **vernacular newspaper, Sambad Kaumudi**.

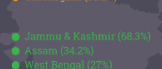
### Salient features of Indian Society, Diversity of India.

#### POWER TO NOTIFY MINORITIES

For every **1000** Indians



Top States with highest %



Priority: High

Primary Source: The Indian Express

Prepp Prelims Booster: Religious and Linguistic Minorities

Prepp Mains Booster: Constitutional and Statutory Provisions of Minorities

### Context:

Recently a Public Interest Litigation (PIL) was filed in the Supreme Court of India challenging the power of the Centre to notify minority communities at a national level.

**Who is a minority in India and who can decide the status of Minorities?**

- Currently, **NCMEI Act 2004** empowers the central government to treat any community as a minority community in India for setting up Minority Educational Institutions.
- In accordance with the Act, the Central Government has notified six communities in India as minority communities at the national level – **Muslims, Christians, Sikhs, Buddhists, Parsis and Jains.**

### What is the PIL about?

- The PIL explicitly challenges the **constitutionality of Section 2(f) of the National Commission for Minority Educational Institutions Act 2004**, which it describes as arbitrary and in violation of Articles 14, 15, 21, 29, and 30 of the Constitution.
- Section 2(f) of the Act says that “minority,” for the purpose of this Act, means a community notified as such by the Central Government.”
- Even **Section 2(c)** of the National Commission for Minorities (NCM) Act, 1992 also empowers the Centre with similar powers.
- Muslims, Christians, Sikhs, Buddhists, and Parsis were all designated as national minorities by the Indian government in 2005.
- The Central government designated Jainists as a minority community in 2014, placing them sixth on the national list.

### Are minorities defined in India?

- Although the term “minorities” appears in various articles of the Indian Constitution, the term “**minority**” is **not defined**. The Constitution, on the other hand, recognises religious and linguistic minorities in India.

### Constitutional Provisions:

- Fundamental rights: **Cultural and Educational Rights (Articles 29–30)**
- Article 29:** It provides that any section of the citizens (Minority or Majority) residing in any part of India has a distinct language, script or culture of its own, shall have the right to conserve the same.
  - It ensures protection for both religious and linguistic minorities.
- Article 30:** All minorities have the right to establish and administer their own educational institutions.
  - Article 30’s protection is limited to religious and linguistic minorities and does not apply to any other group of citizens (as under Article 29).
- Article 350-B:** The Article provides for a Special Officer for Linguistic Minorities appointed by the President of India. It would be the duty of the Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities under the Constitution.

### Statutory provisions:

- National Commission for Minorities (NCM) Act, 1992
- National Commission for Minority Educational Institutions Act 2004

### Population and associated issues

#### ABORTION RIGHTS

Priority: High



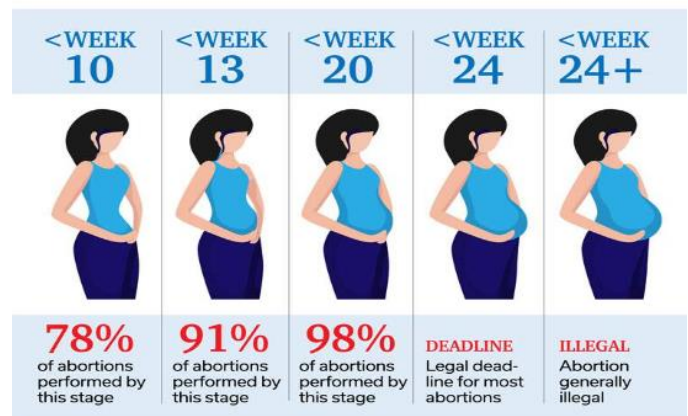
Primary Source: The Hindu

**Prepp Prelims Booster:** MTP Act features

**Prepp Mains Booster:** Legality of abortion in India; barriers for safe abortion

### Context

- Every day in India, women, pregnant people, and transgender individuals fight for their right to choose how they give birth and their **bodily autonomy**.
- Despite this grim reality, Indian netizens on social media believe that the country is more advanced on abortion rights than the United States due to the **Medical Termination of Pregnancy Act of 1971 (“MTP Act”)**.



### Facts regarding Abortion

- According to the World Health Organization –
  - Six out of ten unintended pregnancies result in an induced abortion, Approximately 45% of all abortions are unsafe, with nearly all (97%) occurring in underdeveloped nations.
  - Abortions** account for **10% of maternal fatalities** in India, according to nationally representative research published in PLOS One journal in 2014.
- According to the latest phase of the **National Family Health Survey 2019–2021**, India's abortion rate is 3% of all pregnancies.
  - In India, more than half of abortions (**53%**) are performed in the private hospitals, compared to just 20% in the public hospitals, owing to the unavailability of abortion services in public facilities.
  - Over a quarter of abortions (**27%**) are carried out at home by the woman.

- According to a recent study, **sex-selective abortions** in India might result in the birth of 6.8 million fewer girls between 2017 and 2030.

### Obstacles for Abortion

- The MTP Act**, which was initially adopted in 1971 and then revised in 2021, makes medical termination of pregnancy possible in India under certain circumstances.
  - However, this Act is intended from a legal aspect to primarily **protect medical practitioners**, as "induced miscarriage" is a criminal offence under the Indian Penal Code.
  - This assumption implies that women lack choice and physical autonomy, and that the decision to have an abortion is **exclusively based on the doctor's view**.
  - The MTP Act also solely refers to a "pregnant woman," ignoring the fact that **transgender people and those who do not identify as women can get pregnant**.
- Even though the MTP Act has been in effect for 50 years, women and transgender people continue to **confront significant barriers to safe abortion care**. The following are seven examples:
  - They may not be aware that abortion is legal or where to obtain one safely;
  - Because the MTP Act does not recognise abortion as a choice, they must seek medical approval even in the first few weeks of pregnancy;
  - Unmarried and transgender persons are still stigmatised and may be turned away from health institutions, forcing them to seek dangerous treatment.
  - The Protection of Children from Sexual Offences Bill (POCSO), a 2011 legislation against child sexual crimes, has an influence on privacy and makes it more difficult for teens to get safe abortion services.
  - Many people are still forced to agree to a permanent or long-term contraceptive technique as a condition of receiving abortion services;
  - Health-care practitioners may impose their own morality on patients by requiring 'husbands' or 'parental' approval for abortion.
  - Women seeking abortion care in health institutions are frequently mistreated and do not receive pain relief drugs;
  - Despite laws prohibiting sex determination, the unlawful practise persists.
- Unregulated ultrasound clinics** are proliferating in India, facilitating the unlawful practise of sex determination, which leads to unsafe abortions and female foeticide.

### Way Forward

- In Indian society, there is an urgent need to transform the conversation around abortions from a family

planning and maternal health problem to a **sexual health and reproductive rights** one.

- The scenario in India demonstrates that **one legislation is insufficient** and that the threshold for reproductive justice must be raised.

To provide high-quality and respectful abortion treatment, India must reform its **health-care systems**.

### Poverty and developmental issues

#### LADAKH HAS THE HIGHEST SEX RATIO AS PER CRS

Priority: Medium



Primary Source: The Indian Express

Prepp Prelims Booster: CRS; Sex Ratio at Birth

Prepp Mains Booster: Reasons for falling Sex Ratio; Initiatives to address it

### Context:

According to the yearly report on Vital Statistics based on the 2020 Civil Registration System report, **Ladakh** had the highest sex ratio at birth in the country in 2020, followed by Arunachal Pradesh, Andaman & Nicobar Islands, Tripura, and Kerala.

### What is the Civil Registration System (CRS)?

- In India, the Civil Registration System (CRS) is a single mechanism for documenting vital events (births, deaths, stillbirths) and their characteristics in a **continuous, permanent, mandatory, and universal manner**. Births and deaths are required to be registered by the **Registration of Births and Deaths Act, 1969 (Act No. 18 of 1969)**. The best source of vital statistics is civil registration records.

### Sex ratio at Birth

- The sex ratio refers to the proportion of males to females in society.
- The Sex Ratio at the time of a registered birth is an essential indication for mapping the population's sex disparity at the start of their lives.
- At birth, the biologically typical sex ratio is 1,050 males to 1,000 females or 950 females to 1,000 males. The number of females per 1,000 males is the sex ratio.
- According to the **UNFPA's State of the World Population 2020 report**, India's sex ratio at birth is 910, which is on the lower end of the index.

#### Civil Registration System (CRS) 2020: Sex Ratio at Birth

| Best performing States/UTs |           | Poorly performing States/UTs |           |
|----------------------------|-----------|------------------------------|-----------|
| State/UT                   | Sex Ratio | State/UT                     | Sex Ratio |
| Ladakh                     | 1104      | Manipur                      | 880       |

|                           |      |                                          |     |
|---------------------------|------|------------------------------------------|-----|
| Arunachal Pradesh         | 1011 | Dadar Nagar and Haveli and Diu and Daman | 898 |
| Andaman & Nicobar Islands | 984  | Gujarat                                  | 909 |

### Factors contributing to the Falling Sex Ratio

- The key reason for India's low sex ratio is **prenatal-sex determination**.
- In many regions of India, **patriarchal communities** have turned their prejudice and bigotry into a compulsive preference for boys and discrimination against girls.
  - Women's jobs are constantly **socially undervalued**, and they have little decision-making authority.
  - Lack of education and poverty:
  - Women's poor standing in society is exacerbated by **extreme poverty and a lack of education**.
- Infant and Maternal Mortality:** The infant mortality rate is the number of deaths of babies before the age of one. Due to **female foeticide**, the sex ratio declines terribly.
  - Maternal mortality also contributes to the declining sex ratio as most women die during childbirth due to improper care and fewer facilities.
- Lack of empowerment of women:** There is a lack of empowerment of women, especially in the rural areas. Women do not enjoy opportunities as men do. Due to a lack of education, women are unable to establish their roles in many places.
- Social status of women:** In most parts of India, women are merely considered an object. People are worried about the dowry issue with the birth of a girl child. Due to financial problems, most families in rural areas prefer male child over female.

### Initiatives to fight against discrimination

#### The Beti Bachao, Beti Padhao (BBBP)

- This initiative was launched by the Indian government in 2015 to address issues about **gender inequality and women empowerment** in the country. 'Save the girl child, educate the girl kid,' says the name Beti Bachao, Beti Padhao.
- It seeks to educate residents about gender prejudice and increase the effectiveness of girls' welfare programmes.
- The Beti Bachao Beti Padhao Yojana has the following **objectives**:
  - Increase the child sex ratio.

- Ensure women's empowerment and gender equality.
- Prevent gender-based, sex-based exclusion.
- Ensure the girl child's survival and protection
- Encourage girls to attend school and participate in activities.

#### PCPNDT Act

- The Pre-conception & Pre-natal Diagnostics Techniques (PC & PNDT) Act of 1994 was enacted in response to India's deteriorating Sex Ratio, which fell from **972 in 1901 to 927 in 1991**.
- The statute's principal goal is to **prohibit the use of sex selection procedures** before or after conception, as well as the misapplication of prenatal diagnostic techniques for sex-selective abortion.

Despite several policies and programmes, India's female and girl child health outcomes remain poor. Certain types of prejudice, particularly the preference for sons, aided by technological forces, are responsible for female foeticide. To empower women, secure the survival of girl children, and close the gender gap in healthcare access, effective implementation of current women and children-related policies, including women's property ownership, is essential.

### IMPACT OF COVID-19 ON TRIBAL POPULATION

Priority: Medium



Primary Source: The Indian Express

Prepp Prelims Booster: Dhap Tribal dance, Odisha

Prepp Mains Booster: Impact of COVID on tribals & tribal Arts; Measures needed to adopt a comprehensive strategy

Suggested Reading: <https://bit.ly/3zBIFWI>

#### Context:

A renowned tribal researcher found that the covid-19 pandemic has dealt a devastating blow to Dhap tribal dance as the performers could not be arranged in the Kalahandi district of Odisha.

#### What is Dhap tribal dance?

- Dhap dance originates from the **Balangir district** of the state of Orissa.
- This cultural heritage of the Kosal region of the Western part of Orissa is a very unique art form.
- Dhap Dance also called **Sambalpuri folk dance** is mostly performed only by the **Kandha tribe** of the Kosal region in Orissa.
- Both men and women participate in the dance.
- The dance is performed during the marriage ceremony and during the main festival of the Oriyas i.e. 'Nuakhai'.
- The dance is named so because of the accompanying instrument called 'Dhap.'

- The Dhap is in the **shape of a Khanjari** made up of wood with one side open and the other side covered with a piece of animal skin.
- The Dhap dancer holds the Dhap with his left hand, the sling slung over his left shoulder and beats with his right as well as left hand.
- Tribals also worship the local God through the medium of Dhap dance.

### Reasons for fading away of tribal arts since COVID-19

- **Fear of COVID:** The COVID-19 guidelines regarding maintaining physical distance and legal action upon violation have resulted in many living in isolation.
  - The tribals have stopped singing and dancing. The young ones without seeing the veterans perform can't take the performing art forward to the next generation.
- **Losing skills from misuse:** Many tribals are instant poets. They are finding it difficult to recall and playing interlude music has disrupted the rhythm of the singers.
- **Modernisation:** Another issue has been the new generation's addiction to the internet. It has lowered their enthusiasm for conventional forms and begun to influence their performances.
  - Previously, the government-run Academy of Tribal Language and Culture (ATLC) would fund at least 100 tribal performers' visits to various festivals each year which has sponsored anyone in the last 2 years.

### Issues faced by Tribals and Forest Dwellers due to COVID-19

- Lack of information on COVID, access to health facilities, and testing kits
- Issues of tribal migrant workers stuck in cities with no ration and living on one meal.
- Food insecurity, loss of livelihoods and employment: Poor access to PDS and employment under MGNREGA affected due to COVID lockdown.
- Loss of livelihoods from Minor forest produce as the lockdown has affected the collection, use and sale of Minor Forest Produce or Non-Timber Forest Produce(MFP/NTFP).
- Issues of PVTGs: The restriction on movement has resulted in affecting the way of life of many vulnerable tribal groups.
- Issues faced by Pastoral and nomadic communities without access to fodder for livestock.
- Forest land diversions for mining during lockdowns where people cannot come to resist.

### Measures for a comprehensive COVID-19 response strategy

- **Setting up a COVID Response Cell in MoTA** with designated nodal officers to coordinate between different departments.
- **Ensuring appropriate guidelines and instructions** for the tribals and forest dwellers to deal with COVID lockdowns.
- **Raising awareness and Ensuring healthcare** by reaching out to tribals, PVTGs, pastoralists and OTFDs.
- **Ensuring Food Security, Survival Incomes and Protecting Livelihoods** to address undernourishment through free ration and nutritional food including millets, dal, Wheat etc.,
- **Strengthening NTFP based livelihoods** by ensuring MSP through institutions like TRIFED.
- **Ensuring support to PVTGs and pastoral communities and communities living in protected areas(PAs)** by issuing advisories regarding health facilities, providing PDS etc and requesting MoEFCC for modification of advisory on PAs.
- **Ensuring wage employment combined with a basic income for ensuring food security** through agencies like the Ministry of Rural Development and enabling all tribals to avail employment under MGNREGA.
- **Compensatory afforestation, forest diversion and displacement:** The compensatory afforestation fund can be requested for the Gram Sabha for community forest management.
- Ensuring effective implementation of **Forest Rights Act**.

If we wish to ensure the survival of tribal dance and music, master tribal dancers and singers must be found first and compensated to ensure the art forms' survival. If financial help is not considered for the safekeeping of their costumes and instruments, this intangible heritage will become a museum artefact.

urbanization, their problems and their remedies.

### DEATHS DUE TO AIR POLLUTION

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** Air Pollutants, Schemes addressing Air Pollution

**Prepp Mains Booster:** impact of air pollution in India

### Context:

According to a recent analysis published in the journal **The Lancet Planetary Health** on pollution and health, air pollution was **responsible for 8% (16.7 lakh) of all fatalities in India in 2019**.

### What is the Global Overview of the Report?

- **Total fatalities:** In 2019, pollution is projected to have killed 90 lakh (9 million) people (equivalent to one in six deaths worldwide). Since the Lancet Commission on Pollution and Health 2015 report, this number has stayed steady.

- **Air pollution:** At 67 million fatalities worldwide, air pollution (including home and ambient) continues to be the leading cause of mortality, with 1.7 million deaths due to hazardous chemical pollutants.
- **Concerning increase:** Since 2000, the number of deaths linked to ambient air pollution has increased by nearly 55%, from 2.9 million to 4.5 million.
- **Anti-poverty efforts** that counteract pollution deaths: Deaths from ambient air and chemical pollution offset the drop in deaths from other pollution sources often associated with extreme poverty, such as indoor air pollution and water pollution.
- **Water Pollution:** 1.36 million people died prematurely because of water contamination.
- **Lead was responsible for 9 lakh premature fatalities,** with hazardous occupational risks accounting for 870,000.

### What is the status of Pollution in India according to the Report?

- **Air pollution:** killed 1.67 million Indians in 2019, accounting for 18% of all mortality, according to the study.
- The majority of deaths – 9.8 lakh (almost 58 per cent) – were due to outdoor pollution, with another 6.1 lakh (36%) caused by residential air pollution.
- **Geographical Distribution:** The Indo-Gangetic Plain has the worst air pollution.
- **State-wise data:** According to the survey, over 50% of deaths in India are due to air pollution in Uttar Pradesh, Maharashtra, Bihar, West Bengal, and Rajasthan.
  - These states were also in the Top Five with the highest Mortality due to air pollution in 2017.
  - **Uttar Pradesh is the state with the highest levels of both ambient and residential air pollution.**
- **Lead Concentration:** In India alone, 27.5 crore children have blood lead levels that exceed the minimum safety standards (5 g/dL).
- **Causes of Air Pollution:** In India, domestic biomass burning was the leading cause of air pollution mortality, followed by coal combustion and crop burning.

### What is the Impact of Air Pollution on India?

- **NO2 concentrations:** In 2019, 185 million new cases of paediatric asthma were linked to NO2.
- **Inequity:** According to the research, countries with lower aggregate incomes bear a disproportionate share of pollution-related mortality (92 per cent)
- **Economic losses:** Excess fatalities due to pollution (16%) resulted in \$4.6 trillion in economic losses in 2019, accounting for 6.2 per cent of global economic output.
- **Covid-19 mortality got amplified:** Chronic airborne particulate matter exposure is directly connected to 15% of COVID-19-related fatalities worldwide.

- According to the Centre for Science and Environment in Delhi, COVID-19 is a threat to Indian cities due to long-term exposure to poor air quality.

- **The India State-Level Disease Burden Initiative** of the Public Health Foundation of India, published in Lancet Planetary Health, found that the economic loss due to air pollution was 4% of India's GDP in 2019, or INR 260,000 crores (US\$ 36.8 billion).

### What institutional measures has India taken to tackle air pollution?

- India has established a **National Clean Air Programme and a Commission for Air Quality Management in the National Capital Region**, which was established in 2019.
  1. By 2024, India's national strategy seeks to cut particulate matter emissions by 30% from 2017 levels.
  2. Non-attainment cities are those that do not fulfil the **National Ambient Air Quality Standards** and are found in 95 cities throughout 23 states and union territories.
  3. The government intends to execute the **National Clean Air Program (NCAP)** in these areas by developing city-specific action plans.
- **Renewable Energy Target:** India also set a goal of installing 175 GW of renewable energy by the end of 2022 and 450 GW by 2030.
- **Electric Vehicle adoption:** The Indian government has implemented the **National Electric Mobility Mission Plan, the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) plan**, the vehicle scrappage policy, and charging infrastructure projects, among other things, to promote cleaner automobiles and reduce pollution.
- **One Sun One World One Grid Group (OSOWOG):** It's a Green Grids Initiative that aims to accelerate and scale-up infrastructure and market reforms to support the global energy transformation.
- **UNFCCC COP26 Glasgow:** India also emphasised five commitments to climate action.
  1. By 2030, India's non-fossil energy capacity will be 500 gigawatts (GW).
  2. By 2030, renewable energy will provide 50 per cent of India's energy needs.
  3. By 2030, India's economy will have reduced its carbon intensity by more than 45 per cent.
  4. From now until 2030, it will reduce its net estimated carbon emissions by 1 billion tonnes.
  5. By 2070, reach the goal of net-zero carbon emissions.

### Way Forward

- The World Health Organization has updated their Global Air Quality Guidelines, advocating

substantially stricter pollution limits to protect human health.

- A significant transformation in the approach to pollution management initiatives is required.
- To mitigate the impact, integrated surveillance platforms for health and exposure surveillance are required.

**Social empowerment, communalism, regionalism & secularism.**

### LOUDSPEAKERS AT RELIGIOUS PLACES

**Priority:** High



**Primary Source:** The Indian Express

**Prepp Prelims Booster:** Decibel; Noise Pollution Rules; National Green Tribunal

**Prepp Mains Booster:** Impact of noise on health; restrictions on loudspeakers

#### Context:

- Uttar Pradesh officials said that thousands of "illegal" and "unauthorised" loudspeakers had been taken down across the state, or their loudness had been capped, under "an existing government order of 2018, and set rules for sound decibel limits and court directions".
- Districts had been told to implement these rules and directions firmly, and to report on compliance by April 30, the officials said.

#### What are the directives?

- The Uttar Pradesh government directed all officers to "strictly" ensure that the order issued by the Lucknow Bench of the High Court in **Moti Lal Yadav vs State of Uttar Pradesh** regarding **The Noise Pollution Rules, 2000** is followed.
- The directive said that the 2000 Rules specify "Ambient Air Quality Standards in Respect of Noise," i.e., Industrial, Commercial, Residential, and Silence Zones, and instructed authorities to demarcate these zones and guarantee that the proper norms were observed.

#### What is said in the Noise Pollution (Regulation and Control) Rules, 2000?

- Noise is defined as an 'air pollutant' under Section 2 (a) of the Air (Prevention and Control of Pollution) Act of 1981.
- Under The Environment (Protection) Act of 1986, noise pollution and its sources are controlled under The Noise Pollution (Regulation and Control) Rules, 2000.
- The Act established permissible noise levels, silent zones, and limitations on the use of loudspeakers, horns, sound-emitting construction equipment, and cracker bursting.

#### Important Judgements related to the use of Loudspeakers

- **Supreme Court June 2005 Order:** The Supreme Court had banned the use of loudspeakers and music systems in public places between 10 p.m. and 6 a.m. (except in public emergencies) citing the serious effects of noise pollution on the health of those who live in such areas.
- **Supreme Court Order on Festivities 2005:** In October 2005, the Supreme Court ordered that loudspeakers might be used until midnight on festive events for 15 days a year. A bench upheld the constitutionality of a statutory rule allowing states to relax sound pollution norms, including the use of loudspeakers till midnight on festivals and religious occasions
- **Bombay High Court in 2016:** According to the Bombay High Court, No religion or sect could claim that the right to use a loudspeaker or public address system was a basic right guaranteed by Article 25 of the Indian Constitution, according to the Bombay High Court.
- **Punjab and Haryana High Court 2019:** In July 2019, The Punjab and Haryana High Court banned the use of loudspeakers in public places, including religious institutions. Court ordered that public address systems should only be used with prior permission, and with the allowable limit of 10dB.

#### What is the noise level that is considered acceptable?

##### THE LOUDEST ALLOWED

Under The Noise Pollution (Regulation and Control) Rules, 2000

##### INDUSTRIAL AREAS:

75 dB (A) leq during daytime; 70 at night

##### COMMERCIAL AREAS:

65 dB during daytime, 55 at night

##### RESIDENTIAL AREAS:

55 dB during daytime, 45 at night

##### SILENCE ZONES:

50 dB during daytime, 40 dB at night

■ **Silence Zones** are defined as areas comprising up to 100 m around hospitals, educational institutions, courts, religious places, or any other area which is declared as such by the competent authority.

■ **Sound levels** are measured in dB (A) leq, which is the time-weighted average of the level of sound in decibels on scale A, which is relatable to human hearing.



**DAYTIME IS DEFINED AS 6 am to 10 pm; NIGHTTIME IS 10 pm to 6 am.**

- Noise pollution Rules have defined the acceptable level of noise in different zones for both daytime and nighttime.
- In **industrial** areas, the permissible limit is 75 decibels (unit of sound; a tenth of a 'bell', symbol dB) for daytime, and 70 dB for the night.
- Daytime is defined as the period from 6 am to 10 pm, and night is 10 pm to 6 am on the following day.

- In **commercial** areas, these ceilings are fixed at 65 dB and 55 dB, while in residential areas they are 55 dB and 45 dB during daytime and night respectively.
- In **silence zones**, i.e., an area comprising not less than 100 metres around hospitals, educational institutions and courts, it is 50 dB in the daytime and 40 dB during the night.

### What are the restrictions for using loudspeakers?

- The noise level at the boundary of the public place, where a loudspeaker or public address system or any other noise source is being used, **shall not exceed 10 dB (A)** above the ambient noise standards for the area or 75 dB (A), whichever is lower.
- The guidelines further say that a loudspeaker or public address system may not be utilised unless written authorization from the designated authority is obtained.
- The state government may provide an **exception** for any cultural or religious festive occasion that lasts no more than 15 days in a calendar year.
- In a report filed with the **National Green Tribunal (NGT)** on June 12, 2020, the **Central Pollution Control Board (CPCB)** listed fines for the violation of noise pollution norms.
- The violation of norms regarding the use of loudspeakers/public address systems can result in the seizure of the equipment, and a fine of Rs 10,000.

#### National Green Tribunal

- It is a specialized body set up under the **National Green Tribunal Act (2010)** for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.
  - NGT is mandated to make disposal of applications or appeals finally within 6 months of filing the same.
- The NGT has five places of sittings, New Delhi is the principal place of sitting and Bhopal, Pune, Kolkata and Chennai are the other four.
- The Chairperson is appointed by the Central Government in consultation with the Chief Justice of India (CJI).
- The Tribunal is not bound by the procedure laid down under the **Code of Civil Procedure 1908**, but shall be guided by **principles of 'natural justice'**.
- The NGT deals with civil cases under the seven laws related to the environment, these include
  - The Water (Prevention and Control of Pollution) Act, 1974,
  - The Water (Prevention and Control of Pollution) Cess Act, 1977,
  - The Forest (Conservation) Act, 1980,
  - The Air (Prevention and Control of Pollution) Act, 1981,

- The Environment (Protection) Act, 1986,
- The Public Liability Insurance Act, 1991 and The Biological Diversity Act, 2002.

### How can noise pollution affect health?

- While noise pollution receives less attention than air and water pollution, it is recognised to have an influence on people's health.
- According to the **World Health Organization (WHO)**:
  - Around 1.1 billion young people (aged 12–35 years) are at risk of hearing loss because of noise exposure.
  - There is enough evidence that noise exposure at night causes self-reported sleep disruption, and noise-induced sleep disturbance is considered a health hazard.
  - There is additional evidence that disrupted sleep promotes exhaustion, accidents, and poor performance.
- Physical diseases due to increased noise include temporary hearing, headaches, and a rise in blood pressure.

### NATIONAL LANGUAGE DEBATE

Priority: High



Primary Source: The Indian Express

Prepp Prelims Booster: Official Language Act; 3-Language Policy

Prepp Mains Booster: Pro's and con's of one nation, one language policy

#### Context:

Recently, at the **Parliamentary Official Language Committee**, the Union Home Minister requested the use of Hindi as a **lingua franca (a pan-Indian language)**, rather than English, in inter-State communication.

### What is India's Official Language?

- The **Official Languages Act of 1963** was enacted in anticipation of the **15-year period in which the Constitution permitted the use of English for official purposes to end**.
- Its operational provision allowed for the use of English to **continue after the 15-year limit** had expired.
- This went into effect on January 26, 1965, which commemorated the 15th anniversary of the Constitution's adoption.
- The **1965 anti-Hindi protests** represented a watershed moment in India's official language policy.
  - The '**Official Languages Act**' was amended in 1967 to ensure the Union's '**virtual indefinite policy of bilingualism**' for all official purposes.

## Indian Constitution on Languages

- The Indian Constitution's **Eighth Schedule** contains 22 languages that have been designated as scheduled languages and given official recognition, status, and promotion.
- **Article 29** of the Constitution of India protects the interests of minorities.
- The Article states that any section of the citizens who have a "distinct language, script or culture of its own shall have the right to conserve the same."
- In addition, the Government of India has awarded the distinction of classical language to **Kannada, Malayalam, Odia, Sanskrit, Tamil and Telugu**.
- Classical language status is given to languages which have a rich heritage and independent nature.

## Status of Hindi in India

- The Constitution has never declared Hindi to be the national language; rather, under **Article 343**, it **designated Hindi in Devanagari script as an official language of the union** alongside English.
- According to **Article 351**, it is the government's responsibility to **support the spread of Hindi**. The main goal of this is to create a means of expressing India's diverse culture.
- **Article 348(2)** of the Constitution and **Section 7 of the Official Languages Act, 1963**, allow Hindi-speaking states, such as Bihar and Rajasthan, **to use Hindi in their respective high courts**.

## What is the three-language formula?

- In Hindi-speaking States, Hindi, English, and one regional language are taught, while in other States, Hindi, English, and the official regional language are taught.
- In actuality, however, only a few states, in addition to English, teach both their primary language and Hindi.
- A third language is rarely taught as a required subject in states where Hindi is the official language.
- Tamil Nadu has been a staunch opponent of the three-language model, preferring to teach Tamil and English only. It claims that individuals who need to study Hindi may do it independently.

## What would be the advantages of adopting One nation One language policy?

- **Unity and Integrity:** Promoting Hindi as one language can do the work of uniting the country. Thus addressing the threats of Regionalism, Secessionism and helping to maintain the Unity and Integrity of India.
- **Foreign Language Influence:** According to the Indian Home Ministry, there is a need for a common language because English has such a large influence on Indian nationals.

- Hindi as a connecting language will help in streamlining the administrative confusion arising out of various languages.
- **Impact on Indian Linguistic Culture:** It can act as a connecting language between all the Indian languages. This would lead to promotion of Hindi language as well as preserving India's ancient culture.
- **Colonial Legacy:** Symbolically it will help replace English which is viewed as colonial legacy.
- This would collectively bridge a lot of communal gaps and help in the economic development of a nation.
- **Making Unique Identity:** it will help India to promote Hindi at the international stage. This would give Hindi a global identity.

## What is wrong with one nation one language policy ?

- India is a **multilingual society**, where Indians speak Kashmiri, Urdu, Hindi, Sanskrit and other languages.
- Hindi is spoken by not more than **30%** (according to Census 2011-26% declared Hindi as Mother Tongue) **of the population**. Therefore, Hindi can neither be a **lingua franca (a pan-Indian language)** nor a dominant language of the people of India..
- The basis of Hindi as the 'mother tongue' of over 52 crore people, as per the 2011 Census, is flawed. Because while counting Hindi speakers, it has **subsumed nearly 61 other languages** (like Bhojpuri), spoken in parts of Rajasthan, Himachal Pradesh, Uttarakhand, Haryana, Bihar, Jharkhand, Chhattisgarh and Madhya Pradesh.
- There is a **linguistic pluralism** in Indian society. As per the 1961 Census, there were a total of **1,652 'mother tongues'** in India. Out of the total **only 184 'mother tongues' had more than 10,000 speakers**.
- There are issues of power dynamics and **identity politics** related to languages, which may lead to **language-based discrimination**.
- The imposition of one language over all is based on the **misinterpretation of the political map as cultural map** and linguistic or the misinterpretation of the cultural maps as political map.

## Way forward

- Our diversity of languages and dialects is one of our greatest assets. We must ensure that a foreign language does not replace one's own tongue.
- According to experts, promoting Hindi as a step toward a "one nation, one language" sort of togetherness would be bad for the country's celebrated diversity.
- Giving the "most-spoken" language in the nation a hegemonic role may encourage cultural homogenisation, but this is hardly desirable in a society with a varied population, a plural ethos, and a melting pot of languages and cultures.

- Furthermore, because national identity is defined as something that transcends linguistic and geographical variations, it cannot be connected to a single language.
- Today, we must appreciate, safeguard, and cultivate our country's diversity in order to maintain its togetherness.

Distribution of key natural resources across the world (including South Asia and the Indian subcontinent);

### JAMUI DISTRICT GOLD RESERVES

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Properties of Gold; distribution of Gold in India

**Prepp Mains Booster:** Issue with Gold extraction; import dependency

### Context:

Recently, the Bihar government has decided to allow exploration of the country's largest gold reserve in Jamui district of Bihar.

### Gold

- Gold is a precious metal. **Auriferous** [(of rocks or minerals) containing gold] rocks are the most common source of gold.
- It's also known as **alluvial gold** because it's found in the sands of various rivers.
- Gold is used to make decorations, and because of its widespread use, it is frequently referred to as an international currency.

### Import:

- India's gold production is inadequate, thus it must rely on imports from Australia, Canada, and Myanmar.
- South Africa, Australia, Indonesia, Canada, Ghana, Chile, China, the United States, and Russia are among the countries with large deposits.

### Gold Reserves in India

**Resources in terms of the metal ore (primary):**

- Bihar (45 %)
- Rajasthan (23 %)
- Karnataka (22 %)
- West Bengal (3 %)
- Andhra Pradesh and Madhya Pradesh (2%each)

### Resources in terms of metal content:

- Karnataka,
- Rajasthan,
- Bihar, Andhra Pradesh, Jharkhand, etc.

**Kolar Gold Field, Hutti Gold Field and Ramgiri Gold Field** are the most important gold fields.



(Source: mapsofindia)

### Karnataka:

- In India, Karnataka is the leading gold producer.
- The districts of Kolar [Kolar Gold Field], Dharwad, Hassan, and Raichur [Hutti Gold Field] all have gold mines.
- Kolar Gold Fields is one of the world's deepest mines. [Gold mines are often the world's deepest mines. The Mponeng Gold Mine in South Africa is the world's deepest mine (3.9 km).
- The Hutti mines are fully worked, and the ore left behind is of very poor grade. Due to a lack of profitability, mining has virtually come to an end.
- The Kolar Gold Field is likewise nearing closure due to a lack of quality deposits.

### Andhra Pradesh:

- Andhra Pradesh is the second-largest gold production in the country, trailing only Karnataka.
- The main gold deposits are in Ramagiri, in the Anantapur District. This field, however, is nearly depleted.
- Apart from gold mines, gold can also be found in placer deposits, such as river sands.

### Jharkhand:

- Jharkhand is the third largest gold producer, accounting for nearly 10% of total gold production.
- Both 'Placer Deposits' in the sands of Subarnarekha, Sonanadi, and elsewhere, as well as 'native Gold' in Singhbhum District and parts of the Chhota Nagpur plateau, can be found here.

Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc.,

### CYCLONE ASANI

Priority: High



Primary Source: The Indian Express

Prepp Prelims Booster: Classification of cyclones

Prepp Mains Booster: Characteristics and impact of cyclones

#### Context:

- According to recent updates by India Meteorological Department (IMD), Cyclone Asani is not going to hit West Bengal and is likely to recurve in a north-eastward direction and weaken gradually into a cyclonic storm to trigger a spell of rain that will majorly impact Bangladesh and Myanmar.



#### What is Cyclone Asani?

- Cyclone Asani is a **tropical cyclone** that is developed in the Bay of Bengal.
- The cyclone was **named by Sri Lanka** which means wrath in the Sinhala language.
- Significance:** Cyclone Asani is a **Severe Cyclonic Storm**. It is the first cyclone of 2022 formed in the Bay of Bengal in the North Indian Ocean Region.
- Impact:** According to IMD, the cyclone was likely to make an impact on Odisha and Andhra Pradesh. But since May 10, Cyclone has **recurved** in a north-eastward direction
- This has weakened it into a cyclonic storm to trigger a spell of rain that will majorly impact.
- Compared to Cyclone Fani and Cyclone Amphan, Cyclone Asani is expected to only graze the coast and not make landfall.

#### What are the Characteristics of a Tropical Cyclone?

- A cyclone's **centre is calm and clear**, with very low air pressure.
- The average speed is **120 kilometres per hour**.

- They have closed isobars, which means they move faster.
  - On a weather map, isobars are imaginary lines that connect regions with equal atmospheric pressure.
- They **only grow in oceans and seas**.
- Under the influence of trade winds, they travel from east to west.
- They are only available during specific seasons.

#### Classification of Cyclones

The Indian Meteorological Department classifies cyclones based on wind speed (IMD).

- Depression:** Wind speeds of between 31–49 km/h
- Deep Depression:** Wind speeds Between 50–61 km/h
- Cyclonic Storm:** Wind speeds Between 62–88 km/h
- Severe Cyclonic Storm:** Wind speeds Between 89–117 Km/h
- Very Severe Cyclonic Storm:** Wind speeds Between 118–166 Km/h
- Extremely Severe Cyclonic Storm:** Wind speeds Between 166–221 Km/h
- Super Cyclonic Storm:** Above 222 Km/h

## GENERAL STUDIES 2

Indian Constitution– historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

### VACCINES V/S ARTICLE 21

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Article 21

Prepp Mains Booster: Arguments for and against restricting unvaccinated in public places.

#### Context:

Recently, the **Supreme Court** has given its verdict on the **government's ongoing vaccination policy**. The court held that restrictions imposed by States and Union Territories on **unvaccinated individuals** cannot be said to be **proportionate**.

#### Background

The governments have imposed partial or full vaccination of individuals as a precondition for accessing public spaces, services, or using public transportation, among others.

#### Past trends of safeguard community interest:

- In 1905, the US Supreme Court in *Jacobson v. Massachusetts*, upheld the punishment of citizens who rejected smallpox vaccinations. Such a stand was taken in various judgments in the western world.
- In India, the Supreme Court in *Asha Ranjan v. State of Bihar* (2017), echoed the prioritization of **community interest** over **individual interests**. The court had observed that the community interest cannot be **sacrificed** at the **altar** of individual interests especially in a situation where a **fear of psychosis** is running through the **community**.

### The Supreme Court's observations in this case

- The government's policy seeks to invade an **individual's bodily integrity** and **personal autonomy** under **Article 21** of the Constitution.

### What is the basis of the Supreme Court's observations?

- **In General:** The **proportionality test** was used to check on the **infringement** of **bodily integrity**, **personal autonomy**, and **privacy** of an individual by the state. The test requires satisfaction of the following conditions:
  - the state action should be sanctioned by law;
  - the proposed action should have a legitimate state aim; and
  - the extent of interference by the proposed state action should be proportionate to the need for such interference. It means **less restrictive measures** are absent.
- **In particularly this case**
  - The State is empowered under **Entry 6** of the State List of Schedule VII of the Constitution, the **Disaster Management Act of 2005** and the **Epidemic Diseases Act of 1897** to take effective measures (including legislate) on issues concerning '**public health**'.
  - The **state's aim** is legitimate. For example, the Indian Council of Medical Research said that 92% of COVID-19 deaths in India in 2021 occurred in unvaccinated individuals.
  - The extent of **state's interference** with the privacy and bodily autonomy of an individual, like the vaccination is the **essential precondition** for availing certain services, is not disproportionate when the state faces the challenge of preventing the **transmission** of COVID-19 and the **number of deaths**.

However, such a state's interference is **disproportionate** until the time infection rates remain low.

- At present, the infection rates are low. Therefore, the court held that the state's interference are violative of an **individual's bodily integrity** and **personal autonomy** under **Article 21** of the Constitution.

### Argument against the Supreme Court's decision

- The decision will **impact India's ability to equip itself** and its citizens for further **mutations** of the virus, if any, in the times to come.
- The vaccines have proved to be medically essential to prevent severe illness and reduce deaths among infected persons. Should the virus mutate further, the presence of a class of unvaccinated persons would have wide-ranging ramifications for an already **overburdened healthcare system**.
- India is a signatory to the **International Covenant on Economic, Social and Cultural Rights**. Thus, India is bound to take all possible measures to progressively realise the enjoyment of "**highest attainable standard of physical and mental health**" of its citizens under **Article 12**. Therefore, the state should **expedite inoculations** at a time when infection rates are relatively low.
- The vaccination will alleviate the **burden** on the **healthcare system** during more difficult times. It will also ensure that the **state's healthcare policies** are proactive and not merely reactionary.

The state should first safeguard the life and health of its citizens before individuals' decisional autonomies.

**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.**

### FISCAL FEDERALISM

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** Article 246A; Article 279A

**Prepp Mains Booster:** Impact of the SC verdict; Arguments for and against the verdict

### Context:

Recently, A Supreme Court Bench in **Mohit Minerals Pvt Ltd vs Union of India case** judgment has said that the **recommendations of the Goods and Services Tax (GST)**

**Council were not binding on the Union and State governments.** Both Union and States Legislature have equal, simultaneous, and unique powers to make laws on GST. This has raised some concern on the GST by scholars

### What has the Supreme Court said in its judgement?

- The Union and state legislatures have equal, concurrent, and exclusive authority to enact GST legislation.
- **Article 246A of the Indian Constitution treats the Union and the States as equal units, giving the Union and States the right to adopt GST legislation simultaneously.**
- **According to Article 279A (which establishes the GST Council), neither the Centre nor the states are truly reliant on one other.**
- The GST Council's Recommendations are the result of a collaborative discourse between the Union and the states.
  - They are only persuasive and have a recommendatory value.
  - Taking them seriously as binding would jeopardise fiscal federalism.
- The government's **long-running battle with businesses to apply its IGST on ocean freight on a reverse charge basis** came to an end with the decision.
  - The importers had claimed that the IGST was being levied twice on the same transaction because components of it were being segregated.
  - The court found that a separate duty on Indian importers for the sale of services by the shipping line would be in violation of the Central GST Act because the Indian importer is required to pay IGST on composite supplies.

### What are the concerns with the SC verdict?

- There are fears that, following the Supreme Court judgement, **various states would start pulling in different directions, returning indirect taxes to the pre-GST period.**
- The Supreme Court's ruling comes at a time when **states are worried about their ability to manage their budgets once the Compensation period of 5 year, granted under the GST regime to offset revenue losses due to GST, expires in June 2022.**
  - States' requests to extend this Compensation period by two or three years have yet to receive a positive response from the Centre.
- Considering the above, there is concern over whether the **current level of uniformity in GST legislation among states will continue in the future.**
- The verdict also creates an opportunity for **unsettling India's indirect tax architecture** in future courses.

- Now to Consider the GST **Council's decisions** as just recommendatory in nature will **undermine the current fiscal order** which was created across governments.
- For economic agents, including firms and individuals, it **introduces a level of uncertainty** which is bound to undermine confidence. This, in turn, will act as a drag on economic activity.
- If the GST Council's decisions are not binding it **opens the door of uncertainty**, which will defeat the whole purpose of transitioning to GST that aimed to create a common market in India by dismantling fiscal barriers between states.
  - States voluntarily subsumed their unilateral powers over indirect taxation to usher in GST. For sure, there have been disagreements within the GST Council but the **binding nature of its decisions have never been in question.**

### How does the verdict not raise any uncertainty?

- It is worth noting here that what the court has done is to reiterate the constitutional position.
  - The GST Council, according to **Article 279A, "must provide recommendations to the Union and the States..."** on different elements of the tax. The Council will, however, be "directed by the need for a unified structure of goods and services tax and the establishment of a harmonised national market for goods and services," according to the document.
  - Furthermore, **Article 246A** authorises each state's legislature to enact legislation governing products and services.
- The Constitution also grants the Council the authority to set the procedure for carrying out its duties. If any flaws in the GST system surface, the Council will be able to address them.

Therefore, the judgment per se has not increased uncertainty in the GST system

### Way forward

- **No reason for immediate alarm:** as the **outcomes of GST Council meetings have largely been implemented** by all states till now.
- **Cooperative Federalism:** Both the Union and States need to work on GST in a spirit of **cooperative federalism** and the uniformity in GST laws across states has benefited both consumers and manufacturers.
- The SC verdict may trigger **more contestations** in Council meetings, and may lead to **infusion of a fresh sense of responsibility** among members.
- The Union Government needs **to be more conciliatory towards States' concerns and fiscal dilemmas.**
- The Council should also **meet more often** to nurture the critical fiscal federalism dialogue in the right direction and minimise trust deficits.

- **Reform in Economy:** There are many pending reforms that require the **Union to work more cohesively with States** to take India's economy forward and lift those left behind. **For instance:** An overhaul of land and labour markets as well as the agrarian sector.
- Need of Hour for India is a restatement of the principle of 'One Nation, One Tax', and it can't become a 'One Nation, Many Taxes' situation all over again.

GST needs to move further along the path of **procedural simplification**, improving the ease of doing business. It is in essence a tax collected from consumers by businesses and paid to both central and state governments.

Therefore, **collective views of both consumers and businesses should be duly heard** and get addressed before considering any changes in the GST decision-making framework.

### GST COMPENSATION DUES

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** GST Compensation Cess; GST Council

**Prepp Mains Booster:** status GST Compensation cess and GST compensation overdue

#### Context:

The West Bengal government has stated that lowering state levies on petrol and diesel will be possible only if the Centre pays its outstanding dues of over 97,000 crores, which include compensation for the implementation of the Goods and Services Tax (GST).

#### What is GST Compensation?

- States were assured bi-monthly compensation for any revenue loss in the first five years of the **Goods and Services Tax (GST)** implementation, beginning July 1, 2017.
- The gap is determined based on a **14% yearly increase in state GST receipts over the base year of 2015-16**. The five-year period will conclude in June 2022.
- The compensation amount to be paid from the compensation fund is calculated by adding a cess to the highest tax rate on luxury, demerit, and sin goods.
- This cess is not payable by exporters and those persons who have opted for a compensation levy. The input tax credit of this cess can be only used to pay compensation cess and not the other taxes like CGST, SGST or IGST.

#### Goods and Services Tax

- It is an **indirect tax** (not paid directly to the government by customers) that took effect on July 1, 2017, as a result of the Indian government's implementation of the 101st Amendment to the Indian Constitution.

- It has effectively replaced several indirect taxes in the country, including **service taxes, VAT, excise, and others**.

Multiple State and Central taxes were eliminated under the GST regime, resulting in a simpler tax structure for businesses.

#### What is the status of the outstanding GST compensation due to the States?

- States were promised that **revenue losses would be reimbursed for five years** because they had to give up many taxing powers in the process.
- **According to the Finance Ministry**, the overdue GST compensation owing to States for 2021-22 was 78,704 crore, or four months' worth of accruals.
  - Due to an **"inadequate balance" in the compensation cess** collections fund, the ministry stated that it would be unable to pay the dues promptly.
  - Compensation for the ten months from April to January of any financial year is usually provided throughout that year, but **compensation for February to March is usually released only the following year**.

#### GST Council

- In order to implement GST, the Constitutional (122nd Amendment) Bill (CAB for short) was introduced in Parliament and passed in 2016.
- As per **Article 279A (1)** of the amended Constitution, the GST Council has to be constituted by the President within 60 days of the commencement of Article 279A.
- As per Article 279A of the amended Constitution, the GST Council which will be a joint forum of the Centre and the States, shall consist of the following members: -
  - Union Finance Minister - **Chairperson**
  - The Union Minister of State, in charge of Revenue of finance - **Member**

The Minister In-charge of finance or taxation or any other Minister nominated by each State Government - **Members**

#### When will this cess levy end?

- The compensation cess, which was set to expire on **June 30 this year**, has been extended until March 2025-26, with the proceeds going toward repaying the principal and interest on these special loans.
- Several states have **urged the Centre to extend the GST compensation period beyond the five-year promise**, fearing that income sources will fall off a cliff once the guaranteed compensation ceases to accrue on July 1.

- But, noting the legal provisions allowing GST, these requests have been blocked thus far and are unlikely to gain support.

### Will the record GST collections in recent months help?

- With GST revenues reaching **new highs of 1.42 lakh crore and over 1.67 lakh crore in April and May**, the Centre and state share was a healthy 1.32 lakh crore and 1.36 lakh crore, respectively, for the two-month period.
  - GST compensation cess receipts, on the other hand, are not expanding as quickly as the total kitty.

### Way forward

- States will be able to arrange their borrowings for the year if they have some certainty about when outstanding GST compensation dues will be released. This will be especially difficult starting in July.
- While the predicted reduction in GST compensation flows from July 2023 may increase State borrowings this year, the timing of the delayed funds' delivery would have a substantial influence on their plans.
- Furthermore, with States anticipating accelerating capital investment this year, which is crucial to boosting the economy, an early release of cash, whether through devolution of other tax revenues or GST compensation, would assist them in planning and executing public infrastructure projects more quickly.

### Structure, organization and functioning of the Executive and the Judiciary

#### DELHI GOVERNMENT VS LT GOVERNOR

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Article 21

Prepp Mains Booster: Arguments for and against restricting unvaccinated in public places.

### Context:

- The Supreme Court of India is hearing a plea filed by the Delhi government to quash the amendment brought to the Government of National Capital Territory of Delhi (Amendment) Act in 2021.

### Changes brought by the Government of NCT of Delhi (Amendment) Act, 2021

- It amended sections 21, 24, 33 and 44 of the 1991 Act.
- States that the **"government"** in the National Capital Territory of Delhi meant the **Lieutenant-Governor of Delhi**.
- It gives **discretionary powers to the L-G** in matters where the Legislative Assembly of Delhi is empowered to make laws.

- It ensures that the L-G is "necessarily granted an opportunity" to give his **opinion before any decision taken by the Council of Ministers is implemented**.
- It bars the Assembly or its committees from making rules to take up matters concerning day-to-day administration, or to conduct inquiries in relation to administrative decisions.

### Criticism of the Amendment

- The Act **reduces the efficiency and timeliness** of the Delhi government by making it imperative for it to hold consultations with the L-G even in a situation that demands urgent action.
- The Lieutenant governor is **not obliged to give his opinion to the State government within time**.
- Critics argue that **the L-G may politically exploit** these uncontrolled powers to hamper the government's administrative work and turn the political tides against the incumbent if he wishes to.
- The practice is **against Federalism**, in letter and spirit.

### Point of Conflict

- There was a struggle over power-sharing between the Chief Minister and the Lieutenant Governor (L-G) in the past.
- The focal point of these struggles arises in case there is a difference between the L-G and the Council of Ministers on any matter
- The matter was to be referred to the President by the L-G for his decision and depending on such a decision the L-G **was empowered to take any action on the matter as he deemed right**.

### Supreme Court's Judgements with respect to the dual governance of Delhi

- The SC Bench ruled that the L-G is bound by the Council of Ministers' "aid and advice," noting that the **Delhi Assembly also has the power to adopt laws on all Concurrent List and State List subjects, with the exception of three**.
- SC ruled that the **L-G ought to act on the "aid and advice" of the Council of Ministers**, except when he refers a matter to the President for a final decision.
- The SC concluded that "any matter" cannot be held to be "every matter" and that such a reference should only be made in exceptional instances when there is a difference of opinion between the L-G and the Council of Ministers.
- L-G shall act as a **facilitator rather than acting as an adversary** to the elected Council of Ministers.
- The SC held that the **National Capital Territory of Delhi cannot be granted the status of a State under the constitution of India**.

### The 69th Amendment Act, 1991

- Added two new **Articles 239AA and 239AB** under which the **Union Territory of Delhi** has been given a special status.
- Article 239AA** provides for the Union Territory of Delhi to be called as **National Capital Territory of Delhi** and its administrator shall be known as Lt. Governor.
- To create a legislative assembly** for Delhi which can make laws on subjects under the State List and Concurrent List except on these matters: public order, land, and police.
- To provide for a **Council of Ministers for Delhi consisting of not more than 10%** of the total number of members in the assembly.

### Government of NCT of Delhi Act, 1991

- It was enacted in 1991 to "supplement provisions of the Constitution relating to the Legislative Assembly and a Council of Ministers for the National Capital Territory of Delhi".
- enabled the process of an elected government in Delhi.

## GOVERNOR'S POWER OF POCKET VETO

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Article 200; Article 153; Governor's discretionary powers

**Prepp Mains Booster:** powers of governor when a bill is sent for his assent.

### Context:

The State of Tamil Nadu has been witnessing a confrontation between the elected government and the State Governor on the question of giving assent to the National Eligibility cum Entrance Test (NEET) Bill passed by the State Assembly.

### What exactly are the powers of the Governor in the matter of giving assent to a Bill passed by the Assembly?

- Assent of the Governor or the President is required for a Bill to become law.
- When a bill is given to the Governor for his assent after it has been enacted by the legislature, **Article 200** of the Constitution gives him four options:
  - May give his assent straightaway.
  - May withhold his assent.
  - May **reserve the bill** for the **consideration of the President**, in which case the assent may be given or withheld by the President.
  - May **return the Bill to the legislature** for **reconsideration** of the Bill

- Upon such a message being received from the Governor, the legislature is required to **reconsider the recommendations quickly**.
- However, if the legislature passes the bill again without adopting any of the Governor's proposed revisions, he is constitutionally **obligated to give assent**.

### What is the Issue of the NEET Bill?

- The Governor of Tamil Nadu has sent the NEET Bill back to the Assembly for further reconsideration. As a result, the Assembly convened a special session to re-pass the bill and deliver it to the Governor for his assent.
- However, He has not given assent to the NEET Bill so far.
- Although Article 200 does not impose any time limit on the Governor to take the next step, it clearly and unambiguously states the **options for him to exercise**.
- Because **non-action is not an option** in Article 200, it is evident that if the Governor does not exercise any of those alternatives, he is not acting in accordance with Spirit of the Constitution.
- Even the words used in Article 200 requires the Governor **to act without delay upon the assent of the Bill**.

### What is take the takeaways?

- Giving consent to a bill passed by the legislature is a part of the legislative process, not the executive's authority.
- Although Governors have the power of withholding assent, they rarely do so because it would be a highly controversial move.
- Withholding assent to a Bill by the Governor amounts to **neutralizing the entire legislative exercise by an Elected Legislature** enjoying the support of the people, which is undemocratic and **against federalism**.

### What needs to be done?

- Reform in the position of Governor:** In India, **Sarkaria commission, Punchi commission and 2nd ARC** has Recommended the reform in the institution of Governor, specially with respect to **Article 200**: by fixing the time limit on Governor to assent the bill.
- Practices in UK and Australia:** It is unlawful in the United Kingdom for the monarch to refuse to assent to a Bill passed by Parliament.
- Similarly, in Australia, the crown's reluctance to assent to a bill is considered an affront to the federal system.

## ISSUE OF MARITAL RAPE

Priority: High



Primary Source: The Indian Express

**Prepp Prelims Booster:** Nirbhaya Fund

**Prepp Mains Booster:** impact of criminalizing marital rape.

### Context:

- A two-judge bench of the Delhi High Court issued a **split verdict** in a series of petitions challenging the Indian Penal Code's (IPC) provision for **marital rape**.
- Exception 2 of the IPC's Section 375, which decriminalized rape inside marriage, was struck down by **Justice Rajiv Shakdher**, but it was **upheld by Justice C. Hari Shankar**.

### What's the Issue?

- The government's unwillingness to accept the landmark **report of Justice J. S. Verma Committee**, formed in the aftermath of the brutal **Nirbhaya** gang rape in 2012, has resulted in applications before the Delhi High Court calling for marital rape to be criminalized.
- The **Verma committee suggested that** "the exception for marital rape be deleted" and that the legislation "specify that a marital or other relationship between the perpetrator and the victim is not a legitimate defence against the crimes of rape or sexual violation."
- Despite the **government's claims that such a move would threaten the institution of marriage**, experts say recent court decisions, especially on the right to privacy, have rendered this argument moot.

### What happens when the verdict is Split?

- If the verdict is split, the **matter is heard by a larger Bench**.
- This is why, although two-judge Benches or Division Benches are not uncommon, judges normally sit in Benches of odd numbers (three, five, seven, etc.) for major cases.
- A three-judge High Court bench can hear a split verdict, or an appeal can be filed with the Supreme Court.

### What is in Section 375 of IPC?

- According to Section 375 of the Indian Penal Code, a man is considered to commit rape when he has sexual intercourse with a woman against her will or without her consent, or if she is a minor.
- The provision does, however, include **two exceptions**:
- It makes marital rape legal.
- Medical techniques or interventions are not considered rape, according to the law.
- During British colonial authority in India, the IPC was adopted in 1860.
- The marital rape exception was only applicable to women above the age of ten in the initial iteration of the regulations. This age was raised to 15 in 1940.
- However, the Supreme Court declared in October 2017 that sexual intercourse between a man and his wife that is not under the age of eighteen cannot be termed rape.

### Why is the criminalization of Marital Rape necessary?

- Several studies have shown that men have non-consensual sex with their wives and **physically force their wives** to have sex with them.
- Marriage is a contract between individuals, **not one-time permission** for everything.
- Men have an unfair advantage because of the **legal exception to the rape laws**.
- Victims of marital rape have long-term **psychological scars**.
- The exception under **Section 375 breaches a woman's rights under Articles 14, 15, 19, and 21**.
- The **patriarchal aspect of Indian society** instils in males the belief that when their husbands demand sex, women must agree.
- The victim is subjected to **physical abuse as well as the mental pain** of having her dignity violated.
- Besides, the exception in Section 375 of IPC has stayed unchanged for the past 70 years.
- Child marriages are also prevalent, and women are frequently forced to marry.

### What are the cons of criminalizing Marital Rape?

- Apart from being a simple tool for harassing husbands, it "**may destabilize the institution of marriage**."
- "**Rising misuse of Section 498A of the Indian Penal Code**," sometimes known as the dowry law, "for harassing husbands."
- The fact that other countries, especially in the West, have made marital rape criminal does not imply India should blindly follow suit.
- The **Law Commission on Rape Laws** investigated the topic but did not suggest criminalizing marital rape.
- **What one wife may perceive as marital rape may not be perceived as such by others**.
- In the instance of sexual activity between a man and his own wife, **there can be no enduring evidence**.

### How is Marital Rape treated around the World?

- According to Amnesty International, 77 out of 185 nations (42%) have laws that make marital rape criminal.
- **Australia (1981), Canada (1983), and South Africa (1993) all passed laws making marital rape criminal**.
- It is either not addressed or specifically excluded from rape laws in several nations.

The UN has encouraged countries to **close legal loopholes to stop marital rape**, claiming that "the home is one of the most dangerous locations for women."

### SUPREME COURT COMMUTES DEATH SENTENCE

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Meaning of Commutation of death sentence; Project 39A

**Prepp Mains Booster:** arguments in favour and against death sentence

### Context:

Recently, the Supreme Court commuted the death sentence of a man accused of raping and murdering a minor into life imprisonment, observing the possibility and the probability of the reformation and rehabilitation of the man.

### What are Legal Remedies Available to Death Sentenced Individuals?

- The award of the death sentence by a trial court must be reaffirmed by a High Court to make it final.
- **Article 137** of the Indian Constitution provides the power to the Supreme Court to review the orders and judgments passed by it.
  - The **Review Petition** can be filed under Section 114 of the Code of Criminal Procedure (CrPC) with limitations and conditions provided in Order 47.
- **After the dismissal of the review petition, the person can file a Curative Petition.**
  - Petitioners can file curative petitions in case of **gross violation of principles of natural justice.**
  - The curative petition will be sent to the three senior-most judges and the bench of judges who passed the judgment.
  - If most of them find substance in the petition, then the matter would **be sent to the same bench of judges.**
- **Mercy Petition** can be filed by the convicts. It is to be filed within a period of seven days from the date when the Superintendent of jail informs the convicted person of the dismissal of the petition.
- **Article 72 and Article 161** of the Constitution provide the power to pardon the petitioner to the President and the Governor, respectively.

### What are Arguments in favour of the Death Penalty?

#### Moral arguments:

- Supporters of the death penalty believe that those who commit murder because they have taken the life of another, **have forfeited their own right to life.**
- Furthermore, they believe, capital punishment is a **just form of retribution**, expressing and reinforcing the moral indignation not only of the victim's relatives but of law-abiding citizens in general.

#### Utilitarian arguments:

- Supporters of capital punishment also claim that it has a **uniquely potent deterrent effect** on potentially violent offenders for whom the threat of imprisonment is not a sufficient restraint.

#### Practical arguments:

- There also are disputes about whether capital punishment can be administered in a manner consistent with justice.
- Those who support capital punishment believe that it is possible to fashion laws and procedures that ensure that only those who are **really deserving of death are executed.**

### What are the Arguments against of Death Penalty?

#### Moral arguments:

- Opponents of the death penalty argue that legitimizing the very behaviour that the law seeks to repress – killing – **capital punishment is counterproductive** in the moral message it conveys.
- They also claim that capital punishment violates the **condemned person's right to life** and is fundamentally inhuman and degrading.

#### Utilitarian arguments:

- Opponents, however, point to research that generally has demonstrated that the death penalty is **not a more effective deterrent than the alternative sanction of life or long-term imprisonment.**

#### Practical argument:

- By contrast, opponents maintain that the historical application of capital punishment shows that any attempt to single out certain kinds of crime as deserving of death will inevitably be arbitrary and discriminatory.

### What are Important Judgements on Death Penalty?

#### Ediga Anamma v/s State of Andhra Pradesh (1974):

The Supreme Court laid down the principle that life imprisonment for the offence of murder is the rule and a **capital sentence is an exception in certain cases.**

The Court also stated that a special reason should be given if the court decides to impose a death sentence.

#### Bachan Singh v/s State of Punjab (1980):

The Supreme Court held that only in **rarest of rare cases** that are brutal, the death penalty should be imposed.

### How many prisoners are on death row in India?

- As per a report, titled '**Death Penalty in India: Annual Statistics Report**' published by Project39A, there were 488 prisoners on death row across India, as of 31<sup>st</sup> December 2021.
  - **Project 39A** is a criminal law reforms advocacy group at the National Law University, Delhi.
  - It is inspired by **Article 39A** of the Constitution of India.
  - Article 39A of the Constitution of India **provides free legal aid to the poor and weaker sections of the society and ensures justice for all.**

The article was inserted by the **42<sup>nd</sup> Amendment Act, 1976.**

## ARTICLE 142

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Article 142; remission

Prepp Mains Booster: Pardoning powers of President and Governor

## Context:

Recently, the Supreme Court ordered the release of A.G. Perarivalan, one of the seven convicts in the former PM Rajiv Gandhi assassination case.

## Why was he released by the Supreme Court ?

- The Supreme Court (SC) has invoked its extraordinary powers under **Article 142 of the Constitution of India**.
- For years, the convict's mother, large segments of the population, and numerous political parties have campaigned for his release. Because he was only 19 at the time of his assassination, he received much sympathy.
- The governor was recommended for release by the state cabinet in 2018. The Governor, on the other hand, forwarded the advice to the President.
- The Centre contended that under the **Indian Penal Code (IPC)**, instances involving murder fall under the President's exclusive jurisdiction when it comes to remission of life sentences.

## What has been the stand of the Supreme Court ?

- The state has jurisdiction over the remission. As a result, when acting under **Article 161**, the Governor is bound by the advice of the State Cabinet. As a result, the governor's referral to the President was "contrary to the Constitution's scheme."
- The Governor's remission powers are only used on the advice of the State Cabinet. Under the CrPC, the release of these offenders would require the approval of the Centre.

## What remains to be resolved ?

- The Supreme Court was unable to resolve the question of the **lack of a deadline for the President or Governor to make a decision on the topic**. This has traditionally been the source of endless delays in presidential decisions.

## What is remission?

- Remission is one of the pardoning powers exercised by the President and Governors given to them under the Constitution of India.

## What are the pardoning powers of the President and Governors ?

- The Constitution of India under **Article 72** and 161 empowers the President and Governor of the state respectively to grant **Pardons, Commute, Remit,**

**Remission or Reprieve** anyone convicted of any crime.

- The power to pardon is exercised by the President and governor on the advice of the Council of Ministers
- Pardon may substantially help in saving an innocent person from being punished due to **miscarriage of justice** or in cases of doubtful conviction.
- The aim of the pardoning power is to correct possible judicial errors, if any, occur during the trial.

## What is Article 142 ?

- Article 142 of the Constitution empowers the "the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for **doing complete justice in any cause or matter pending before it**, and any decree so.
- Earlier, SC has used the Article 142 in many Instances like **Highway Liquor ban case , Taj Trapezium Order, Vishakha Dutta Guidelines**
- However, Many scholar has also held the Article 142 as the root Cause of the judicial activism.

## SEX WORK AS A PROFESSION

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Article 21; Article 19(1)(g)

Prepp Mains Booster: Issues with recognizing sex work as profession

## Context:

- The Supreme Court (in **Budhadev Karmaskar v. State of West Bengal and Ors.**) has instructed that **police should not** interfere with or take criminal action against adult and consenting **sex workers** in a momentous judgement that **recognises sex work as a "profession"** whose practitioners are entitled to **dignity and equal protection** under the law.

## The right to a dignified life, regardless of profession

The Supreme Court ruled that

- Sex workers are entitled to **basic protections of human decency and dignity**, and that police officers should treat them with dignity and not abuse them verbally or physically.
- The Court further held that **if the media** publishes images of sex workers with their clients, the crime of **voyeurism under Section 354C** of the Indian Penal Code should be enforced.
- The **Press Council of India** has been mandated with issuing appropriate guidelines in this respect.

## Panel for sex workers

- By order dated 19.07.2011, the Supreme Court established a **Panel for sex workers**.
- The Panel has highlighted three key areas of concern -

- Preventing human trafficking,
  - rehabilitating sex workers who want to leave the profession,
  - Creating conditions that allow sex workers to continue working with dignity.
- The Court has ordered the States and the Union to comply in strict accordance with the **panel's recommendations**, which are as follows:

- Any sex worker who is a victim of sexual assault should be provided with all facilities available to a survivor of sexual assault.
- State governments may be ordered to conduct a survey of all ITA Protective Homes so that instances of adult women kept against their will can be evaluated and handled in a timely way for release.
- The police and other law enforcement organisations should be made aware of the rights of sex workers, who are entitled to the same fundamental human rights and other rights as all citizens under the Constitution.
- The Press Council of India should be asked to create suitable rules for the media not to divulge the identity of sex workers, whether as victims or accused, during arrest, raid, and rescue operations, and not to print or telecast any pictures that may result in such revelation.
- Measures taken by sex workers for their health and safety (e.g., the use of condoms) shall not be regarded as crimes or considered as proof of a crime being committed.
- Workshops should be held by the Central Government and State Governments, through the National Legal Services Authority, State Legal Services Authority, and District Legal Services Authority, to educate sex workers about their rights in relation to the legality of sex work, police rights and obligations, and what is permissible/prohibited under the law.

### Prostitution in India, legal or illegal?

- According to the Indian Penal Code, prostitution is not prohibited in the broad sense, but some behaviours that are a key element of prostitution are punished under certain sections of the act:
  - Soliciting prostitute services in **public** locations
  - Carrying out prostitution **activities in hotels**
  - Being the owner of a **brothel**
  - Pimping
  - Indulge in prostitution by arranging a sex worker
  - Arrangement of a sexual act with a customer
- According to the **Immoral Traffic (Prevention) Act of 1956 (ITPA)**
- The Prostitution is defined as the sexual exploitation or abuse of a female for monetary gain, and a prostitute

is the individual who benefits from that commercial profit.

- Prostitutes are allowed to start their business in **private**, but they are **not** allowed to carry it out in **public**.
- Clients can be arrested if they are found guilty of performing a **sexual act in public**.
- Within 200 yards of a public place, a woman cannot engage in commercial sex.

- Sex workers are **not** covered by existing **labour laws** because of their unique vocation, but they enjoy all of the rights of any other Indian citizen, including the opportunity to be rescued and rehabilitated if they so want.

### JUDICIAL VACANCIES

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** Appointment of Judges of High Courts; Collegium System; Article 217(1)

**Prepp Mains Booster:** Reasons for vacancies; impact of vacancies

### Context:

Speaking at a foundation stone-laying ceremony at the Madras High Court recently, CJI Ramana stated that Inadequate judge strength was one of the main reasons for the delay in the disposal of cases.

### Appointments of High Court Judges

- The Chief Justice and Judges of the High Courts are appointed by the President under **Article 217(1)** of the Constitution. The chief justice is appointed by the President after **consultation with the chief justice of India and the governor** of the state concerned. For the appointment of other judges, the chief justice of the concerned high court is also consulted.
- The latest data released by the Department of Justice state that the 25 High Courts have a combined sanctioned strength of 1,104 judges. As of April 1, 2022, the working **strength of judges stood at 717 while 387 seats were vacant**.

### Reasons for vacancies

- System errors in the nomination process** contribute significantly to vacancies in the judiciary.
- Exams are not conducted frequently** enough to fill up vacancies. There is also a general lack of meritorious candidates to fill the vacancies.
- Uncertain recruitment procedures**, as well as the difficulty of **cooperation** between the Supreme Court and the State Public Service Commission, also often lead to disputes and litigation-related litigation cases, further furthering the hiring process.
- The smooth **flow of the timely appointment process** is another reason for the increase in vacancies.

- **Less quantitative and qualitative data** about the nomination process is available, so no significant changes have occurred in the area.

### Why the urgent need to fill the vacancies?

- With over **5.8 million cases pending** in the 25 High Courts across the country, the higher judiciary faces the daunting task of clearing the backlog.
- There **are only 717 judges for a whopping 58, 92,399 cases pending** adjudication.
- Last year, during the COVID-19 pandemic, 17,76,672 new cases were added to the load, roughly translating to three new cases each minute.
- **The existing backlog of cases cannot be tackled without the additional strength** of judges. The delay in the disposal of cases creates disillusionment among litigants and undermines the capability of the judicial system to impart justice in an efficient and effective manner.
- It is necessary to **reduce the caseload per judge** and improve the judge-to-population ratio.

### Way Forward

- The High Courts and the State Public Service Commissions must work closely together to ensure a smooth and timely appointment process.
- State governments should build courts or provide workspace for these judges, while public service commissions should recruit the necessary employees to assist them.
- The respective State Governments and High Courts should make this coordination as easy as feasible.
- Judges should be recruited as soon as possible to replace vacancies.

**Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.**

### INTER STATE COUNCIL

Priority: High   
Primary Source: The Hindu

**Prepp Prelims Booster:** Article 263; Inter-State Council Composition; Mandate

**Prepp Mains Booster:** Advantages and Limitations of ISC

Suggested Reading: <https://bit.ly/3y2s5y9>

### Context:

- Recently the Government of India has reconstituted the Inter-State Council, with the **Prime Minister as Chairman and all State Chief Ministers as members, as well as six Union Ministers**. Permanent invitees to the Inter-State Council will be ten Union Ministers.
- On the same line, the **standing committee** of Inter-State Council has also been reconstituted, with the **Union Home Minister as its chairman**.

### Why establishment of ISC as a permanent body is necessary?

- In 1990, this option was chosen.
- On the recommendation of the Sarkaria Commission, the ISC was constituted as a permanent body by presidential order on May 28, 1990.
- Sarkaria Commission had suggested that under **Article 263**, a permanent Inter-State Council named the Inter-Governmental Council (IGC) be established.
- It cannot be dismantled and rebuilt.
- **As a result, the ISC now has the status of a permanent constitutional body.**

### Why is there a need for an Inter-State Council ?

- The growing sense of **regionalism, Tensions in Centre-State Relations, the Interstate disparity, dissatisfaction with the role of Governors, Imbalances in Fiscal Federalism**, dissatisfaction with working of extra-constitutional bodies such as the National Development Council, National Integration Council, the declining role of the Finance Commission, Inter-State Council, Zonal Council, and the Centre's exclusive power to negotiate with foreign governments has made it have relook in the Centre - State Relations
- Various commissions like the **ARC, the Rajamannar Committee, and the Sarkaria Commission** have proposed numerous reforms to alleviate the disturbance in Centre- State relations.
- So, to provide an additional platform for States and Centre to discuss and deliberate on the various issues, Inter-State Council was created.

### What is the Standing committee of ISC ?

- In 1996, the council established a standing committee to provide ongoing consultation and processing of items for consideration by the council.
- **Composition:**
  - **Chairperson:** The Union Home Minister.
  - **Member:** 5 Union Ministers of Cabinet Rank and 9 Chief Ministers of States, as nominated by the Chairman of the Inter-State Council.

### What are Advantages of inter-state council?

- The ISC is the only **multilateral centre-state forum** that works directly within the Constitution (Article 263 (b) and (c)), allowing for discussions on matters such as the GST and current challenges like as disaster management, terrorism, and internal security.
- The ISC's constitutional backing gives states a stronger foundation, which is critical for creating the cooperative atmosphere needed to calibrate centre-state interactions.
- The council will assist in bridging the trust gap between the federal government and the states. It served as a safety valve if not always as a problem solver.

### What are the Limitations of the council?

- It is **merely a consultative and recommendatory body** tasked with investigating and debating issues in which some or all of the states or the federal government share an interest.
- The Inter-state council is **not a permanent constitutional body** for state-central government interaction. Rather, the President can create it at any time if he believes that it will benefit the public interest.
- The interstate council will convene three times a year. **Since its inception in 1990, the Inter-State Council has only held 12 meetings.** Between the 10th meeting in 2006 and the 11th meeting in 2016, the council convened for the first time in November 2017.
- The ISC must also have a permanent secretariat in order for the periodic meetings to be more productive.

Statutory, regulatory and various quasi-judicial bodies.

### DELIMITATION OF JAMMU AND KASHMIR (J&K)

Priority: High



Primary Source: The Indian Express

**Prepp Prelims:** Booster: Provisions of J&K; Reorganisation Act 2019; Delimitation commission changes; Composition of Delimitation Commission

**Prepp Mains Booster:** Impact of changes made by Delimitation Commission

**Suggested Reading:** <https://bit.ly/3OgwvX4>

### Context:

- The Delimitation Commission for Jammu and Kashmir has submitted its final report to the President. The Delimitation Commission has recommended for creation of seven additional constituencies in the Union territory of Jammu and Kashmir.
- The Parliamentary Act establishes the Delimitation Commission. The Indian constitution's article 82 empowers parliament to establish a Delimitation Commission.

### What is the final report of the Commission?

#### Legislative Assembly

The Commission has added seven Constituencies to Assembly, to make it a total of 90 seats for the Assembly of the Union territory of Jammu and Kashmir.

- Added six seats in the Jammu Region** (now 43 seats) and **one in the Kashmir Region** (now 47) also made geographical changes in the boundaries of the existing Assembly constituencies.

There are five Parliamentary Constituencies in the region.

- The Delimitation Commission recommended the Jammu & Kashmir region be viewed as one single Union Territory.
- The Commission has altered the boundaries of the Anantnag and Jammu seats.

- The Pir Panjal region of Jammu, which includes the districts of Poonch and Rajouri and was previously part of the Jammu parliamentary seat, has now been included in Kashmir's Anantnag seat.
- The parliamentary seat of Srinagar has been relocated to Baramulla.

### Recommendations

- Kashmiri Pandits:** At least **two members of the Kashmiri Migrants** (Kashmiri Hindus) community should be represented in the Legislative Assembly, according to the Commission.
- The Centre should consider **providing displaced persons from Pakistan-occupied Kashmir** who relocated to Jammu after Partition representation in the J&K Legislative Assembly.
- Scheduled Tribes:** Nine seats have been set aside for Scheduled Tribes.



(Fig: Parliamentary Constituencies)

### Why was the Commission Set Up?

- The **Jammu and Kashmir Reorganization Act, 2019**, increased the number of seats in the Assembly, necessitating the delimitation of the Union Territory.
- The former J&K state had 111 seats, with 46 in Kashmir, 37 in Jammu, and four in Ladakh, as well as 24 seats set aside for Pakistan-controlled Kashmir (PoK).
- The delimitation of parliamentary constituencies was governed by the Constitution of India in the former state, while the Jammu and Kashmir Representation of the People Act, 1957 governed the delimitation of Assembly seats.
- Following the abolition of J&K's special status in 2019, the Constitution governs the delimitation of both Assembly and parliamentary seats.

#### Delimitation Commission

- It is a **statutory body set up by the Act of Parliament** for bringing readjustment in the number and territorial configuration of constituencies for parliamentary and assembly elections, upon the **completion of every 10 years.**

- **Article 82**, empowers the Parliament to enact a **Delimitation Act after every Census**.
- Every Census, under **Article 170**, states are divided into territorial constituencies according to the Delimitation Act.
- The Union government establishes a Delimitation Commission after the Act is in effect.
- The first delimitation exercise was conducted by the President with the help of the Election Commission in 1950-51.
- **In 1952, the Delimitation Commission Act was passed.**

#### Composition

The President of India appoints the Delimitation Commission, which is composed of:

- **Chairman:** Retired Judge of the Supreme Court as its
- **Member:** Chief Election Commission of India and Respective State Election Commissioners.

#### Powers of the Delimitation Commission

- The delimitation commission is an autonomous organisation established under Article 82 following each census when Parliament enacts a Delimitation Act.

The Delimitation Commission has all the powers of high courts and the Award given by it is Final and can not be challenged in any court of law.

Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

### ISSUE OF MOB-LYNCHING

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Social Media Rule 2018

Prepp Mains Booster: Reasons for rising mob-lynching; measures taken to curb mob lynching

#### Context:

Recently, two tribal men were lynched to death in Seoni, Madhya Pradesh, on the suspicion that they were slaughtering cows has again brought the issue of mob lynching for the discussion.

#### What is mob lynching?

- Mob Lynching is an act of mob violence committed by a crowd of people who turns aggressive which results in the killing of a person on the assumption of being guilty of a crime without any legal and fair trial.

#### What are the Reasons for rising mob-lynching incidents in India?

- **Failure of state:** The failure of the state to protect Minorities from the mob. The Inefficiency of Police Administration in maintaining Law and Order situation

and protecting the life of the people. This has led to people losing their faith in law enforcement machinery and therefore taking laws in their hands.

- **Lack of Speedy Justice:** Inefficient working of Court, a huge backlog of cases and scenario of delayed Justice is the primary reason why people take law into their own hands and have left no fear of the consequences.
- **Lack of impunity:** The absence of legislation for mob/crowd murder in India is one of the key causes for the surge in mob lynching. Lynching is not covered by any specific law, and it is not mentioned in the Indian Penal Code. It is difficult for police to register and investigate instances involving large crowds. As a result, the criminals frequently get away with it.

#### Social Reasons:

- In recent years, **intolerance** has grown, particularly against the marginalised and minorities. For example, hatred toward Muslims has grown as a result of cow slaughter and beef-eating and mob lynching cases have risen as a result of the news of Muslims eating beef.
- **Loss of Social values like Fraternity**, and respect for others under the influence of political propaganda in society
- **Rise of Cow Vigilante:** Supreme Court judgement of 2005 justified the total ban on cattle slaughter which has motivated cow vigilante groups. It is one of the crucial reasons that had led to the growing rise in mob lynching activities.
- **Economic Reason:** With the growth in unemployment, politicians and religious organisations are misinforming the youth. They act against particular groups to exact retribution or are driven by thrill and excitement as a result of incorrect preaching.
- **Internet and Fake News:** Since 2015, the rise in the use of the internet and Social media platforms has led to the spreading of rumours and fake news quickly. Which has misinformed people leading to events of mob lynching.

#### What steps have been taken to curb mob lynching?

##### Supreme Court

- **Supreme Court in Tehseen Punawala vs. Union of India and others 2018**, has issued disciplinary, remedial and preventive guidelines for the case of mob lynching and asked Parliament to enact legislation for mob lynching.
- The Supreme Court has also issued directives to the Centre, the Human Rights Commission, and ten states for failing to follow guidelines issued to prevent mob lynching.

##### Legal

- Since there is **no separate definition for lynching under the IPC**, Supreme Court has asked to use the sections of IPC applied to deal with instances of mob killing.
- This includes Section 302 (murder), 307 (attempt to murder), 323 (causing voluntary hurt) 147 (rioting), 148 (rioting armed with deadly weapons) and 149 (unlawful assembly).
- Also, **Section 223A of the CrPC** provides for criminal prosecution for crowds involved in similar crimes.

#### Union Government

- A high-level committee led by Home Secretary Rajiv Gauba was formed.
- According to Supreme Court Directives 2018, the central government formed a panel to deliver a report to the Prime Minister

#### State Government

- Four states (Rajasthan, Jharkhand, West Bengal, and Manipur) had passed anti-lynching legislation, but it was still being implemented.

#### Other steps

- **Social Media Rules 2018**, regarding the forwarding of messages through social media like WhatsApp and others has been restricted to only five chats, in order to stop the fake rumours from spreading so easily and fast.
- Civil Society Organisation
  - To promote awareness, the 'Not in my name campaign' was organised.
  - '**Manav Suraksha Kanoon (MASUKA)**' is a law to prevent mob lynching that was proposed by **National Campaign against Mob Lynching (NCAML)**.

### MPLADS SCHEME

Priority: High 

Primary Source: The Hindu

**Prepp Prelims:** MPLADS Schemes Changes; salient features

**Prepp Mains Booster:** Issues and Challenges of MPLADS Scheme; Impact of COVID on MPLADS

#### Context:

Recently, the Finance Ministry has ordered amended guidelines at a time when MPs have been requesting an increase in the MP Local Area Development Scheme (MPLADS) budget.

#### What are the new changes proposed in MPLADS?

- **All interest profits from money disbursed for central sector initiatives are required to be remitted to the consolidated fund of India.**
  - Any income earned on the Rs.5 crores annual funds granted to each MP under MPLADS must be returned to the government.

#### What was the Procedure until now?

- According to the 2016 MPLADS guidelines, interest on the fund was deposited to the MPLADS account and might be utilised for development projects.

#### What is the impact of COVID-19 on MPLADS?

- The **Cabinet resolved in April 2020 not to operate MPLADS for FY 2020-21 and 2021-22** to manage the health and negative effects of covid 19 in society.

#### Member of Parliament Local Area Development Scheme (MPLADS)

- The MPLADS is a Government of India-funded **Central Sector Scheme**.
- The scheme was established in 1993 to allow MPs to construct long-term assets in their constituencies based on local needs.
- The scheme's goal is to **give MPs the ability to recommend developmental projects**.
- The focus is on the development of long-term community assets in areas such as drinking water, public health, sanitation, and roads.

#### Salient features

- Every MP (both Lok Sabha and Rajya Sabha members) is entitled to recommend spending **Rs. 5 crores on development projects every year under the plan**.
  - The money would be distributed in **two instalments of Rs.2.5 crore each**.
- MPs can suggest work in their constituency (in the case of the Lok Sabha) or anyplace in the state where they were elected (in the case of Rajya Sabha).
- The funds given under the scheme are **not lapsable**.
  - if money for a given year is not spent in that year, it will be carried over to **succeeding years if they are eligible**.

The district authority has the jurisdiction to review work eligibility, approve the money, designate implementing agencies, and oversee the plan on the ground.

- The Ministry of Finance was given this amount to manage the effects of the Covid 19 epidemic.
- Later, in November 2021, it was decided to reinstate MPLADS for the remainder of FY 2021-22 and prolong it through 2025-26.

#### What are the Issues and Challenges with MPLADS?

##### Misuse of funds

- According to reports, MPs were frequently channelling the money back to their own hand-picked contractors or trusts.
- Misusing MPLAD funds to promote private businesses or organisations' commercial activities is also a significant violation of the standards.

##### Conflict of Interest

- According to the 2nd ARC, the schemes "seriously weaken the notion of separation of powers, as the legislator immediately becomes the executive,"

#### CAG Observation on MPLAD

- Weak financial management, poor ministry oversight, poor quality and, at times, inadmissible work, and suspicions of fraud and corruption
- Prohibited work selection ( prohibited in guidelines)
- The work was not documented according to the rules, and the dates were either not included or were utterly incorrect.

#### Public Account Committee's (PAC)'s Observation

- In its 55th report, PAC noted that total expenditures show a considerable deficiency in fund use each year.
- The committee also stated that there is no adequate monitoring mechanism in place.

#### Way forward

- After adequate data validation, all completed or ongoing projects should be submitted.
- At various levels, accountability for maintaining records should be prescribed and checked.
- Both at the ministry and at the state level, a solid and regular internal audit system should be implemented right away.
  - Despite the odds, this programme has come a long way and is contributing positively to making a difference in society.
  - In May 2010, a five-judge bench of the Supreme Court concluded that the notion of separation of powers had not been violated because the role of an MP in this issue is advisory.
  - The executive organ's Panchayats and Municipalities are in charge of doing the real work.
  - The need of the hour is to assure adequate monitoring of all developmental projects by requiring grass-roots engagement.

### THE PLACES OF WORSHIP ACT

Priority: High



Primary Source: The Hindu

Prepp Mains Booster: Provisions of Places of Worship Act

#### Context:

The Committee of Management of **Anjuman Intezamia Masjid**, the organisation that submitted the appeal, claims that the Varanasi court's judgement is "clearly interdicted" by The Places of Worship (Special Provisions) Act, 1991, which was affirmed by the Allahabad High Court on April 21.

#### What is the Places of Worship Act, and its provisions?

It is an Act to **prohibit** the conversion of any place of worship and to provide for the preservation of the religious character of any place of worship **as it existed on the 15th**

**day of August 1947** and for issues connected therewith or incidental thereto.

- Section 3 of the Act** prohibits the conversion of a place of worship of one religious' denomination into another religious denomination — or even a different segment of the same religious denomination — in whole or in part.
- Section 4(1)** states that a place of worship's religious nature "must remain to be the same as it existed" on August 15, 1947.
- Section 4(2)** states that any litigation or legal process pending before a court for the conversion of the religious nature of any place of worship that existed on August 15, 1947, will be dismissed — and no new suit or legal proceeding shall be filed.
- However, suits, appeals and legal proceedings can be initiated with respect to the conversion of the religious character of any place of worship after the commencement of the Act if the change of status took place after the cut-off date of August 15.
- Section 5** states that the Act does not apply to the Ram Janmabhoomi-Babri Masjid dispute or any related action, appeal, or procedure.

#### What conditions led to the passage of the 1991 law?

- The Act was introduced by Prime Minister P V Narasimha Rao's Congress administration at a time when the Ram temple movement was at its height.
- The Babri Masjid was still up, but communal tensions had been increased by L K Advani's rath yatra, his imprisonment in Bihar, and the fire on **kar sevaks** in Uttar Pradesh.

#### The Ayodhya Judgement and The Places of Worship Act

- The constitutionality of the 1991 Act was not challenged, and it had not been considered before the Supreme Court bench hearing the **Ramjanmaboomi-Babri Masjid title action**.
- Despite this, the court issued specific **observations in favour of the Act**, although disagreeing with key findings reached by the Allahabad High Court.
- According to Supreme Court:

- Parliament determined that independence from colonial rule provides a constitutional basis for **healing the injustices of the past** by ensuring every religious community that their places of worship will be preserved.
- And that their character will not be altered by providing a guarantee for the **preservation of the religious character** of places of public worship as they existed on 15 August 1947 and against the conversion of places of public worship.
- The law addresses itself to the State as much as to every citizen of the nation.

- The State has by enacting the law, **enforced a constitutional commitment** and operationalised its constitutional obligations to uphold the equality of all religions and secularism which is a part of the basic features of the Constitution.
- The Places of Worship Act **imposes a non-derogable obligation** towards enforcing our commitment to secularism under the Indian Constitution.
- The law is hence a **legislative instrument** designed to protect the secular features of the Indian polity, which is one of the basic features of the Constitution.
- The Places of Worship Act is a legislative intervention which preserves non-retrogression as an essential feature of our secular values.

### UNIFORM CIVIL CODE

Priority: High



Primary Source: The Indian Express

Prepp Prelims Booster: Article 44

Prepp Mains Booster: Arguments in favour and against the uniform civil code .

#### Context:

Recently, a number of state governments have proposed to frame a Uniform Civil Code (UCC) for their states. In this context, scholars have analysed the State proposal of the Uniform Civil Code (UCC).

#### What is the Uniform Civil Code?

- Uniform civil code (UCC) is the set of personal laws which is based on common ideals for property, marriage, divorce, inheritance and succession for all religions.
- **Article 44** of the Indian constitution mentions UCC and leaves it to the state for its implementation.

#### What are the steps taken so far toward UCC in India?

- Parliament so far is unable to enact the Uniform Civil code. But Parliament has enacted various legislation on Personal laws related to marriage, divorce succession and property for nearly all religions.
- **For Interfaith Marriage:** Parliament enacted a **Civil Marriage Act of 1954, The Special Marriage Act and the Indian Succession Act**.
- As a secular alternative, these enactments were made available to all Indian people. As a result, these acts collectively constitute an optional UCC for all Indians.
- **For Religious Marriage:** The Parliament also enacted a new law called **the Hindu Marriage Act in 1955** to regulate religious marriages among the Hindus, Buddhists, Jains, and Sikhs.
- **For Succession:** A **Hindu Succession Act** came into force regulating the properties of those covered by the Hindu Marriage Act 1955.

#### What are the issues in the central personal laws?

There are certain issues in these enacted Central personal laws which are related to marriage, property, and divorce.

- The Special Marriage Act is clearly discriminatory in some cases. It mentions the **degree of marriage between close relatives** that is prohibited (similar to the Hindu Marriage Act).
- Marriages between distant cousins are also not prohibited by the Act. Thus, despite the religious ban, a Hindu can marry a second cousin, whereas a Muslim cannot marry a first cousin despite religious authorization.
- **The Hindu Marriage Act relaxes the prohibition on prohibited degrees** based on custom, although the Special Marriage Act does not.
- During the Emergency time, the Special Marriage (Amendment) Act permitted the Hindu Succession Act to govern both parties' (if Hindu) properties instead of the Indian Succession Act. This was a step backwards.

#### What are the arguments in favour of the state proposals to enact UCC?

- Personal laws related to the family and succession are placed in the concurrent list in the constitution of India.
- Since the Central laws related to succession and marriage are facing various issues. The States can enact the laws related to it.
- In several places of the country, archaic foreign laws nevertheless apply to Indian citizens. As a result, such a code might be implemented at the state level.

#### What are the issues in proposals for the state-level uniform civil code laws?

- A state-level UCC appears to be incompatible with Article 44 of the Constitution on the surface.
- The Article 44 calls for a single civil code for citizens across India's entire territory.
- Family and succession laws are jointly governed by the Centre and the states under the Constitution. As a result, Parliament can pass laws that apply to the entire country.
- Family and succession laws will vary from state to state and also with Centre's laws, this would amount to more confusion than resolving the present issues.

#### What are the Challenges in the implementation of Uniform Civil Code?

- **Diverse personal laws:** Uniformity of any kind is difficult to attain due to the wide range of personal laws and the devotion with which they are followed. Finding a common ground amongst diverse communities is quite difficult.
- **False Perception:** Many people still have misconceptions about what the unified civil code

actually implies. There are still incorrect views about it, particularly among minorities, making a reasonable discussion about its implementation difficult.

- **Fundamental rights violation:** There is concern that the universal civil code will infringe on the fundamental rights of conscience, free profession, practise, and spread of faiths (Article 25), and the freedom to administer religious affairs (Article 26).
- **Opposition from Religious groups:** This is one of the most basic and evident obstacles to overcome when bringing up the UCC. Fundamentalism, which is deeply established in many Indian religions, does not appear to be fading even in the twenty-first century.
- **Political will power:** The government may lack the resolve to confront the repercussions of repealing the main faiths' personal laws and persuade the public of the justice and reform they seek to bring to society in order to improve as a nation.
- **Encroachment on religious liberty:** Many people, particularly minorities, see the Uniform Civil Code as an infringement on their religious liberty. They are concerned that a common code will ignore minority traditions and impose regulations imposed and influenced mostly by the majority faith communities.

### Way forward

- **Awareness:** To reform present personal law reforms, major public awareness activities are required, which should be led by the communities themselves.
  - **Gradual approach:** The transition from a heterogeneous civil code to a uniform civil code must be gradual and not happen overnight. As a result, the government will have to take a piecemeal approach.
  - **Law Commission's recommendations:** The panel emphasises efforts to integrate the country's diversity with universal human rights arguments.
- It advocated for the **codification of all personal laws in order to expose prejudices and stereotypes in all religions.**
  - They will eventually be put to the test against the anvil of the constitution's fundamental rights.
  - It could aid in the development of universal principles.
  - Instead of imposing UCC, these may make it easier to prioritise equity.

Small modifications, eliminating some underlying absurdity in some personal laws and making them acceptable for current times, would be a wiser route. Disparities between different religions should be addressed as well. This could establish the groundwork for the later implementation of a UCC.

**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.**

### STATE OF INEQUALITY IN INDIA

**Priority:** Medium



**Primary Source:** The Hindu

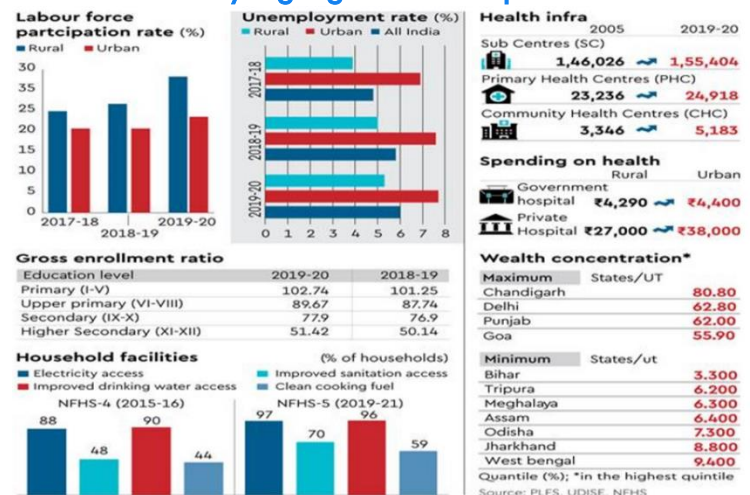
**Prepp Prelims Booster:** The State of Inequality in India Report

**Prepp Mains Booster:** recommendations of the report to reduce inequality

### Context:

A report, titled "The State of Inequality in India" has been released by the Economic Advisory Council to the Prime Minister (EAC-PM).

### What are the Key Highlights of the report ?



- The EAC-PM commissioned the report, **The State of Inequality in India 2021 Report**, which was written by the Institute for Competitiveness.
  - It provides a comprehensive examination of the extent and nature of inequality in India.
  - The also examines how inequality affects society across the intersections of class, gender, and region.
- Some of the highlights of the report are:
- **Move beyond wealth concentration as a metric of inequality**
    - The paper argues that wealth concentration should no longer be used as a measure of inequality.
    - Instead, dynamic variables such as income distribution, which drive capital flow and evaluate household purchasing power, should be prioritised.
  - **Earnings have risen over the years, benefits remain concentrated**

- While incomes have increased over time, the benefits of that growth have remained primarily concentrated, according to the research.
- This has further marginalised the poor.
- **Wealth concentration has worsened**
  - Wealth concentration has also gotten worse, according to the research.
  - In metropolitan areas, there is a 4% wealth concentration in the richest quintile, compared to a meagre 7.1 percent concentration in rural India.
  - The top 1% earns 6-7% of all income, while the top 10% earn one-third.
- **Unemployment rate & different employment categories**
  - In 2019-20, the largest percentage of self-employed workers was 45.78 percent, followed by regular salaried workers (33.5 percent), and casual workers (33.5 percent) (20.71 percent).
    - In the lowest income groups, the percentage of self-employed workers is also the largest.
  - The unemployment rate in the country is 4.8 percent (2019-20), and the worker population ratio is 46.8%.
  - Over the three years of 2019-20, the gender gap in the labour market remains significant.
  - The female LFPR was found to be 30%, whereas the male LFPR was found to be 76.8%.
- **Improvement in Nutrition profile among children compared to 2015-16 (NFHS 4)**
  - According to the report, stunting in youngsters has decreased from 38.4 percent to 21 percent, with 7.7 percent severely wasted.
  - Furthermore, 32.1 percent of youngsters (under the age of five) were found to be underweight.
  - There has been significant progress in improving infrastructure capacity, with a particular focus on rural areas.
- **Improvement in Education and household conditions**
  - According to the report, concentrated initiatives have greatly improved schooling and family situations.
  - It is emphasised that early childhood education and cognitive development are long-term corrective measures for inequality.
  - Between 2018-19 and 2019-20, the Gross Enrolment Ratio grew in elementary, upper primary, secondary, and higher secondary schools.
  - At the national level in 2019-20, the Gender Parity Index was greater than one at all levels of education.
  - This indicator measures the proportion of females in schools compared to the total number of girls in the age group.

- In terms of improving household conditions, a focus on providing sanitation and safe drinking water has allowed most people to live in dignity.
  - According to the National Family Health Survey-5 (2019-21), 97 percent of families have access to power, 70 percent have improved sanitation, and 96 percent have safe drinking water.

### What are the major Recommendations ?

#### Demand-based Urban guaranteed employment scheme for the urban unemployed

- The government should develop a guaranteed employment programme for the unemployed in cities, according to the research.
- The Mahatma Gandhi National Rural Employment Guarantee Scheme should be used to model this demand-based guaranteed employment programme (MGNREGS).
- This will aid in the recovery of surplus labour.
- After examining the disparity in labour force participation rates between rural and urban areas, this measure was recommended.

#### Roll out a universal basic income (UBI) scheme

- It was also suggested that a universal basic income (UBI) programme be implemented to close income gaps.
- According to the paper, this approach can help to close the income gap and ensure an equitable distribution of incomes in the labour market.

#### More expenditure towards social services and the social sector

- According to the report, the government should devote a higher share of its spending to social services and the social sector.
- This will make the most vulnerable people more resilient to shocks and will help them avoid falling into poverty.
- The report also made recommendations such as
  - constructing income slabs with class information, creating jobs, particularly among those with higher education levels, and raising the budget for social security systems.

### Why Urban Employment Guarantee scheme ?

#### Shortfalls in current approach to Employment

##### Generations:

- Government schemes excessively prioritise rural unemployment. For example- MGNREGA and Prime Minister Garib Kalyan Rojgar Abhiyaan focused on Rural areas.
- Excessive focus on Wage labour employment Generation in rural area, and does not cater to unskilled wage employment generation.
- Programme like Deendayal Antyodaya Yojana- National Urban Livelihoods Mission (DAY-NULM)

focuses on Asset based employment generation and does not cater to unskilled labour.

- City in India are Growth Engines of India, leading to migration of vast rural youth which are lacking appropriate skill, capital to start Asset based Employment

#### Post COVID pandemic Unemployment is on 45 years high:

- Growing distress among the urban poor
- Unemployment rates are typically higher in urban areas
- Urban poor are worst affected by India's persistently high inflation
- Prevalence of low-wage, poor quality, informal work

### FRAME POLICIES TO PROTECT LGBTQ+ WORKERS: ILO

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Meaning of LGBTQ+

Prepp Mains Booster: issues faced by the LGBTQ+ community

#### Context:

- The International Labour Organization (ILO) issued a document on May 25- titled "Inclusion of lesbian, gay, bisexual, transgender, intersex, and queer (LGBTQ+) persons in the world of work".
- It encouraged member countries, employer organisations, and workers' representatives to launch **social protection programmes** to remove barriers that LGBTQ+ people face in society.

### Putting an end to workplace discrimination and unfair treatment of LGBTQ+ people

- LGBTQ+ people experience harassment, violence, and discrimination across the world because of their sexual orientation, gender identity, gender expression, and sex characteristics.
- Multiple and overlapping layers of prejudice exacerbate experiences.
  - such as when LGBTQ+ people have a disability or a health condition, such as HIV, TB, or COVID-19, or when they are a member of an ethnic or racial minority.
- LGBTQ+ persons must be part of diversity and inclusion strategies in the workplace.

#### Legal protection for LGBTQ+ people

- Laws **criminalising** LGBTQ+ people are steadily changing.
- As of 2021, **only 29 nations legally recognised** marriage equality, with 34 recognising some kind of same-sex relationship.

- Eleven nations expressly specified sexual orientation in non-discrimination sections in their constitutions.
- Across the world, legislation prohibiting job discrimination based on sexual orientation is being enacted.
- As of December 2020, **81 United Nations** Member States granted employment discrimination protection based on sexual orientation.

### LGBTQ+ people are ignored in Social Security

- Social security is an important tool for preventing and reducing poverty, inequality, social exclusion, and social insecurity; promoting equal opportunity, gender and racial equality; and assisting in the transition from informal to formal employment.
- Social protection programmes should be examined from an **inclusive standpoint**, ensuring that LGBTQ+ individuals, people with disabilities, people living with HIV, and other marginalised groups are properly included in social protection measures.
- Access to social protection services for LGBTQ+ people should be made easier by identifying and removing barriers.

#### How to end this discrimination?

- **Inclusion** of LGBTQ+ people is critical to encouraging equality and diversity, spurring innovation, providing decent work for all, and meeting the **Sustainable Development Goals**.
- Inclusion of LGBTQ+ **people in the workplace** is key to the ILO's mission of furthering social justice and promoting decent work for everyone.
  - This is also critical for carrying out the SDG goal to **leave no one behind**.
- **Workplace equality**, diversity, and inclusion make excellent financial sense.
  - There is an urgent need to abolish discrimination on all grounds, including sexual orientation and gender identity.
- **Collaboration** based on social discourse, particularly with LGBTQ+ employees and their representatives, as well as tripartite action by governments, employers' and workers' groups, is vital to maintaining an inclusive workplace.
- **Governments** can offer a legal, legislative, and social foundation for measures aimed at creating a workplace free of discrimination and welcoming to LGBTQ+ people.
- **Employers' organisations** can and will benefit from creating a workplace climate that is safe and inviting for LGBTQ+ employees and represents the diversity of their workforce.
- **Employees' groups** may assist in ensuring that LGBTQ+ workers organise and use their right to free

association, and that LGBTIQ+ problems are addressed via collective bargaining agreements with employers, workplace rules, and other instruments.

Issues relating to the development and management of Social Sector/Services relating to Health, Education, Human Resources.

### NFHS FINDINGS RELATED TO FERTILITY AND OBESITY

Priority: Medium



Primary Source: The Indian Express

Prepp Prelims Booster: NFHS; NGHS-5 data

Prepp Mains Booster: Changing trends in Obesity and fertility levels

#### Context:

- Between **National Family Health Survey (NFHS) 4 and 5**, the Total Fertility Rate (TFR), **fell from 2.2 to 2.0 at the national level**.
- According to the national report of the NFHS-5, issued by the Union Health Ministry, only five states in India are over the replacement level of fertility of 2.1: **Bihar (2.98), Meghalaya (2.91), Uttar Pradesh (2.35), Jharkhand (2.26) and Manipur (2.17)**.

#### Other Key Highlights

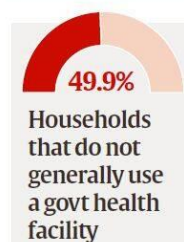
- According to the NFHS-5, **institutional births climbed from 79% to 89% in India**, with 87% of births in rural regions and 94% in urban areas being delivered in hospitals.
- Moreover, three-quarters of children aged 12 to 23 months (77%) were completely **immunised**, compared to 62% in NFHS-4.
- Stunting among children** under the age of five has decreased slightly in the country during the previous four years, from 38% to 36%. In 2019-21, stunting is more common among children in rural regions (37%) than in urban areas (30%).
- Indicators for the Sustainable Development Goals have improved generally in all States/Union Territories, according to NFHS-5 (UTs).
- Married women's participation in three household decisions** (regarding their own health care, important household purchases, and visits to their family or relatives) ranges from 80% in Ladakh to 99% in Nagaland and Mizoram, indicating that female engagement in decision-making is substantial.
  - The differences between rural (77%) and urban (81%) are determined to be minor. In the previous four years, the percentage of women with a bank or savings account has risen from 53% to 79%.
- Half of the Indian families do not seek health care from **government health facilities**, and almost half of them

do not do so due to "poor quality of service" in public hospitals.

#### National Family Health Survey (NFHS)

- The National Family Health Survey (NFHS) is a **multi-round, large-scale survey** that is undertaken in a representative sample of Indian homes.
- The NFHS is a collaborative project of the **International Institute for Population Sciences (IIPS), Mumbai, India**; ICF, Calverton, Maryland, USA and the East-West Center, Honolulu, Hawaii, USA.
- The Government of **India's Ministry of Health and Family Welfare (MOHFW)** has selected IIPS as the main agency for NFHS coordination and technical advice.
- The United States Agency for International Development (USAID) financed NFHS, with additional financing from the United Nations Children's Fund (UNICEF).
  - The First National Family Health Survey (NFHS-1) was conducted in 1992-93.

#### STAYING AWAY



#### Reasons

|                                |       |
|--------------------------------|-------|
| No nearby facility             | 40.2% |
| Facility timing not convenient | 25.3% |
| Health personnel often absent  | 15%   |
| Waiting time too long          | 45.7% |
| Poor quality of care           | 47.6% |



- According to the survey report, the percentage of families that did not utilise a government health facility on a regular basis during 2019-21 was **49.9%**, which is lower than the 55.1% reported in the previous round of NFHS in 2015-16.
- During 2019-21, Bihar had the greatest share of such families (80%), followed by Uttar Pradesh (75%). Ladakh, Lakshadweep, and the Andaman and Nicobar Islands had the lowest – less than 5%.

#### Obesity levels are rising

- In most States/UTs the prevalence of overweight or obesity has grown in NFHS-5 compared to NFHS-4. It **grew from 21% to 24% among women and 19% to 23% among males** at the national level. In Kerala, Andaman and Nicobar Islands, Andhra Pradesh, Goa, Sikkim, Manipur, Delhi, Tamil Nadu, Puducherry, Punjab, Chandigarh, and Lakshadweep, more than a third of women (34-46%) are overweight or obese.

Among all religious groupings, **Muslims' fertility rate has dropped the most**

- The community's **fertility rate fell to 2.3 in 2019–2021 from 2.6 in 2015–16**, continuing the declining trend witnessed over the years.
- While all religious communities have seen a drop in fertility, leading to a drop in the country's total fertility rate, the Muslim community has seen the biggest drop, from 4.4 in NFHS 1 (1992–93) to 2.3 in NFHS 5. (2019–2021).
- The Muslim community's fertility rate, on the other hand, remains the highest among all religious communities.
- In NFHS 5, the Hindu community came in second with 1.94, down from 2.1 in 2015–16. In 1992–93, the Hindu community had a fertility rate of 3.3.
- The Christian community has a fertility rate of 1.88, the Sikh community of 1.61, the Jain community of 1.6, and the Buddhist and a neo-Buddhist group of 1.39, which is the lowest rate in the country, according to NFHS 5.

## HIGHER EDUCATION REFORMS

Priority: Medium



Primary Source: The Hindu

**Prepp Mains Booster:** current status of Indian Universities; Challenges faced Indian Universities

### Context:

Recently researchers have explained opinions about the Problems being faced by Universities in India.

### Current Status of India's universities

- **Public Spending:** Higher education spending has remained stable at **1.3–1.5% of total government spending** since 2012.
- In the meantime, the Ministry of Education is pressuring higher education institutions to **boost their intake capacity by 25%**. (in a push to implement the 10% quota for economically weaker sections),
- The Ministry of Finance has sought to **ban the creation of new teaching posts** while making an extra intake of students.
- **Reduction in Aid:** Student financial aid was reduced by 8% to 2,078 crores in FY 2022–23 from 2,482 crores in FY 2021–22, and research and innovation funds were reduced by 8% to 218 crores.

### What are the challenges being faced by the Universities?

Universities are facing challenges on multiple fronts:

#### Financial crunch:

- University infrastructure spending has decreased. The majority of Indian universities and colleges have overcrowded classrooms, insufficient air and cleanliness, and inadequate housing facilities.

- The **Higher Education Financing Agency (HEFA)**, which finances all infrastructure loans to colleges and universities, saw its budget cut from 2,000 crores in FY 20–21 to 1 crore in FY 21–22.
- Salary payments for deemed/central universities have been delayed due to a lack of cash flow leading to most universities being in debt, for example– **Madras University was forced to request an 88 crore from the state government.**

#### UGC's Research Project Grant Scheme:

- Minor and major research project grants from the UGC have decreased from 42.7 crores in FY 2016–17 to 38 lakh in FY 2020–21. Given the lack of finance and infrastructure, only 2.7% of India's universities provide PhD programmes.
- The National Research Foundation (NRF), which aims to develop university research infrastructure, has yet to be established and may have a small budget (\$5–6 billion over five years).

#### Fall in standards:

- Academic methods and norms are not being followed.
- **Examination paper leaks:** Test paper leaks have become commonplace; in June 2021, the **Hindi exam of the UGC's National Eligibility Test**, which allows post-graduate students who pass to teach in State and Central colleges, was released.
- **Repression:** Earlier, Universities have played a crucial role in strengthening democracy and civil society. For example,
  - During the national movement, the Central Hindu College in Delhi, founded by Madan Mohan Malaviya, was a hotbed of political discourse. However, in recent years, institutional apathy has given way to persecution.
  - Police actions against students at a few colleges (for example, JNU and Jamia Millia) for campus protests, as well as arrests and detention, have placed a pall over free expression on college campuses.

### Way Forward

- **Increased funding is urgently needed**, as is the establishment of specialised funding streams for infrastructure grants/loans and financial help. Universities can also use the money saved to pursue new revenue streams like start-up royalties and advertising.
- **Rise in Funding for research needs:** The National Research Foundation (NRF) should augment (rather than replace) existing research funding schemes (including those from the Ministry of Science). Undergraduates should be able to participate in course-based research experiences.

- Improving the integrity of the examination process will necessitate a decentralised approach, with universities having the authority to make decisions about academic programmes, promotions, cohort size, and other matters.
- Our campuses must **promote tolerance for a variety of viewpoints** because our students have formative experiences there and require the freedom to establish themselves as people.

### WHO HONOURS ASHA WORKERS

Priority: High



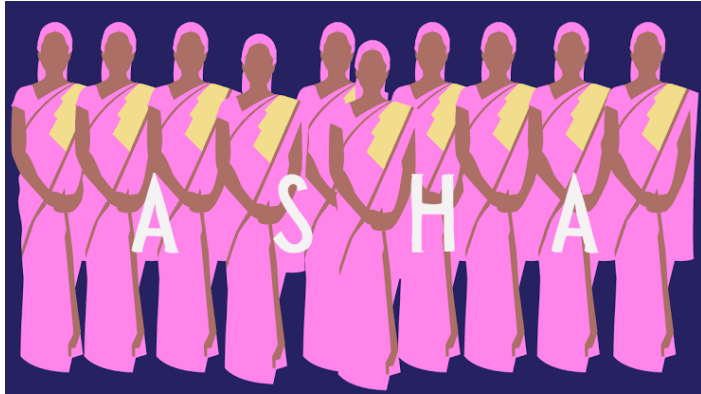
Primary Source: The Indian Express

**Prepp Prelims Booster:** Role and functions of ASHA workers; Which institution honoured ASHA workers

**Prepp Mains Booster:** Problems face by ASHA workers and healthcare workers at large.

#### Context:

- The role of India's 1 million Accredited Social Health Activists (ASHAs) during the **Covid-19** outbreak has been acknowledged by the World Health Organization (WHO).
- ASHAs are recognised for facilitating the connection of families to health facilities and for playing a critical role in house-to-house surveys, immunisation, public health, and reproductive and child health initiatives.



#### Who are the ASHA workers?

- ASHA workers are **community volunteers** who have been trained to deliver information and assist individuals in obtaining benefits from the government's different healthcare programmes.
- They provide a **link between marginalized populations** and resources like primary health centres, sub-centers, and district hospitals.
- The National Rural Health Mission (NRHM) created the function of these community health volunteers in 2005.
- ASHAs are largely community-based married, widowed, or divorced women between the ages of 25 and 45.
  - They must be literate, with formal education up to Class 8.

- have strong communication and leadership abilities, according to the programme requirements.

#### Creation and evolution

- The ASHA programme was inspired by Chhattisgarh's **Mitanin programme**, which assigns a Community Worker to 50 families.
- The ASHA was supposed to be a local who looked after 200 houses. The programme placed a strong emphasis on building capacity in certain areas of public health in stages.
- Dr. T Sundararaman** and **Dr. Rajani Ved**, among others, were instrumental in this process.
- Many states attempted to evolve the ASHA from a Community Worker to a Community Health Worker, and even to an Auxiliary Nurse Midwife (ANM)/General Nurse and Midwife (GNM), or a Public Health Nurse, over time.

#### What does an ASHA worker do?

- They walk door-to-door in their respective districts, spreading **information about basic nutrition, cleanliness, and health services**.
- They primarily focus on ensuring that **women** receive ante-natal care, maintain nutrition during pregnancy, give birth in a medical institution, and receive post-partum instruction on breast-feeding and supplementary nutrition for their children.
  - They also offer advice on contraception and sexually transmitted diseases to women.
- ASHAs are also responsible for assuring and persuading youngsters to receive vaccinations.
  - ASHA workers deliver daily medications to TB patients under the national program's direct observation therapy, in addition to mother and child care.
- During the season, they are also responsible for checking for diseases such as malaria.
  - They also give essential medications and therapies, including as **oral rehydration solution**, chloroquine for malaria, iron folic acid tablets to combat anaemia, and contraceptive pills, to those within their control.
- The health volunteers are also responsible for reporting any **births or deaths** in their specified regions to their respective primary health centres.

#### How did the ASHA network contribute to pandemic preparedness?

- Most states used the ASHA network for **screening** persons in containment zones, having them tested, and transporting them to quarantine centres or assisting with home quarantine.
- They were also responsible for persuading individuals to get their vaccinations and collecting statistics on

how many people had yet to get vaccinated for Covid-19.

### How much do ASHA workers earn?

- Governments are not required to pay them a salary since they are considered "**volunteers**." And the majority of states don't.
- Their income is based on several programmes that give incentives for things like ensuring an institutional birth or getting a child immunised.
  - All of this comes to around Rs 6,000 to Rs 8,000 each month.
- The **National Health Mission** stipulates, "Her employment would be so specialised that it does not conflict with her daily livelihood."
  - That is not the case, because most health programmes rely on them for outreach.
- ASHA workers have been demanding that they be given **permanent government employment** with perks.

### ISSUES WITH REMOTE LEARNING

Priority: Low



Primary Source: The Hindu

**Prepp Mains Booster:** Impact of COVID and Online Learning on Education

### Context:

- Recently, the Ministry of Education released its National Achievement Survey (NAS) 2021 report.
- According to the National Achievement Survey-2021 assessment of more than one lakh schools throughout the country, over 80% of students found learning at home during the epidemic "**burdensome**" and said they learned better in school with peer assistance.

### What are the Key Highlights of the report?

#### Online learning

The table lists the perception of students on learning at home during the pandemic, according to the National Achievement Survey 2021 report

| Perception of learning at home         | Share of students (in %) |
|----------------------------------------|--------------------------|
| Joyful, was fun                        | 45                       |
| Faced difficulty in learning           | 38                       |
| No difference, same as school          | 50                       |
| Burdensome, lot of assignments         | 78                       |
| No digital device at home              | 24                       |
| Learn better in school with peers help | 80                       |
| Lot of time to learn new things        | 70                       |

#### Remote learning during the pandemic

- During the pandemic, at least 78 percent of school pupils found learning at home difficult due to a large amount of homework.
- Only 24% of them had access to a digital gadget at home.
- The report also revealed that in India, 48% of students walk to school.

#### Learning at home and school

- 50% of kids stated there was no difference between learning at home and learning at school, while 80% indicated they learn better in school with the help of their classmates.
- During the pandemic, 70% of pupils reported they had a lot of time at home to learn new things.

#### Learning levels (achievements) of students

- According to the survey, pupils' learning levels (achievements) decrease as they proceed to higher classes.
- According to the survey, students' average performance on a scaled score of 500 starts to decline in higher classes at the national level.
- For example, a class 3 student's national average score in language is 323 out of 500, but this drops to 260 in Class 10.
- Similarly, the national average score in mathematics is 306 at the third grade level, 284 at the fifth grade level, 255 at the eighth grade level, and 220 at the tenth grade level.

#### Subject-wise performance

- It was discovered that pupils in various classes did better in languages but fell behind in areas such as math and science.
- Languages (323), EVS (307), and mathematics were among the highest-scoring subjects in Class 3. (306).
- Students in Classes 5, 8, and 10 follow the same pattern.

#### State-wise performance

- States like Punjab, Kerala, Rajasthan, and Maharashtra, as well as union territories like Chandigarh, outperformed the national average.

#### Rural-Urban divide

- According to the research, the average achievement of rural schools in the same states/UTs remained lower than that of urban schools.
- For example, in class 8, the average achievement of schools in rural areas remained lower than that of their urban counterparts throughout all states and UTs, with the exception of Manipur and Daman & Diu.

#### Social-group-wise performance

- In comparison to general category students, the average performance of SC, ST, and OBC pupils remained poor in practically all classes across the states.
- For example, the national average score for general category pupils in class 10 English was 308, whereas it was 283 for SC students, 280 for ST students, and 289 for OBC students.

### What are some challenges that need to be overcome?

- The pandemic appears to have pushed the execution of the NEP's school education reforms to the back burner.

- In the current budget, funds for teacher training have been cut by nearly half.
- The budget for the Mid-Day Meal Scheme, which has been shown to have a good influence on school enrolment, student retention, and child nutrition, has been cut by over 10%.
- Instead, it appears that e-learning is being overused. However, as the NAS demonstrates, these technologies cannot replace classroom interactions.

### What needs to be done?

- The first step should be to realise that children are returning to school with weakened skills, as well as the fact that certain students may have had more setbacks than others.
- Planners and school administrators should provide instructors the opportunity to use innovative methods to transform classrooms into safe spaces where kids can let go of their fears from the previous two years and reclaim their skills at their own speed.
- This would necessitate a rethinking of educational practices and a shift away from syllabus-centered approaches in favour of learner-centered approaches. This requirement is recognised in the New Education Policy 2020, which was announced in the first year of the pandemic.

### Way Forward

- Several studies, notably the yearly ASER reports, have found that the majority of the country's educational system's flaws derive from a disconnect between most students' lived experiences and what they are taught in classrooms.
- The pandemic-caused crisis provides a chance for corrective action. Failure to do so will jeopardize an entire generation's academic destiny.

**Important aspects of governance, transparency and accountability, e-governance- applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.**

### DIGITIZATION OF COURTS

**Priority:** Medium



**Primary Source:** The Indian Express

**Prepp Mains Booster:** advantages of digitisation of judiciary; issues with the same

### Context:

- Recently, researchers have analysed the Covid-19 regulations of e-filing that gave the digitalization of Indian courts a substantial boost. The Supreme Court and the High Courts adopted e-filing for urgent petitions and held frequent video conference sessions.

- For the Indian judiciary, digitization gives a golden chance to reduce the backlog of cases and preserve ten-year-old papers.

### When did the use of technology in India's Judiciary started?

- E-governance in the sphere of judicial administration began in India in the late 1990s. However, after the passage of the Information and Technology Act of 2000, e-governance advanced.
- Since then, attention has shifted to digitising court documents and building e-courts throughout the country. E-courts, for example, were introduced in 2006 as part of **the National e-Governance Plan (NEGP)**.

### What are the various steps being taken to promote digitisation in the Indian Judiciary?

- The Allahabad High Court serves as a model. In 2014, Justice D Y Chandrachud, as Chief Justice of the Allahabad High Court (HC), conceptualised and launched the project to digitise one crore case files in a year.
- "National Policy and Action Plan for Implementation of Information and Communication Technology (ICT) in the Indian Judiciary – 2005", Supreme Court of India with a vision to transform the Indian Judiciary by ICT enablement of Courts set the foundation of e-Court Mission Mode project.
- The e-Courts Mission Mode Project is a pan-India initiative overseen and supported by the Ministry of Law and Justice of the Government of India for District Courts across the country.
- The **e-Committee of the Supreme Court** has issued directions to ensure that e-filing of cases/petitions by state governments in all matters be made mandatory from January 1, 2022.
- Introduction of video-conferencing of cases: the Supreme Court in **Krishna Veni Nagam v Harish Nagam Case (2017)** has directed the hearing of a number of **matrimonial cases** through **video-conferencing**. For example, also in **Anjali Brahmawar Chauhan vs Navin Chauhan Case**.
- In 2018, the Supreme Court allowed the **live-streaming of cases** of constitutional and national importance on the basis of the judgment in **Swapnil Tripathi**.
- In **July 2021, the Gujarat High Court became the country's first court to livestream its proceedings**.
  - Karnataka's, Odisha's, Madhya Pradesh's, and Patna's high courts followed suit.
- During the Covid-19 epidemic, the updated Vision Document for Phase III of the e-Courts Project was released to address the judiciary's digital deprivation.
- **SUPACE portal:** The CJI has recently introduced an Artificial Intelligence (AI)-based portal called 'SUPACE' in the judicial system to aid judges with legal research.

### What are the advantages of digitisation?

- **Storage Space:** Digitisation eliminates the need for a vast amount of storage space to store so many files and decades-old papers.
- **Missing Court Records:** Ascertains that these files may be traced electronically if needed. This avoids the ramifications of missing court records.
  - In the case of **State of Uttar Pradesh v. Abhay Raj Singh**, the Supreme Court declared that if court records go missing and re-construction is impossible, the courts must set aside the conviction. As a result, criminals can walk free due to a lack of court documents.
- **Accessibility of records:** The time spent transferring records from lower courts to appeal courts causes significant delays in cases. After digitization, it will take significantly less time to transfer records as and when they are needed.
- **Adjournment of cases:** Affidavits filed several years ago were not restored with the record or were not traceable, therefore the cases were adjourned. The courts will not be able to adjourn cases because of digitalization.
- **Status tracking:** The state of the filing, the status of petitions and affidavits, the date of the next hearing, and court orders, among other things, can be checked by a lawyer or a litigant. As a result, lawyers and their staff are not needed to attend the court's reporting section or other parts to learn about the status of their cases.
- **Virtual hearings** were only utilised in a limited way before the pandemic, for example, in criminal proceedings where it was impossible to bring the accused physically before the court.
- **Transparency and openness** would be ensured by live-streaming of cases of national importance.

### Why Digitisation in the Indian Judiciary?

- **Case Delays:** One of the key elements that causes case delays is the time spent summoning records from lower courts to appellate courts.
- **Physical Records are Challenging to Maintain:** Not only does storing so many files necessitate a great amount of room, but manually preserving decades-old records is also difficult.
  - Cases have been deferred simply because affidavits made several years ago were not reconciled with the record or could not be traced.
- **Convicts' acquittals:** Another goal is to ensure that these files may be traced electronically if needed. The ramifications of missing court records are severe.
  - Many ancient cases have been discovered to be missing criminal records, resulting in the accused's acquittal.

- The Supreme Court declared in **State of Uttar Pradesh v. Abhay Raj Singh** that if court records go missing and re-construction is impossible, the courts must set aside the conviction.

### What are the issues?

- **Internet connectivity challenges** and the requirement for a well-equipped space where lawyers can handle their cases are two important issues that need to be addressed.
  - Online hearings are difficult for lawyers in semi-urban and rural districts, owing to connectivity challenges and a lack of familiarity with this method of functioning.
- **Digital Literacy:** Many judges, court officials, and lawyers are unaware of the benefits of digital technology.
- **Concerns about privacy:** Privacy concerns are anticipated to be at the forefront of judicial and public deliberations in the coming years as a result of increased digitization, particularly of court data.
- **Cybersecurity and hacking:** On top of technology, cyber-security will be a major problem. The government has taken steps to address the problem, including developing a Cyber Security Strategy.
  - The practical and actual implementation of the same, on the other hand, remains a hurdle.
- **Other difficulties:**
  - Over the previous decade, the digitalization of courts has been solely focused on individual litigants, with court websites built to provide access to individual cases. There is no mechanism in place to examine the judiciary on a systemic level.
  - Technological instruments, when used with proper preparation and precautions, can be game changers. Technology, on the other hand, is not value-neutral in the sense that it is not immune to prejudices. Power inequalities must be addressed.

### What steps can be taken to improve the digitisation of the judiciary?

#### Judges and Lawyers' Roles:

- For the digitisation process to succeed, political will and the backing of judges and lawyers are required.
- It is critical that they are made aware of the associated technology and receive appropriate training.
- Conducting training workshops for judges to familiarise them with the e-courts structure and procedure can help e-courts run more smoothly.

#### Promoting Virtual Hearing:

- In some cases, it's possible to have a virtual hearing. In some circumstances, virtual hearings cannot be used in place of physical court sessions.
- Virtual hearings should, however, be made necessary in specific kinds of cases defined by the court administration.

#### Regulation of Technology Use:

- As technology advances, new concerns about data protection, privacy, human rights, and ethics will emerge, necessitating greater self-regulation on the part of technology creators.
- External regulation will be required by the legislature in the form of statutes, rules, and regulations, as well as by the judiciary in the form of judicial review and constitutional norms.

#### Training:

- The government must devote significant resources on people training in order to retain all e-data.
- These include keeping accurate records of e-file minute entries, notification, service, summons, warrants, bail orders, order copies, e-filing, and other similar activities for future reference.
- Using seminars to raise awareness about e-courts and technologies in the judiciary can serve to highlight the benefits and convenience that such initiatives can provide.

### MAKING INDIA A DIGITAL POWER

Priority: Medium



Primary Source: The Indian Express

**Prepp Prelims Booster:** Digital India; e-governance initiatives

**Prepp Mains Booster:** Significance of Digital India; Challenges for Digital India

#### Context:

Recently, the Minister of State for Electronics & IT has hailed the Digital India programme for its contribution in the pandemic and for making India a digital power.

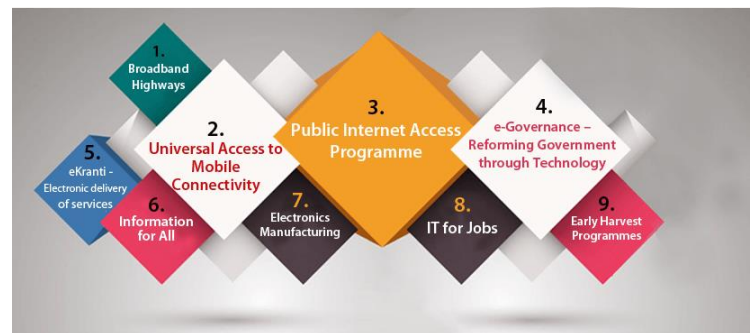
#### What is Digital India?

- The Digital India programme is a comprehensive strategy for leveraging technology for development. Its objectives are as follows:
  - putting together digital infrastructure
  - digitally delivering services and
  - ensuring that people are technologically literate
- It was launched on July 1, 2015 and it is a flagship programme of the Government of India.
- **Vision:** To transform India into a digitally empowered society and knowledge economy.
- **Vision Areas:**
  - Digital Infrastructure as a Core Utility to Every Citizen

- Governance & Services on Demand
- Digital Empowerment of Citizens

#### What are the Pillars of Digital India?

There are 9 pillars of Digital India Programme, which are as follows:



#### What is the Significance of Digital India?

- Digital India builds on the concept of minimum government, maximum governance and has led to
  - opportunities for all,
  - facility for all,
  - participation of all.
- **Citizen empowerment:** Digital India is empowering the common man. It has made the government system more accessible to citizens, made services and processes more transparent and non-discriminatory, and fought corruption.
- **Supports a Wide Range of Schemes:** It has benefited a number of post-Digital India projects, including Diksha, e-NAM, the e-Sanjeevani telemedicine solution, DigiBunai, and the PM SVANidhi scheme.
- **Citizens' services made simple:** With the help of Digital India, obtaining a driver's licence, birth certificate, paying energy bills, paying water bills, and filing income tax returns has become incredibly simple and quick. All of this is taking place in communities, at Common Service Centers (CSCs) close to people's homes.
- **Internet in Rural Areas:** 2.5 lakh CSCs assisted in bringing the Internet to rural areas. Work on a mission mode to bring broadband internet to villages is ongoing under the Bharat Net initiative.
- **Digilocker:** By providing a digital storage facility for school certificates, medical records, and other critical certifications, it has aided millions of people, particularly during the epidemic.
- **Prime Minister Kisan Samman Nidhi:** More than 10 crore farmer families have had Rs 1.35 lakh crore paid directly into their bank accounts, demonstrating that Digital India has realised the concept of One Nation, One MSP.

#### What are Digital India's contributions to the Pandemic?

- During the epidemic, technology played a critical role in ensuring the continuity of schooling, access to healthcare, and other citizen services.
- Students across the country are being handed low-cost tablets and digital devices.
- Electronic companies are receiving production-linked subsidies to help them achieve this goal.
- India's digital solutions during the Covid pandemic have been recognised around the world.
- **Aarogya Setu**, a contact tracing app, has been essential in curbing Covid's spread across the country.
- **The CoWIN software** has piqued the curiosity of several countries, demonstrating India's technological ability.
- **One Nation One Ration Card**: The Supreme Court ordered all states to implement the One Nation, One Ration Card plan. People who go to other states for work will profit from this effort.
- **WANI**: Rural youngsters will be able to connect to high-speed internet for better services and education as access points are built. In addition, 5G technology will have a huge impact on the world, and India is ready to take advantage of this chance.
- **Atma Nirbhar Bharat**: The Digital India programme exemplifies the nation's commitment to self-sufficiency (Atma Nirbhar Bharat) Using Digital India, over Rs 17 lakh crore has been moved into the bank accounts of beneficiaries under various initiatives in the last 6-7 years.

### What are the Challenges?

- Infrastructure deficiencies, such as a lack of mobile towers and Broadband Cable network are particularly prevalent in rural areas.
- Lack of Training: Implementing entities in the field may not have received proper training.
- Digital literacy and Awareness: Beneficiaries may lack sufficient knowledge about DIP Auxiliary Services, such as health, education, banking, governance, and so on.
- Financial Literacy: Digital financial services like online banking, aadhar-linked benefit transfers, and cloud services would be more vulnerable to cyber threats, infringing on our right to privacy and security.
- To meet DIP's standards, additional spectrum per population is required.
- Due to legal and IPR concerns, entrepreneurs are hesitant to participate in DIP.
- Under the scheme, there is no independent body for consumer redress.

### What are possible Solutions?

- In order to connect 2,50,000 village panchayats, place a greater emphasis on wireless connectivity, leveraging private and global actors like Google's "Project Loon."

- Create a specific training institute under the DIP to help improve digital literacy and awareness.
- Hold regular campaigns for them at the village, block, and district levels.
- The aforementioned should be improved in tandem with the implementation of DIP provisions in order to make services such as **Digi locker, e-kranti, and e-sewa** a huge success.
- Establish powerful cyber financial security task forces at the state level, aided by organisations such as **CERT**, and similar to the **Kerala cyberdome**.
- Scaling up our spectrum capacity is the solution.
- Connect efforts like Start up India with each other as a solution.
- Scaling up our spectrum capacity is the solution.
- Expand the connections between initiatives like **Start-up India and DIP** to create a more investment-friendly, IPR-friendly ecosystem.
- Establish a national agency to handle DIP-related complaints.

### Conclusion

- In terms of citizen services, Digital India has played a critical role.
- The movement will be propelled ahead by utilising cutting-edge technology such as AI, machine learning, and blockchain.
- On the one hand, India has a love for invention, and on the other, it has a desire for fast adopting such advances.
- As a result, the data and demographic dividends together have enormous potential.

### COOLING-OFF PERIOD FOR BUREAUCRATS BEFORE JOINING POLITICS

Priority: Medium



Primary Source: The Indian Express

Prepp Prelims Booster: All India Service Rules

Prepp Mains Booster: Need for Cooling off period

### Context:

- The recent filing of a petition in the Supreme Court (SC) seeking the direction of the legislature to frame a law on the cooling-off period to entry into politics, has brought the focus back on the cooling-off period for civil servants

### What is a cooling-off period?

- It is a period a civil servant must serve as a cooldown/cooling-off period after they retire from the government services and before they can join any private firm/ or a political party.
- This applies to officers of **Group "A" Central Civil Services/Posts and All India Services**.

- There is **no provision of a cooling-off period** for one year for re-employment of retired Government officials **to any private employment or joining a political party**.
- As per **All India Services Rules**, if a retired Group 'A' officer (pensioner) desires to assume any **commercial employment before one year** has passed since his retirement, he must first **receive the government's prior approval**. Therefore, the cooldown period is **not mandatory and is at the discretion of the government**.

### Why is it needed?

- Senior civil servants occupy key policymaking positions in the government. The cooling-off period is a way to **reduce any possible conflict of interest**, as well as to ensure their right to take up an employer of choice in the future.

### Why is it a concern?

- There is a well-laid procedure in place for processing proposals to grant such waivers to bureaucrats who retire as joint secretaries and above.
- This is to ensure that such approval or waiver of the cooling-off period is not granted at the whims of the current government.
- It is **not a credible practice** to make these decisions on a case-by-case basis.
- However, in the past few years, there has been a rise in the waivers of cooling off period, in which retired civil servants repeated assorting to **seek post-retirement benefits** in the form of private employment or political patronage
- This is **affecting the Governance and quality of the administration**. It also puts a question mark on the political neutrality and integrity of civil servants.

### Way Forward

- There is a need for rules and regulations backed by the Law, clearly defining the cooling-off period, the category of retired civil servants to follow the cooling-off period, and waiver conditions (to be minimum), to balance the realise the right to re-employment or joining politics of retired bureaucrats as well as good governance.

### India and its neighbourhood- relations.

#### INDIAN AID TO SRI LANKA

Priority: Medium



Primary Source: The Hindu

**Prepp Mains Booster:** Indian help to Sri Lankan Crisis

#### Context:

Recently, the first consignment of the Tamil Nadu Government's help to crisis struck Sri Lanka arrived at Colombo and subsequently it was handed over to Sri Lankan minister.

### What is the Help from the Government of Tamil Nadu?

- The Government of Tamil Nadu has committed \$16 million to help with 40,000 metric tonnes of rice, 500 metric tonnes of milk powder, and medicines.
- This is the first consignment which included 9,000 metric tonnes of rice, 50 metric tonnes of milk powder, and more than 25 metric tonnes of medications and other medical supplies.
- Recently the Government of India has also provided another 40,000 metric tonnes of diesel to Sri Lanka on Saturday under the Credit Line facility to Sri Lanka.

### What is the crisis in Sri Lanka?

- Sri Lanka is experiencing its biggest economic crisis since its 1948 independence. Long lines for fuel, cooking gas, and other commodities have formed due to a catastrophic scarcity of foreign reserves.
- Also power outages and increasing food costs have added to the people's misery.
- The economic crisis has sparked a political crisis in Sri Lanka, with demands for the resignation from president Rajapaksa.

### What are the reasons of Crisis in Sri Lanka?

#### Economic Reasons:

- foreign reserves of country have hit rock bottom
- commercial banks are not able to secure Funds in Dollars to finance food, fuel and medicines imports.
- Covid-19 pandemic, Sri Lanka was in the midst of a terrible economic crisis, with remittances from foreign workers depleting and the lucrative tourism sector, a major source of revenue, crippled.

#### Populist and Irrational policies of Government:

- Populist policies of the current government: The current crisis was accelerated by deep tax cuts by the government that were enacted months before the COVID-19 pandemic.
- Government orders of Inorganic Fertilizers Ban and push towards organic food led to reduction of Grain production in 2021-22. This led to rise in prices of food.

**Geopolitical Reasons:** Russia-Ukraine war, 2022 had led to rise in fuel and coal prices in the international market. This has increased the fiscal burden on Sri Lankan government

- Which has resulted in shortage of fuel in the domestic market leading to long lines at fuel stations.
- High coal prices has led to shortage of coal for electricity generation, this has led to power outages in the nation
- All this has totally affected the revival of the tourism sector in Sri Lanka.

### How has India Assisted Sri Lanka in this Crisis?

Till May 2022,

- January 2022: The relief package amounting USD 1.4 billion extended by India.
  - a USD 400 currency swap
  - a USD 500 loan deferment

- a USD 500 Line of Credit for fuel imports.
- March 2022: India extended a USD 1 billion short-term concessional loan to Sri Lanka to help the country as it faces an unprecedented economic crisis.
- India has been provided food grain support, along with medical support and other in kind support to Sri Lanka.
- April 2022: a \$200 million short-term loan facility for fuel.
  - credit lines for essentials, and loan deferments to help Sri Lanka
  - Around 16,000 MT of rice has been delivered under a \$1 billion credit line for necessary imports.
  - A \$500 million credit facility was used to deliver 400,000 MT of fuel to Sri Lanka.

#### Why Helping Sri Lanka is in India's Interests?

- **India Neighbourhood First Policy:** Sri Lanka being Maritime neighbour it is in India's interest to help
- Crisis presents an opportunity to improve India's economic presence in Sri Lanka through initiatives like Trincomalee oil park, which help to counterbalance the increasing Chinese presence in the Indian ocean.
- Crisis in Sri Lanka presents India an opportunity to Counter the China's One Belt One Road Initiative in South Asia and the Indian Ocean Region.

#### INDIA-NEPAL RELATIONS



Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: SAARC, BIMSTEC nations

Prepp Mains Booster: Indian-Nepal Cooperation

#### How are the India Nepal Relations?

##### Historical Ties:

- Because of centuries of geographical, historical, cultural, and economic relations, Nepal is an important neighbour of India and holds a special place in its foreign policy.
- In terms of **Hinduism and Buddhism**, India and Nepal are comparable, with Buddha's birthplace Lumbini in modern-day Nepal.

- Not only both countries share an open border and unrestricted movement of people, but they also have strong relationships formed via marriages and familial ties, dubbed Roti-Beti ka Rishta.
- The **1950 India-Nepal Treaty of Peace and Friendship** is the cornerstone of the two countries' special relationship.
- In terms of ecological and hydropower potential, rivers that originate in Nepal feed India's perennial river systems.

##### Trade and commerce:

- India is the largest trading partner of Nepal. **Total bilateral trade in 2018-19 reached INR 57,858 cr (US\$ 8.27 bn).**
- In 2018-19, while Nepal's exports to India stood at INR 3558 cr, India's exports to Nepal were INR 54,300 cr.
- Nepal's main imports from India are petroleum products; motor vehicles and spare parts; M. S. billet; rice & paddy; other machinery & parts; medicine; hot-rolled sheet in coil; electrical equipment; cement; agricultural equipment & parts; coal; m.s. wires, rods, coils, bars; vegetables; cold rolled sheet in coil; thread, etc.
- Indian Investment in Nepal: Indian firms are among the largest investors in Nepal, accounting for more than 30% of the total approved foreign direct investments.
- There are about 150 Indian ventures operating in Nepal engaged in manufacturing, services (banking, insurance, dry port, education and telecom), power sector and tourism industries.

##### Connectivity:

- India and Nepal have implemented a number of connectivity initiatives to strengthen people-to-people ties and boost economic growth and development.
- Recently, MOUs have been signed between both governments for laying an electric rail **track linking Kathmandu with Raxaul in India.**
- India is looking to develop the inland waterways for the movement of cargo, within the framework of trade and transit arrangements, providing additional access to the sea for Nepal calling it linking **Sagarmatha (Mt. Everest) with Sagar (Indian Ocean).**

##### Water resources cooperation:

- Common rivers are one of the most important areas of bilateral relations.
- These rivers have the potential to become major sources of irrigation and power for Nepal and India.
- A three-tier bilateral mechanism established in 2008, to discuss issues relating to cooperation in water resources, flood management, inundation and hydropower between the two countries, has been working well.

##### Energy Cooperation:

- India and Nepal have a **Power Exchange Agreement 1971** for meeting the power requirements in the border areas of the two countries, taking advantage of each other's transmission infrastructure.
- There are more than 20 transmission interconnections which are used both for power exchange in the bordering areas and for power trade.
- For enhanced transmission of electricity, the first high-capacity 400 kV Muzaffarpur (India) – Dhalkebar (Nepal) cross-border power transmission line, with GoI LoC funding of US\$ 13.2 million for the Nepal portion of the line, was completed in 2016.
- Two additional 132 kV cross-border transmission lines **between Kataiya (India) – Kusaha (Nepal) and Raxaul (India) – Parwanipur (Nepal)**, built with GoI grant assistance, were completed in 2017.
- India is currently supplying a total of about 600 MW of power to Nepal.
- South Asia's first cross-border petroleum products pipeline, constructed and funded by Indian Oil Corporation Ltd., **connecting Motihari in India to Amlekhgunj in Nepal** was inaugurated in 2019.

#### Defence Cooperation:

- Bilateral defence cooperation involves providing equipment and training to the Nepalese Army to help them modernise.
- The **Gorkha Regiments of the Indian Army** are largely recruited from Nepal's highland districts.
- Surya Kiran, a combined military exercise between India and Nepal, has been held every year since 2011.

#### Cultural:

- Three sister-city agreements have been inked by India: **Kathmandu-Varanasi, Lumbini-Bodhgaya, and Janakpur-Ayodhya**.
- A sister city or twin town relationship is a legal or social arrangement between two physically and politically separate towns.

#### Humanitarian Assistance:

- Nepal is located in a delicate ecological fragile zone, prone to earthquakes and floods that cause significant loss of life and property, and it continues to be India's largest beneficiary of humanitarian aid.

#### Multilateral Partnership:

- BBIN** (Bangladesh, Bhutan, India, and Nepal), **BIMSTEC** (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation), **Non-Aligned Movement**, and **SAARC** (South Asian Association for Regional Cooperation) are among the international forums that India and Nepal share.

### What are the Issues & Challenges?

#### Intervention and Dominance of China in Nepal:

- Earlier, as a landlocked nation, Nepal depended on Indian imports till recently and India played an active role in Nepal's affairs.

- However, **post 2015 Nepal Blockade**, Nepal has drifted away from India's influence, and China has gradually filled the space with investments, aid and loans.
- Nepal is a **significant participant in China's Belt and Road Initiative (BRI)**, and the Chinese government wants to invest in Nepal's infrastructure as part of its broad plans to enhance global trade.
- The growing cooperation between Nepal and China may jeopardise Nepal's status as a buffer state between India and China.
- China, on the other side, wants to avoid any anti-China sentiment among the Tibetans in Nepal.

#### Border Dispute:

- The controversy resurfaced in November 2019 when Nepal produced a new political map that claimed the Uttarakhand villages of **Kalapani, Limpiyadhura, and Lipulekh** as Nepali territory. The revised map additionally shows the area of **Susta (West Champaran district, Bihar)**.

### What should be the Way Forward?

- Bringing **professionalism in India's dealing with Nepal**, to avoid India's interference in the domestic affairs.
- Under the **framework of international law on transboundary water disputes**, India should negotiate diplomatically and constructively with Nepal to **resolve the boundary dispute**.
- In terms of people-to-people contact, bureaucratic engagement, and political connections, India should be more proactive with Nepal.
- Simple disagreements should not escalate into disputes, and both countries should address their difficulties peacefully.

**Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.**

#### INDO-PACIFIC ECONOMIC CORRIDOR

Priority: High



Primary Source: The Indian Express

**Prepp Prelims Booster:** IPEF countries; objectives of IPEF

**Prepp Mains Booster:** difference between IPEF and TPP; Impact on global trade

#### Context:

- Recently, on the side line of a QUAD meeting in Japan, the Indo-Pacific Economic Framework for Prosperity (IPEF) was introduced by the US President. The talks are anticipated to start soon, and they will focus on four primary pillars: trade, supply chain resiliency, sustainable energy and decarbonisation, and taxes and anti-corruption measures.
- The Indian Prime Minister has also stated that India will engage with other IPEF countries to create an inclusive and flexible Indo-Pacific Economic Framework.

A dozen Indo-Pacific countries will join the US in economic initiative

■ IPEF country



### What is the Indo-Pacific Economic Framework (IPEF)?

- The US administration announced the creation of an Indo-Pacific Economic Framework (IPEF) in October 2021.
- Pillars:** The IPEF is developed on four modules:
  - Fair and resilient trade (including digital, labour, environmental and other standards),
  - Supply chain resilience
  - Infrastructure, decarbonisation and clean energy
  - Tax and anti-corruption.
- Countries would be required to sign up for all of the components inside a module, but not all of the modules.
- However, because the deal is more of an administrative framework, IPEF will not include market access promises such as eliminating tariff barriers.

### Who will be the Members of IPEF?

- IPEF will have a total of 13 nations as its members.
- The grouping contains **Seven of the Association of Southeast Asian Nations' (ASEAN) members**, all four **QUAD** countries, **South Korea** and **New Zealand**, which accounts for around 40% of global GDP.
- Myanmar, Cambodia, and Laos, three ASEAN countries considered closer to China, are not members of the IPEF.

### Why is the US planning to launch this framework?

- At present, USA is out of the all the global trading blocs in the Indo-Pacific Region and is also missing the opportunity to counter the China in global trade
- After the USA's exit from the Trans-Pacific Partnership under the Trump Administration, IPEF is considered as a way for the USA to rebuild credibility in the area of Global Trade across the region.
- Since then, there has been worry about the United States' lack of a realistic economic and trade plan to offset China's economic clout in the region.
- On the other hand, China is an influential member of the TPP, and has sought membership of the Comprehensive and Progressive Agreement Transpacific Partnership.
  - China is also a member of Regional Comprehensive Economic Partnership (RCEP), of which the US is not a member.

### How is IPEF different from TPP and RCEP?

- IPEF is not a "free trade agreement," and countries are not expected to negotiate tariff reductions or increased market access.
- The IPEF would not attempt to replace the CPTPP (Trans-Pacific Partnership) or the Regional Comprehensive Economic Cooperation (RCEP), which China and all other IPEF countries (excluding the US) are members of.
- The IPEF was created to help American manufacturers. As firms began to look for alternatives to China, the US would try to get Chinese businesses to invest in IPEF. As a result, the Indo-Pacific Framework countries will be more trusted partners for American industry.

### What is its Impact on Global trade?

#### IPEF is more appropriate for the twenty-first century:

- The IPEF, according to American officials, is more adapted to the twenty-first century than typical trade agreements that reduce tariffs.
- They've also made it apparent that traditional accords have become politically toxic in the United States, making it impossible to execute market-access agreements.

#### Not a QUAD initiative:

- IPEF will not be a Quad effort, despite Biden's plans to introduce it on the side lines of the Quad meeting.
- India is also still considering the proposal and is undecided about joining the IPEF.

#### Does not include market access

- Some countries were hesitant to provide market access, according to critics, since they did not see the benefit in them.
- This is especially true because the IPEF excludes access to the US market.

### Why should India join IPEF?

- India should join IPEF because it prefers trade connections with other democracies after abandoning the Regional Comprehensive Economic Partnership (RCEP) sponsored by China.
- India is frequently criticised for its export gloom. That would change if you joined IPEF.
  - Export Pessimism refers to a negative outlook on export demand in developing countries' marketplaces.
- Will boost QUAD's influence:** The Quad's agenda has slowly expanded over the years, from a forum to discuss common concerns to a defence partnership. However, for the group to gain lasting traction, discussions about how to best help one another succeed must take place alongside efforts to preserve the Indo-Pacific open and free.
- To position India as a viable alternative to China for cross-border manufacturing networks, we must collaborate on a multilateral effort targeted at frictionless trade.

### What does the IPEF entail?

- At this time, there are few details about IPEF. This is what we know so far:
  - The IPEF's goal is to make trade more fair and resilient, with e-commerce and supply-chain resilience being two main components.

#### What are some concerns that India must consider?

- The Trump administration's dismissive attitude toward free trade rationale has yet to be rectified. If voters in the United States blame globalisation for their difficulties, the country's authorities will be hesitant to openly embrace a barrier-free world of interchange.
- As a result, any trade component of Biden's Asian approach is likely to be influenced by job considerations in the United States.
- India may hold back if the IPEF incorporates US labour protection and non-tariff barriers under the cover of "fair trade." However, if it promises to improve market access and total export output, we must not let item-by-item shipment specifics prevent us from participating.

### QUAD

Priority: High



Primary Source: The Indian Express

**Prepp Prelims Booster:** Quad members

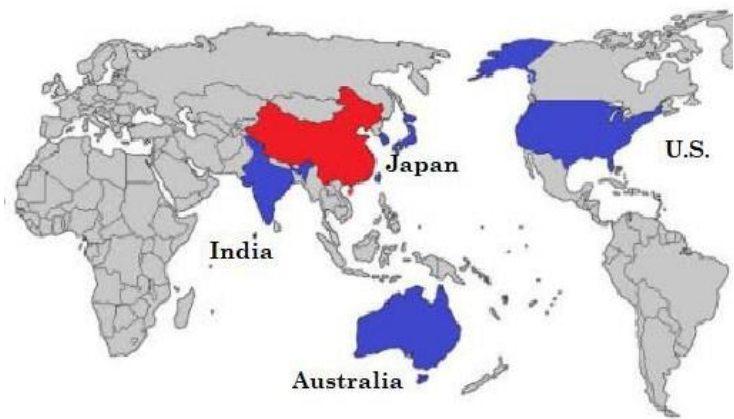
**Prepp Mains Booster:** Challenges and opportunities of Quad; Significance to India

#### Context:

Recently, the Prime Minister of India has participated in the Quadrilateral Forum that brings together Delhi, Canberra, Tokyo, and Washington.

#### What is a QUAD?

- Originally named the Quadrilateral Security Dialogue (QSD), QUAD or Quad is a strategic security dialogue between Australia, India, Japan, and the United States.
- The dialogue was conceptualised in 2007 by former Japanese Prime Minister **Shinzo Abe**. However, it gained importance in the recent past with the emergence of Indo-Pacific as the centerstage of Global politics.
- It is often termed as an "Asian" or "mini" NATO, and is viewed as a counterbalance to Aggressive China's move in Indo-Pacific and South China Sea Regions and economic clout in the Indo-Pacific region.
- QUAD has been termed as a reply to China's One Belt One Road initiative.
- For India, QUAD helps to counterbalance China in the Indian Ocean Region and for ensuring Open and Free Sea Lanes of Communications in the Indo-Pacific Region and Indian Ocean Region.
- First Virtual Summit of QUAD member countries was held in March 2021, which led to announcement of QUAD Vaccine Initiative for the Indo Pacific Region.



#### What are the Principles of Quad?

- The Quad's goal is to keep military and political influence out of the Indo-Pacific's water corridors.
- It is viewed as a strategic alliance aimed at reducing Chinese dominance. The Quad's main goal is to maintain a rules-based global order, freedom of navigation, and a free trading system.
- The alliance also hopes to provide alternative debt financing to countries in the Indo-Pacific.
- Critical and emerging technologies, connectivity and infrastructure, cyber security, maritime security, humanitarian assistance, disaster relief, climate change, pandemic, and education are among the topics discussed by the Quad leaders.

#### What are key takeaways from the recent Summit?

- Over the next five years, the Indo-Pacific will receive USD 50 billion in infrastructure assistance and investment.
- The Quad Climate Adaptation and Mitigation Package (Q-CHAMP)**
- QUAD Fellowship Programme:** It will bring 100 students from the four countries to the US each year to pursue graduate degrees in STEM fields.
- The Indo-Pacific Partnership Awareness (IPMDA)** will combat illegal fishing.
- QUAD partnership on **Humanitarian Assistance and Disaster Relief (HADR)** in the Indo-Pacific

#### What is the Significance of QUAD for India?

- If Chinese hostilities escalate along the border, India will be able to counter with the help of the other Quad members.
- Quad provides a formidable platform for the US to advance its East Asian interests, coordinate policies with powerful allies, and strengthen its Act East programme.
- It is strengthening India's connections with the United States, Australia, and Japan, and giving New Delhi substantial clout in shaping US policies in Afghanistan and Pakistan to India's benefit.
- India hopes to reassert a rule-based world order through QUAD in response to China's growing influence and assertiveness.

- India can even conduct strategic explorations in the Indo-Pacific area with the help of its naval forces.

#### What are the Opportunities before QUAD?

**Harnessing commercially-available data using existing technologies.**

- Quad partners can create an unprecedented "common thread" of operations by combining an Automatic Identification System and radio-frequency technologies.
- This data will be unclassified due to its business provenance, allowing the Quad to share it with a wide range of partners that want to benefit.

#### The Quad Vaccine Partnership and Global Health Security

- The Quad is dedicated to retaining its worldwide leadership in the COVID-19 pandemic response and strengthening global health security.
- Quad partners have supplied 257 million safe and effective dosages to the Indo-Pacific region so far.

#### Critical and Emerging Technologies

- In vital and emerging technologies, four countries have committed to responsible innovation.
- The Quad will collaborate on technical exchanges and testbed activity to enhance interoperability and telecommunications cybersecurity through a new Memorandum of Cooperation on 5G Supplier Diversification and Open RAN.

#### Space

- Quad countries are strengthening their collaboration and combining their total experience to trade satellite data, promote capacity-building, and consult on rules and guidelines as space leaders.

#### Infrastructure

- Quad leaders formed the Quad Infrastructure Coordination Group to help meet the Indo-Pacific's infrastructure needs. The group will deepen collaboration and pursue complementary actions in areas such as digital connectivity, transportation infrastructure, clean energy, and climate resilience.

#### What are the challenges before QUAD ?

##### The Distraction of Europe:

- Russia's invasion of Ukraine has shattered the old world order and reshaped global geopolitics.
- The United States, as the leader of the Western alliance against Russia, is now fully involved in the conflict.
- The resurgence of Europe and NATO in the aftermath of Putin's actions in Ukraine has placed new demands on US attention and resources, raising questions about the US willingness to take on two adversaries at once: Russia and China.
- The conflict in Ukraine also creates a difficulty within the Quad. Three members, the United States, Japan, and Australia, have taken a firm stance against Russian aggression.

- India has taken a position of studied neutrality, calling for respect for territorial sovereignty and integrity, as well as the UN Charter, but not criticising Russia.

#### The Threat of China:

- Each member of the Quad has a distinct perspective on the Chinese threat.
- USA:** It's all about commerce and Taiwan for the United States.
- Australia:** Trade was also the most pressing issue for Australia until the recent installation of a Chinese military facility in the Solomon Islands added a new dimension.
- Japan and India:** Both are territorial neighbours of China. Both are the closest to China, and both are confronted with aggressive Chinese territorial ambitions.

#### Non-Security Initiatives:

- In the competition with China, cutting-edge technology, pharmaceuticals, and infrastructure have been dubbed "important battlegrounds."

#### What is the QUAD Vaccine Initiative?

- It was launched during the First Virtual Summit of QUAD meet in the March 2021.
- It is Agreed to produce the 1 billion vaccines in India with the financial support from the **USA, Japan and Australia** for the Developing, Least Developed and Indo Pacific Region Countries.
- It is aimed at ensuring "equitable" access to vaccines to counter the pandemic.
- QUAD countries agreed to a plan to pool their financial resources, manufacturing capabilities, and logistical strengths.
- Japan, the USA, and Australia will finance the vaccine initiative** that India has welcomed.
- Appreciated the **Vaccine Maitri initiative (India's Vaccine Diplomacy)** of India.
- The Vaccine Maitri Initiative is an initiative launched by India to give Covid-19 vaccines to neighbouring countries.

#### What are the challenges faced by the QUAD Vaccine Initiative?

Experts has raised the following questions, which led to the conclusion that the **QUAD Vaccine Initiative (QVI)** will not be able to achieve its yearly target:

- Johnson & Johnson vaccine to be produced for the Quad Vaccine Initiative (QVI) at India ran into legal over safety concerns and indemnity complications.
- Corbevax, the facility's other vaccine, has failed to receive the **WHO Emergency Use Listing (EUL)** required for distribution.
- At present "oversupply" of vaccines in South East Asian countries and other regions of the world has led to a drop-down in the demand for vaccines.

- the excess production of vaccines that has led to a sharp drop in demand for vaccines.

### Conclusion

- The Quad has developed into a unique cooperation that is well positioned to contribute to Indo-Pacific peace, security, and prosperity.
- The Quad countries are aware of each other's approaches and have worked to revitalise the group by focusing on areas of commonality.
- The recently convened quad summit outlined a vision that spans a wide range of issues.
- It expressed a strong desire to work amicably and collaboratively to address mutual challenges and capitalise on present and potential possibilities.

### INDIA-EU RELATIONS

Priority: High

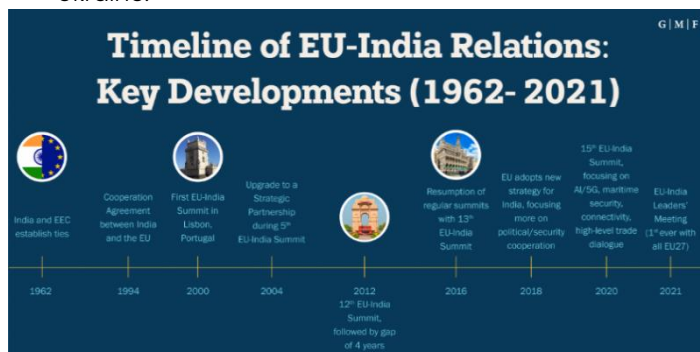


Primary Source: The Hindu

**Prepp Mains Booster:** India-EU relationship; challenges in the bilateral ties

### Context:

- Recently Concluded PM Modi's three-nation tour of Europe comes at a time when Europe is experiencing its worst security crisis since the Cold War in the form of the Russia Ukraine War.
- While Bilateral issues are at the heart of these meetings, the principal topic is Russia's invasion of Ukraine.



### What were the key highlights of the tour?

- Germany:** The two countries' partnership has been reaffirmed in Germany. In addition, Germany has announced a **€10 billion investment** in bilateral collaboration.
- India and Germany also disclosed the details of their next phase of cooperation. Germany has described India as its **"Central Partner"** in Asia, with strong cooperation expected to continue.
- Denmark:** In Copenhagen, PM Modi attended the 2nd Edition of the **India-Nordic Summit** with leaders of Denmark, Norway, Sweden, Finland, and Iceland.
- France:** The Prime Minister held talks with **French President Emmanuel Macron** in Paris, who was recently re-elected as president.

- Both sides discussed issues of Ukraine, the Indo-Pacific Region, and Afghanistan and agreed to extend the strategic cooperation in areas of defence, space, nuclear energy and climate change.

### What are the challenges to India and the EU in Bilateral Relations?

- Russia's invasion of Ukraine has created questions about the **post-Cold War security structure in Europe**. However, The West is dissatisfied with **India's position in this regard**.
- Despite this, there are differences in the agenda of the EU and individual European countries. This split has long been a source of contention for India. **Individual countries cannot exchange bilateral market access** for bilateral defence agreements.
- The European Union is not likely to settle a **Free Trade Agreement (FTA)** with India for a **"tariff-only" trade agreement** having excluded labour, environment, and social issues. To deal with external competition, Europeans built the EU as the EU Single Market project. Hence Europeans will not separate trade from some of the most important aspects of the trade.
- In short, **Europe worries about Russia and other competitors**, as India worries about China.
- Beyond the promise of standing up to China and lessening reliance on Russia, it is **unclear how much and what India can offer Europe alone**. This cannot serve as the basis for a new strategic alliance.
- The Cold War shaped India's relations with these continental European powers. As a result, the **resurgence of traditional East-West tensions** will cast a pall over India's relations with the EU.

### Way forward

- In the economic realm, the **EU and G7 can de-risk**, if not decouple, from an aggressively rising China.
- Middle powers such as France, Germany, India, Indonesia, Japan, South Africa, and others need to **pool their "strength and stability" to ensure "peace and tranquillity" in their respective areas**.
- It will also put some discipline on the three Superpowers: the USA, China, and Russia, preventing them from defining global geopolitical and geoeconomic agendas recklessly and unilaterally.
- India should **keep looking for a global climate that supports its economic progress**. It should seek to ensure that the world recognises its contribution to humanity as a civilization.
- Individual European countries, particularly Germany and France, need to concentrate on their own strategic and commercial objectives, including sales of defence equipment.
- Both India and EU members should improve their understanding of one another's security concerns. The European Union, for example, is concerned about

Russian aggression in Europe. India is concerned about Chinese aggression in Asia as well.

## 2<sup>nd</sup> INDO-NORDIC SUMMIT

Priority: Medium



Primary Source: The Indian Express

Prepp Prelims Booster: Indo-Nordic Summit

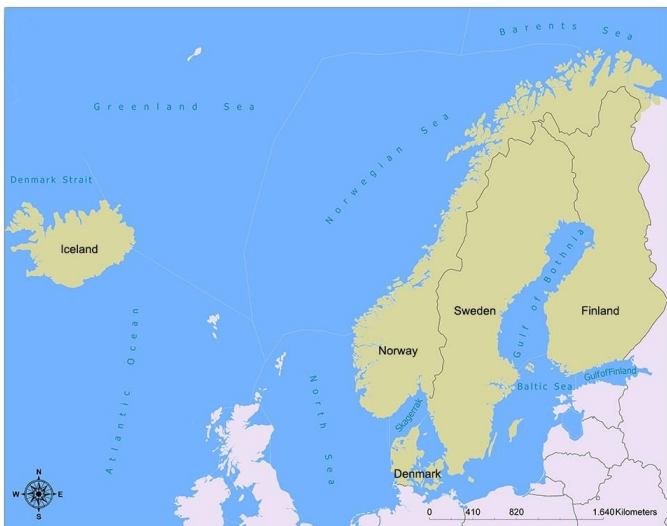
Prepp Mains Booster: Significance of Nordic Countries; relationship with Nordic Countries

### Context:

Prime Minister Shri Narendra Modi participated in the **2nd India-Nordic Summit** along with Prime Minister Mette Frederiksen of Denmark, Prime Minister Katrín Jakobsdóttir of Iceland, Prime Minister Jonas Gahr Støre of Norway, Prime Minister Magdalena Andersson of Sweden and Prime Minister Sanna Marin of Finland.

### What is the Nordic countries' significance for India?

The five nations that make up the Nordic region are: **Denmark, Finland, Sweden, Norway, and Iceland**. They are of great significance:



- The Nordic region has an **economy** worth more than **US\$ 1.6 trillion**.
- India and the Nordic region have **total bilateral trade of US\$ 13 billion** in goods and services.
- All these nations **rank highly in terms of human development**, particularly in the areas of innovation, clean energy, green technologies, and education; and
- All Nordic nations **are members of the Arctic Council**. As ice caps melt due to global warming, the Arctic region is becoming more significant. New shipping channels between the Pacific and Atlantic Oceans will be made available. Natural resources are abundant in the area.
- Additionally, the **Nordic countries granted India permanent observer membership** in the Arctic Council in recognition of its growing interest in Arctic matters.

### Highlights of Indo-Nordic Summit

- The Nordic nations reaffirmed their support for India being a **permanent member of the UN Security Council (UNSC)**.
- The leaders decided to cooperate in the fight against and response to **climate change**.
- They reaffirmed their dedication to an ambitious partnership on **smart grids, energy efficiency, renewable energy, and energy diversification**.
- The leaders reaffirmed their steadfast dedication to **cooperation and multilateralism**.
- Prime Minister Modi welcomed Nordic businesses to **invest in Sagarmala Project and other blue economy projects**. Additionally, he invited the Nordic nations' sovereign wealth funds to make investments in India.
- The PM added that the **expansion of India-Nordic collaboration in the Arctic region** benefits from the framework provided by India's Arctic Policy.

### What is the status of the Indo-Nordic relationship?

- India has acknowledged that the Nordic nations can significantly advance India. In India, **Nordic nations made 3 billion USD in investments between 2000 and 2018**.
- Most of the investments (\$1.4 billion) came from Sweden. Nordic countries are home to several Indian IT enterprises.
- **Indian businesses have made cumulative investments of more than US\$1.5 billion**.
- the first India-Nordic summit took place in 2018. The US is the only other nation that the Nordic countries interact with on a summit level. This emphasises how important the alliance is.
- The second Indo-Nordic Summit was place in **Copenhagen(Denmark)** in May 2022. The post-pandemic economic recovery, climate change, renewable energy, and the developing state of international security were the summit's main topics.
- India's diplomacy would be put to the **test in the new situation in Europe with the war between Russia and Ukraine**. Finland and Sweden are pushing for membership in NATO. It will be difficult for India to maintain a balance in its relations with both Russia and the Nordic nations.

India needs to be more subtle in its dealings with Europe. India should make efforts to avoid any conflicts with the West. India must perform a fine balancing act. India must be aware of European worries while also being able to express its right to pursue its own national interests and strategic autonomy in international affairs. India is a big force and the largest democracy in the world, and despite its stance on Russia, Europe cannot ignore this fact.

Important International institutions, agencies and fora- their structure, mandate.

### WHO ON INDIA'S COVID-19 DEATHS

Priority: Medium



Primary Source: The Indian Express

**Prepp Prelims Booster:** WHO; Civil Registration System

**Prepp Mains Booster:** India's objections to WHO report on India's COVID deaths

#### Context:

- According to a recent **WHO report**, Covid might have killed as many as **47.4 lakh people in India** between 2020 and 2021, either directly through infection or through its indirect effects – which India disputes.
  - The amount is approximately 10 times the country's official Covid death toll of 4.81 lakh by the end of 2021.

#### What is in the WHO Report?

- WHO estimates that **1.5 crore** people died globally, from the direct or indirect effects of Covid during the first two years of the epidemic, rather than the 54 lakh that have been officially recognised by nations individually.
- According to the WHO, around 8.3 lakh fatalities are expected in India by 2020 only.
- South East Asia**, Europe, and the Americas accounted for roughly **84 percent** of all excess deaths due to COVID.
  - According to the report, high-income nations account for 15% of these deaths, higher middle-income countries for 28%, lower middle-income countries for 53%, and low-income countries for 4%.
- According to WHO, **India** alone accounted for a third of all excess deaths.
  - Pakistan accounted for 1.54 percent (230,440) of excess fatalities in the region, Bangladesh 0.9 percent (140,765), and Myanmar 0.29 percent (44,187). Countries with negative totals include Sri Lanka (-8,833) and China (-52,063), indicating that fewer people died during the epidemic years than in previous years.
- According to WHO, deaths associated to Covid indirectly include those caused by diseases for which individuals were unable to seek treatment owing to the pandemic's overburdening of health services.
  - When lockdowns were in effect, there were also fewer deaths from traffic accidents and other causes.

#### Civil Registration System

- The Civil Registration System (CRS) in India has a long history dating back to the mid-nineteenth century. **The**

**Central Births, Deaths, and Marriages Registration Act of 1886** established voluntary registration across British India.

- The Registration of Births and Deaths Act (RBD Act)** was enacted in 1969 after independence to improve uniformity and comparability in the registration of births and deaths across the country.
- Registration of births, deaths, and stillbirths has become mandatory in India since the Act's passage.
- At the central government level, the **Registrar General of India (RGI)** coordinates and unifies registration activities across the country.
- The **state governments**, however, are in charge of **enforcing the act**.
- Births and deaths are registered in the country by officials appointed by the state governments.
- The Directorate of Census Operations is a subordinate office of the Office of the Registrar General of India that is responsible for overseeing the implementation of the Act in their respective State/UT

#### India's Objection

- India has continually criticised WHO's approach for estimating excess death numbers using mathematical models.
  - India advised WHO that due to the availability of accurate data released by the **Registrar General of India (RGI)** through the **Civil Registration System (CRS)**, mathematical models should not be utilised to predict excess mortality statistics for India.
- The **"Births and Deaths Registration Act, 1969"** governs the registration of births and deaths in India, which is a decades-old statutory legal framework.
- India had questioned the entire premise for putting India in **Tier II nations**.
  - Pointing out inconsistencies in WHO's standards and assumptions used to place countries into **Tier I and II** (for which a mathematical modelling estimate is used).
- India has questioned WHO's own admission that data on **seventeen Indian states was gathered** from various **websites** and **media reports** and incorporated in their mathematical model.
  - This demonstrates a **statistically flawed** and **scientifically questionable** data gathering process used to make excess mortality forecasts in India.
- WHO has predicted **different excess mortality rates** for India based on several models throughout the discussion, engagement, and communication process, which raises doubts about the validity and robustness of the models utilized.
- India objected to one of WHO's methods for computing excess mortality estimates for India using

**Global Health Estimates (GHE) 2019.** GHE is a rough approximation.

- In India, the **test positive rate for Covid-19** (another critical indicator cited by WHO) was never consistent across the country.
  - Such a modelling method ignores the variation in COVID positivity rates across the country, both in terms of area and time.
  - The model also ignores the rate of testing and the influence of various diagnostic procedures (**RAT/RT-PCR**) utilised in different geographies.
- India has consistently objected to the use of a "**one size fits all**" approach and model, which may be applicable to smaller countries.
  - but cannot be applied to India because of its size, diversity, and population of 1.3 billion, which has seen varying severity of the pandemic both across space and time.

### Why do we need WHO reforms?

- Following the World Health Organization's tardy reaction to the West African **Ebola epidemic in 2015**, some experts advocated for the organization's abolition.
- When the organisation failed to limit COVID in its early stages, and was also accused of being soft on China, its significance was once again questioned.
  - Former US President Donald Trump, the organization's most vociferous opponent, decided to withdraw his country from the organization.

### What can be done?

#### 1. Strong Sanctions

- Because of its inability to enforce authority, WHO has to rely on soft power to get countries' cooperation, which has resulted in many of the complaints it has received.

#### 2. Limited mandate

- The mandate of the WHO should be defined and restricted.
- The organisation has a broad mandate: in theory, it is responsible for all efforts that enhance the health of all populations globally.

#### 3. Lack of financing

- For the organization's present shortcomings, many experts blame WHO's inadequate budget, which is less than that of many big US hospitals.
- WHO may, for example, look into replenishment methods like those used by **Gavi**, the Vaccine Alliance, and the Worldwide Fund to Fight AIDS, Tuberculosis, and Malaria.
- A larger budget for WHO would assist the organisation maintain strategic focus.

#### 4. Governance reforms

- Along with its budget, WHO's **administration** must be overhauled to allow for other voices, such as those from civil society, and to properly harness the power of private philanthropists.
  - Mechanisms used by other international organisations, such as **The Global Fund** or those in the climate change area, should be evaluated to widen the organization's governing base while maintaining its democratic orientation.
- #### 5. Broadening technical expertise
- It must keep its scientific focus while expanding its competence to include political scientists, urban planners, lawyers, logisticians, and information technology experts.

## GENERAL STUDIES 3

Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

### RBI PAYS DIVIDEND

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** RBI Surplus; Contingency Fund; RBI Earnings and RBI Expenditure

**Prepp Mains Booster:** Reasons why RBI gives dividend to government

#### Context:

Recently the Reserve Bank of India (RBI) announced that its board had approved the transfer of a surplus of Rs 30,307 crore to the Union government for the fiscal year 2021-22, while maintaining the **Contingency Risk Buffer at 5.5%**.

#### What has the RBI Central Board has decided?

- The central board of directors of the bank has also resolved to keep the contingency risk buffer (CRB) at 5.50 percent.
  - **CRB** stands for Contingency Reserve Buffer, and it is a type of risk provisioning made from economic capital to address monetary, credit, fiscal, and operational risks.

#### What is the RBI Surplus?

- According to **Section 47 of the RBI Act, 1934** (Allocation of Surplus Profits), the surplus of the RBI is the difference between income and expenditure.
  - Interest on securities held by the RBI, net interest from liquidity operations, interest from deposits held with foreign banks, and other **sources of income**.
  - **To achieve a surplus**, the central bank subtracts its expenses, which are mostly for printing currency notes and sustaining operations.
- This surplus is usually distributed to the government in the form of a dividend.

- **Section 48, the RBI Act of 1934**, (Exemption of Bank from Income-tax and Super-tax), states that the Bank is not required to pay income-tax or super-tax on any of its earnings, profits, or gains.

#### What is a Contingency Fund (CF) ?

- In some years, the RBI also sets aside money for a Contingency Fund (CF) to handle unexpected and unforeseeable circumstances such as rapid depreciation in the value of securities held by the RBI, risks from an unexpected occurrence such as demonetisation, and so on.
- The CF's surplus is reduced, and consequently the government's dividend is reduced, prompting the Centre to seek more from the central bank.
- The contingency fund, along with other RBI reserves (asset development fund, currency and gold revaluation reserve), is a vital portion of the central bank's balance sheet.
  - They add to the RBI's arsenal of tools for dealing with unexpected disruptions and reassuring global investors.
- The RBI has two types of reserves.
  - The most important account is the **Currency and Gold Revaluation Account (CGRA)** (Rs 6.9 lakh crore in 2017-18). This is the amount of gold and foreign cash held by the RBI on behalf of India.
    - Simply put, changes in this show the assets' changing market worth.
    - As a result, market movements affect the RBI's position on this point.
  - **The CF is a special provision intended to cover unanticipated contingencies** arising from the RBI's monetary policy and exchange rate operations. It was Rs 2.32 lakh crore in 2017-18.
- The RBI intervenes in the relevant markets in both circumstances to regulate liquidity or prevent excessive currency value movements.
- Together, the CGRA and the CF accounted for 26% of assets (and because in a balance sheet assets and liabilities must by definition match, also the same proportion of its liabilities).

#### RBI's Earning Source:

- **Returns earned on its foreign currency assets**, which could be in the form of bonds and treasury bills of other central banks or top-rated securities, and deposits with other central banks.
- **Interest on its holdings of local rupee-denominated government bonds** or securities, and while lending to banks for very short tenures, such as overnight.
- **Management commission** on handling the borrowings of state governments and the central government.

#### RBI's Expenditure:

**Printing of currency notes and on staff**, besides the commission it gives to banks for undertaking transactions on behalf of the government across the country, and to primary dealers, including banks, for underwriting some of these borrowings.

#### ILO REPORT: WORLD OF WORK

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** ILO reports and conventions

**Prepp Mains Booster:** recent changes in the labour market

#### Context:

- According to the ninth edition of the International Labour Organization (ILO) Monitor, the "world of work" is being buffeted by several crises.
- According to the report—
  - Following strong advances in the fourth quarter of 2021, the number of hours worked globally fell in the first quarter of 2022, falling to 3.8 percent below the pre-pandemic level.
  - Over 11.2 crore jobs may have been lost within this time period.

#### Recent changes in the labour market

- In most nations, forced, economy-wide job closures have been phased away.
- Positive work-hour trends have paused and may be reversed.
- Despite encouraging advancements in high-income countries, the gender disparity in hours worked remains considerable
- There are still significant disparities in employment and labour income
- Women in the informal economy have been hurt harder than men

#### Wages, inflation, and employment

- Some advanced nations' labour markets are tightening, but there are no signs of a broad overheating
- Increasing inflation makes it difficult to sustain the purchasing power of labour income.

#### How to achieve a human-centered recovery ?

- The recurrence of crises, in addition to growing inequities between and within nations, stymies attempt to make labour markets more inclusive and resilient, threatening recent recovery advances.
- In this complicated and unpredictable environment, authorities must carefully negotiate both the ongoing COVID-19 dilemma and the current and prospective shocks of the Ukraine conflict, particularly the impact of inflation on jobs and real wages.

#### Special attention should be paid to:

- Providing prompt and efficient assistance to employees and their families in order to retain their purchasing power and overall living standards.
- Carefully managing macroeconomic policy to handle inflationary and debt sustainability pressures while acknowledging the need of facilitating a job-rich and inclusive recovery.
- Protecting vulnerable populations and sectors through social protection for employees and assistance to businesses, particularly MSMEs and those engaged in the informal economy.
- In the long run, support well-designed sectoral policies that encourage the development of good employment, complemented by robust labour market institutions and social engagement.
- Tracking and measuring the effects of several crises on the workplace, with a special emphasis on tackling inequality, livelihoods, and sustainability.

### IMPORT DUTIES ON SUNFLOWER, SOYABEAN OIL

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** India's top imports

**Prepp Mains Booster:** Steps taken to improve domestic edible oil production

#### Context:

Recently, the Indian government has permitted duty-free imports of 20 lakh metric tonnes of crude soyabean oil and crude sunflower oil for this year and 2023-24 in order to curb edible oil inflation. In March, retail inflation in edible oils and fats was 18.8%, and 17.3% in April, with sunflower oil imports restricted owing to the ongoing Russia-Ukraine conflict.

#### What is the Edible oil scenario in India:

##### Consumption pattern:

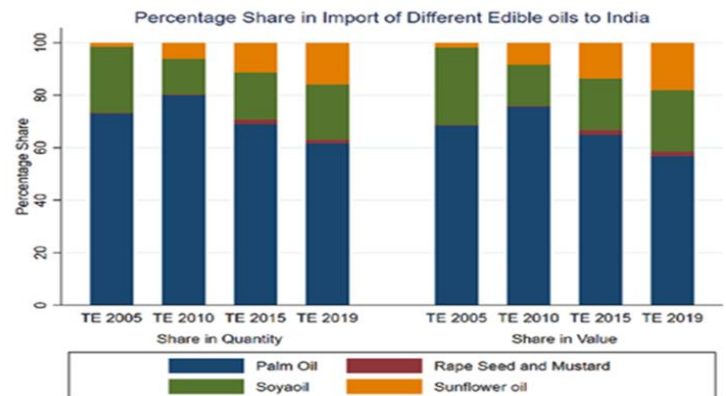
- Oilseeds and edible oils are two of the most sensitive essential commodities. India is one of the world's largest producers of oilseeds and this sector is **critical to the agricultural economy**.
- According to the latest available data, each Indian consumed 19.5 kg of edible oil every year on an average during 2015-16 (15.8 kg in 2012-13). This amounts to an aggregate demand of around 26 million tons of edible oils per year.

##### Demand-supply mismatch:

- India cultivated oilseeds on 25 million hectares of land, producing 32 million tons of oilseeds in 2018-19, with soybean, rapeseed and mustard and groundnut accounting for almost 90% share in the area.
- Assuming a country-wide average of 28% oil recovery, 32 million tons of oilseeds will yield around 8.4 million tons of edible oil.

- This means, domestic production can only meet a **little over 30% of the total demand** for edible oils, necessitating its import.

#### Imports:



- In 2019, India imported around 15 million tons of edible oils worth approximately Rs 7,300 crore, which accounted for 40% of the agricultural imports bill and 3% of the overall import bill of the country.
- Palm oil accounted for the lion's share of the total imports (62%), followed by soya oil and sunflower oil (21% and 16%, respectively). There is a considerable increase in the share of soya oil and sunflower oil in the import basket.
- The palm oil is primarily sourced from **Indonesia and Malaysia**, soya oil from **Argentina and Brazil**, whereas **Ukraine and Argentina** are the major suppliers of sunflower oils to India.
- Apart from a significant burden on the government's exchequer, dependence on the international market for edible oils **causes price volatility affecting both the consumers and producers**.
- For instance, the ongoing **Ukraine-Russia conflict** led to lower production of sunflower crops in Ukraine (world's largest sunflower oil exporter before the beginning of the conflict).
- Subsequently, the government has to **reduce the import tariff** to ease the domestic price.
- India has the potential to increase the domestic production of oilseeds which could reduce the import dependence and also benefit the farmers

#### What are the Steps taken to increase the domestic production of edible oil seeds?

- **The Technology Mission on Oilseeds (1986):**
  - India was able to increase the area planted with oilseeds from 9 million tonnes in 1986 to 32 million tonnes in 2018-19 thanks to our assistance.
  - In 2014, it was renamed the National Mission on Oilseeds and Oil Palm (NMOOP).
  - NMOOP includes seed incentives, farm implements, including efficient water application instruments, and other elements.

- **National Food Security Mission (NFSM):** Oil seeds were integrated under the revised NFSM in 2018-19, resulting in increased oil seed production.
- The government announced the **National Edible Oil Mission-Oil Palm (NMEO-OP)** project in August 2021 for self-reliance in edible oil, with an investment of about Rs. 11,000 crore (over a five year period).
- **Oil Palm Area Expansion under Rastriya Krishi Vikas Yojana:** Increasing minimum support prices for oilseed crops, establishing a buffer stock of oilseeds, demonstrating clusters of oilseed crops, and so on.
- **Export Import Policy on edible oils:**
  - Export of edible oil was restricted in 2008 to ensure the availability of edible oil in the country, and it was periodically extended.
  - The government periodically examines the tariff structure of edible oils in order to balance the interests of producers, processors, and consumers.
- **E-Governance initiatives:**
  - The Directorate of Sugar & Vegetable Oils, under the Department of Food and Public Distribution, has built a web-based platform to modernise and systemize the data management system in the vegetable oil sector (nic.in).
  - This has aided the government in making timely and well-informed policy decisions to improve the vegetable oil sector's management.

## US BECOMES INDIA'S BIGGEST TRADING PARTNER

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** Bilateral Trade items between India-USA and India-China

**Prepp Mains Booster:** Future of India-USA Trade

### Context:

- The **United States** overtook China to become India's largest trading partner in 2021-22, indicating the two nations' growing economic connections.



#### STRENGTHENING TIES

■ Exports ■ Imports

##### INDIA'S TRADE WITH US

|      |       |       |       |
|------|-------|-------|-------|
| FY21 | 51.62 | 29.00 | 80.51 |
| FY22 | 76.11 | 43.31 | 119.2 |

##### INDIA'S TRADE WITH CHINA

|      |       |       |        |
|------|-------|-------|--------|
| FY21 | 21.18 | 65.21 | 86.40  |
| FY22 | 21.25 | 94.16 | 115.42 |

### Bilateral Trade between India-US

- **Bilateral TRADE** between the United States and India would reach **\$119.42 billion in 2021-22**, up from \$80.51 billion in 2020-21.
- **Exports** to the United States surged to **\$76.11 billion in 2021-22**, up from \$51.62 billion in the previous fiscal year.

- **Petroleum**, polished **diamonds**, pharmaceutical products, jewellery, light oils and petroleum, frozen shrimp, made ups, and other items are major exports from India to the United States,
- While imports increased to **\$43.31 billion**, up from about \$29 billion in 2020-21.
- Major imports from the United States include petroleum, rough diamonds, liquefied natural gas, gold, coal, waste and scrap, almonds, and other items.
- The United States is one of the few nations with whom India enjoys a **trade surplus**.
- India had a trade surplus with the United States of **\$32.8 billion in 2021-22**.

### Bilateral Trade between India-China

- India's two-way trade with China would be \$115.42 billion in 2021-22, up from \$86.4 billion in 2020-21.
- **Exports** to China climbed modestly to \$21.25 billion last fiscal year, up from \$21.18 billion in 2020-21,
- While imports increased to **\$94.16 billion**, up from \$65.21 billion in 2020-21.
- The trade deficit increased to **\$72.91 billion** in 2021-22, up from \$44 billion the previous fiscal year.

### Trade with other countries

- The UAE was India's third largest trading partner in 2021-22, at \$72.9 billion.
- Saudi Arabia (\$42.85 billion), Iraq (\$34.33 billion), and Singapore (\$30 billion) followed.

### Way forward

- Though its trade successes are commendable, India still has a lot of room to grow. For example, the annual growth rate of **India's exports** between 2011 and 2020 is slightly more than **1%**, compared to **3% and 4.2% for China and Bangladesh**, respectively.
- As a result, it is necessary to solve sector- and market-specific issues in order to effectively capitalise on exports across industries.
  - For example, India's **diamond and jewellery** export potential is close to \$58 billion, while actual exports are under \$30 billion.
- To meet the export target, India must enhance its involvement in **global value chains (GVCs)** aggressively.
- India must also focus on trade facilitation institutions, export and import processes, and logistics that not only cut trade and transaction costs but also assure dependability and timely delivery, which is essential for inclusion in GVCs.
  - India ranks **44 in the logistics performance** rating, whereas **China ranks 26** and **South Korea ranks 25**.

The unit cost of an export container in India is much greater than in **China, South Korea**, and other countries, limiting India's pricing competitiveness.

### INDIA'S GDP: 2021-2022 (FY22)

Priority: High



Primary Source: The Indian Express

**Prepp Prelims Booster:** Calculation of GDP; different methods to calculate GDP

**Prepp Mains Booster:** Issues raising with new GDP Calculation method

**Suggested reading:** <https://bit.ly/3MgjiMH>

#### Context:

India's gross domestic product (GDP) grew by 8.7% in 2021-22 (or FY22) according to the "provisional estimates" released by the Ministry of Statistics and Programme Implementation. This growth comes at the back of a 6.6% contraction in GDP during 2020-21 when the pandemic led to massive disruptions and widespread lockdowns.

#### Gross Domestic Product (GDP)

- GDP measures the **monetary value of final goods and services**—that is, those that are bought by the final user—**produced in a country in a given period of time** (say a quarter or a year).
- It counts **all of the output generated** within the borders of a country.

The data released also showed that the Gross Value Added (or GVA) — another measure of national income — grew by 8.1% in FY22. In FY21, GVA had contracted by 4.8%.

#### GDP Vs GVA:

- While the **GDP** calculates national income by **adding up all expenditures in the economy**, the **GVA** calculates the national income from the **supply side** by looking at the value added in each sector of the economy.
- GDP will be higher than GVA** if the government **earns more from taxes** than it spends on subsidies.
- If the government, on the other hand, **gave subsidies in excess of tax receipts**, **GVA would be higher than GDP in absolute terms**.
- Simply said, GDP represents the economy's demand side, whereas GVA represents the economy's supply side.

**GDP = GVA + Taxes earned by the government — Subsidies provided by the government.**

### CHART 1

## GVA AND GDP



As seen in Chart 1, the economy has surpassed the pre-Covid level in terms of GDP and GVA at the aggregate level (FY20).

#### What does the GDP data show?

Broadly speaking, GDP has four engines of growth in any economy.

- Private consumption
- Money spent by companies and government towards making investments
- money spent by the government towards its day-to-day expenses such as paying salaries
- Net Exports" (NX)

#### Private Final Consumption Expenditure" or PFCE

- Individual private consumer demand – money spent by people in their personal capacity — is the most powerful engine in India.
- This **demand, known as "Private Final Consumption Expenditure" or PFCE**, typically accounts for 56 percent of total GDP.

#### Gross Fixed Capital Formation or GFCF

- The **second-largest driver** is **money spent by businesses and governments on capital expenditures** such as building a new office, purchasing a new computer, or constructing a new road.
- In India, this form of spending, or "demand," **amounts for 32 percent of total GDP** and is known as Gross Fixed Capital Formation, or GFCF.

#### Government Final Consumption Expenditure (GFCE)

- The government's third engine is the money it spends on day-to-day expenses like paying wages. This is referred to as **"Government Final Consumption Expenditure (GFCE)"** and accounts for 11% of India's GDP.

#### Net Exports" (NX)

- "Net Exports" is in need of the fourth engine (NX). This is the difference between the money spent by Indians on foreign goods (i.e. imports) and the money spent by foreigners on Indian goods (exports)
- Because **India imports more than it exports most years**, the NX is the lowest driver of GDP growth and is

frequently negative. As a result, NX will be eliminated from the remainder of the analysis.

- Therefore,  $GDP = PFCE + GFCF + GFCE + NX$ .

### Non-Uniform recovery

- All components have exceeded their pre-Covid levels, yet the recovery is uneven. In reality, the recuperation is inversely proportional to the relative importance of the various sorts of demands in percentage terms.
- So, while **government spending is up more than 6% from FY20 levels**, investments (which account for three times the weight) are up less than 4%, and private demand (which accounts for five times the weight) is just 1.4 percent higher.
- GVA was about 3% higher in FY21 than it was in FY20.
- **Agriculture and related industries**, for example, have never shrunk and have continued **to expand during the last two years**. It was 6.5 percent greater than pre-Covid levels at the end of FY22.
- **Manufacturing is up more than 9% compared to pre-Covid levels**.
- However, other sectors (such as mining and construction) are either seeing a minor gain or a deficit – contact-intensive industries like trade and hotel are still more than 11% below pre-Covid levels.

### Key Takeaway:

- It's a comfort that India's economy has surpassed pre-Covid levels, at least on aggregate measures. This recovery, on the other hand, is neither uniform nor widespread, and it has produced its own set of victors and losers.
- It indicates that, while GDP (national income) and PFCE (expenditure) have reached pre-Covid levels at the aggregate level, the average Indian has yet to recover.
- The second thing to keep in mind is that this is merely a "recovery" in comparison to the pre-Covid level – not to the pre-Covid growth trajectory. The RBI estimates that returning to the pre-Covid track will take India to 2034-35.
- In the short term, leading indicators of economic activity imply that, despite decreased growth compared to March, momentum in April and May remained remarkably high, even in the aftermath of the Ukraine crisis' economic shocks.

### Slower Growth

- Our GDP growth prediction is 7.1 percent, but the risks are now plainly pointing to lesser growth.
- Manufacturers' input prices are still very high, and they haven't been fully passed on to end consumers.
- Many businesses have been compelled to reduce back, or even shut down, operations due to declining commercial viability; the MSME sector has allegedly been the hardest hit.

### Supply disruptions

- Supply shocks, which began with the outbreak of Covid and were exacerbated by Ukraine's energy and commodity shortages, as well as economic sanctions placed on Russia, have pushed up prices around the world.

### Inflation

- Inflation is at multi-decade highs in most wealthy countries (aided by large fiscal stimulus packages in some countries).
- The majority of the world's major central banks have already begun to tighten monetary policy forcefully, leading to heightened financial market volatility, which has reverberated across rising economies such as India.
- As a result, India's external environment is likely to be less favourable than in the past.
- Furthermore, by raising the policy repo rate and beginning to drain the surplus funds pumped during the epidemic, **the RBI has changed its objective from encouraging durable and sustained growth to managing inflation**.
- Many borrowers' borrowing costs have already risen, notably for MSMEs and home loans, and large rises in borrowing prices may put a strain on poorer borrowers' ability to repay.
- **GDP growth in nominal terms** was nearly 20% in 2021-22 (against 8.7% actual growth), **owing to significant WPI and CPI inflation**.
- This **substantial disparity could expand the gap between household income levels in terms of discretionary income and expenditure**.
- While this will reduce over the next couple of years as inflation falls, it has consequences for economic, particularly fiscal, policy redistribution.
- Even before this tightening, it was predicted that global growth and commerce would begin to decrease in 2022.
- Through late 2020-21 and 2021-22, merchandise exports from India have been one of the key engines of growth, although this is expected to slow.

To summarise, while economic activity is gradually improving, many industries and segments remain limited by a lack of demand, necessitating continuing policy support. A coordinated policy response – fiscal, monetary, trade, industry – will be required for balancing the multiple macroeconomic policy objectives.

### GST REFORMS

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: What is GST; GST Rates; CGST; IGST; SGST

**Prepp Mains Booster:** Issues with current GST and ideas on how it can be improved

**Suggested Reading:** <https://bit.ly/3NXRRc4>

### Context:

Recently there has been a demand in the Indian economy to rationalise the existing GST rate structure needs to bring it on the line of One Nation One Tax.

## Multi-tiered system

| Tax rate      | Indicative items                                       |
|---------------|--------------------------------------------------------|
| 0%            | 50% of the consumer price basket, including foodgrains |
| 5%            | Mass consumption items like spices and mustard oil     |
| 12%           | Processed foods                                        |
| 18%           | Soaps, oil, toothpaste, refrigerator, smartphones      |
| 28%           | White goods, cars                                      |
| 28% plus cess | Luxury cars, pan masala, tobacco, aerated drinks       |

Source: GST council

### What is GST in India?

- GST (Goods and Services Tax) is an indirect tax on the provision of goods and services in India.
- GST is hailed as a revolution in India's Indirect Tax Structure by subsuming all previous existing indirect taxes on Goods and bringing the services under the Tax Structure.
- GST came into effect on 1 July 2017 with the implementation of the **101<sup>st</sup> Constitution Amendment Act**. The GST replaced and **subsumed existing multiple taxes** levied by the central and state governments.
- At present under GST, Goods and services are divided into five different tax slabs for collection of tax: 0%, 5%, 12%, 18% and 28%.

### What are the issues in the present GST rate structure?

- At present, Petroleum products, Alcoholic Drinks, and Electricity are outside of the GST tax structure and are instead taxed separately by the individual state governments, as per the previous tax system.
- Rough precious and semi-precious stones are taxed at 0.25%, and gold is taxed at 3%. Furthermore, a 22% cess or other charges on top of the 28% on Aerated drinks, luxury autos, and tobacco goods are all subject to GST.
- Pre-GST, most commodities had a statutory tax rate of around 26.5 percent; post-GST, most goods are likely to have a tax rate of around 18 percent.

### Why is the single rate structure of GST favourable?

Globally, the single rate system has **proven to be more accepted and beneficial**, because

- It **simplifies the tax structure** and prevents misclassifications and litigations due to multiple rates.
- It **avoids a tax on inputs with an inverted duty structure**. Electrical transformers, railway trains, some textile products, plastic bags, and solar modules all have this structure in India.
- The most compelling reason for **rate differentiation is equity**. A differentiated rate structure is an **inefficient way of targeting benefits for the poor**. More exempted and low-rated foods are consumed by the poor.

Furthermore, targeted cash transfers are the best strategy to direct benefits to the poor on the expenditure side.

- It will put an **end to manufacturers' efforts for their products to be classified as low-tax items**.

### How have the present tax collections improved then?

- GST income has risen dramatically in recent months, exceeding Rs 1 lakh crore in the last ten months and reaching a high of Rs 1.68 lakh crore in April 2022.
- It is not because of economic recovery or tax structure. But the GSTN has been able to stabilize the technology platform.
- Making **e-invoicing** essential for all enterprises with a **turnover of more than Rs 100 crore has made it easier to spot false invoices** used to claim input tax credits.
- This has improved tax compliance and allowed for more effective enforcement.

### Way Forward

- In the long run, having a single tax rate with exemptions for unprocessed food goods would be preferable.
- In the short term, however, the 12 percent and 18 percent slabs should be combined into a 15-16 percent slab. The 28 percent category should be eliminated entirely.

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.

### FOOD SECURITY V/S EXPORT BAN

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** What is Food Security

**Prepp Mains Booster:** Impact of Export bans on Good Security

**Suggested reading:** <https://bit.ly/3MgjIMH>

### Context:

- On May 13, 2022, the **Indian government abruptly banned wheat exports**, only days after Prime Minister Narendra Modi proclaimed that "**at a time when the**

world is suffering a wheat scarcity, the farmers of India have stepped forward to feed the world."

- This shows that the government has handed out mixed policy signals with this announcement.

### Procurement status

- Fears that low public procurement would affect **domestic food security** — have prompted the abrupt shift in export policy.
- Wheat procurement by the **Food Corporation of India (FCI)** has been extremely low this summer.
  - The FCI and other agencies purchased **43.34 million tonnes** of wheat last year.
  - As of May 10, 2022, procurement has barely reached **17.8 million tonnes** for the current season.
  - The government has decreased the purchase target for the current season from **44.4 to 19.5 million tonnes** due to low levels of procurement.
- **Wheat output** has been lower than expected this year due to extreme heat and other circumstances in March, the loss is not as large as in previous years.
  - In **2018-19**, **103.6 million tonnes** of wheat were produced, followed by 107.8 million tonnes in 2019-20 and 109.5 million tonnes in 2020-21.
  - The current year was predicted to reach a record 111.3 million tonnes (2021-22).
  - The most current forecast of output for 2021-22 is **105 million tonnes**, down from a prior projection.

### Is there a concern on food security?

- There's no need to worry as of now, if governmental measures assure enough distribution through the food rationing network, as well as open market activities to **maintain price stability**.
  - It is assumed that rice and wheat are currently consumed in all sections of the nation, and that **rice may be provided in place of wheat** if necessary.
  - There were 33 million tonnes of rice in store as of April 2022.
- The war in Ukraine is expected to result in a global **slowdown** in output and trade.
  - Both Russia and Ukraine were important wheat exporters on the world market, and the war's interruptions are impacting nations that rely on their imports, such as Egypt.
  - **Developed nations** have encouraged India to fill the gap.
  - However, it is also worth noting that western nations, some of whom are far greater wheat exporters, have not expanded their exports in the current context.

### Effective PDS is required

- Wheat stocks in the central pool were **30.3 million tonnes** on April 30, 2022, down from 52.5 million tonnes the previous year.
  - But it is well over buffer stock requirements.
- The Public Distribution System (PDS) performed admirably in the two COVID-19 years (2020-21 and 2021-22).
  - When the PDS and other welfare programmes are combined, total offtake of rice and wheat in 2021-22 was **102.3 million tonnes**.
  - Wheat accounted for 49 million tonnes of this total (21.7 through the PDS and 27.3 through other welfare schemes).
  - This is not just a world record, but it also saved lives during the COVID-19 epidemic.
- To reduce food price inflation, the **PDS** and open market activities must be implemented.
  - Consumer price inflation in rural India was **8.38 percent** in April 2022.
  - Inflation in rural food prices was **8.5 percent**.
  - These figures were significantly greater than the previous year's inflation rate.
  - While the majority of states have high inflation, states with stronger PDS, such as **Kerala** and **Tamil Nadu**, have low inflation.
    - Kerala's overall consumer price inflation in April 2022 was 4.82 percent, while Tamil Nadu's was 5.64 percent.

### Costs of cultivation is rising

- The provision of remunerative pricing to farmers has been a significant part of Indian food policy to boost production.
  - The announced minimum support price (MSP) for wheat has often been inadequate to cover costs of cultivation for several regions and classes of farmers, especially if comprehensive costs (or Cost C2) are taken as the base.
  - The idea that the new Farm Laws would erode public commitment to remunerative prices for agricultural commodities fuelled the year-long farmer protests.
- Over the last two years, production costs have grown dramatically, with one major factor being the rising cost of **fuel**.
- Farmers are concerned about the government's lack of engagement in procurement.
  - Following the export prohibition, especially in light of greater input costs and yield losses this year, the All India Kisan Sabha and other farmer organisations wanted a **500-per-quintal bonus on wheat's** existing MSP.

- Rather than boosting the procurement price and buying more to make up for the shortfall in public procurement, the government has permitted traders to stockpile wheat.
- Future sales, whether domestic or international, are thus more likely to favour **traders** than farmers.

### Farmers let down by the Government

- The government's reversal on wheat export is one example of how it lacks a consistent food security strategy and has been swayed by climate alarmists.
- A well-functioning PDS may help customers by controlling pricing and providing relief.
- At the same time, a procurement strategy may and should provide farmers with a fair wage.
- By not procuring food grain at higher prices and allowing private traders to purchase up supplies for future profit, the government has penalised farmers and aided traders.

### SYSTEM OF RICE INTENSIFICATION

Priority: High



Primary Source: The Indian Express

Prepp Prelims Booster: SRI principles and technique

Prepp Mains Booster: Benefits and Limitations of SRI method.

### Context:

The Punjab government is pushing the **System of Rice Intensification (SRI)** paddy technique, which reduces water and labour costs over the traditional puddling process and gives farmers another alternative for rice sowing.

### What is this water-saving and environmentally-friendly technique?

- The **System of Rice Intensification (SRI)** was established in **Madagascar** in the 1980s, and numerous nations throughout the world have used it since then, including India.
- It claims to **conserve 15 to 20% of ground water** and enhance rice yield, which is now stagnant.
- It produces the same or more than conventional rice production while using **less water, seed, and pesticides**. The overall result is a significant reduction in investments in external inputs.

### What are the requirements for it?

- **Ploughing** is done first to prepare the field.
- Before **transplanting**, it should be laser levelled to ensure adequate water management and efficiency for a healthy crop stand.
- Then **irrigation** is provided to the field, which is less than that of a well-irrigated field but not as much as traditional techniques.

- Then, with the use of a **rope meter**, 10–12 day old nursery plants (young paddy plants) are transplanted in lines with soil particles surrounding the roots with minimal disruption to the roots.
  - The goal of constructing lines is to create a favourable environment for rice plant growth and development by spacing them out.
- To prevent a time gap between uprooting and planting, which should not be more than 30–40 minutes.
  - So that the roots do not dry out, seedlings or nurseries should be positioned near to the main field.
- Unlike DSR, which is only ideal for medium to heavy textured soils, **SRI is good for all types of soil**, even less fertile soil, where the number of seedlings can be doubled.
- In the SRI approach, **just 2kg seed** is needed to produce a nursery for one acre, compared to 5kg seed in the old method.

### Does the SRI technique require constant flooding after nursery transplantation?

- Fields are kept under flood-like conditions in traditional sowing from the day of transplanting until the crop turns 35–40 days. Then, until a few weeks before harvest, fields are filled every week.
- SRI, on the other hand, does not require continual flooding but **rather periodic watering**.
  - The roots of the plants should not be deprived of oxygen due to floods.
  - Water is introduced to the field when the surface soil develops hairline cracks, and irrigation is administered to keep soil moisture near saturation at first.
- The intervals between irrigations will vary depending on the field conditions.
  - **During a study** in— Gurdaspur district fields where Pusa 1121 was planted, it was discovered that 50 lakh litres of groundwater were consumed, compared to 62 lakh litres for the same variety in a puddled technique field.

### In SRI, how are weeds managed?

- In DSR, where weeds are a major issue and weedicides are sprayed simultaneously at the time of sowing.
- In SRI, which allows for greater weed growth due to alternate wetting and drying of fields, the weeds are incorporated into the soil by operating a cono-weeder between rows made at the time of sowing, which adds nutrients to the crop like green manures.
- 10–12 days after planting, first weeding is undertaken. Depending on the need, more weeding can be done at 10–15 day intervals till the crop reaches panicle stage.

- Through a process of **soil aeration**, each weeding improves production.
- It is recommended that weeding and irrigation be done at the same time for a smoother and simpler functioning of the cono-weeder.

### Benefits

- Increased water availability** at the landscape level or for other consumption demands, since SRI management can cut irrigation water use by up to 50%.
- Reduced agrochemical usage** leads to improved soil and water quality.
- Organic matter additions to soils and residues from bigger root systems result in an **increase in soil carbon reservoirs**.
- Reduced methane emissions** from rice paddies due to non-flooded rice paddy conditions; thus far, despite the need for additional study, no offsetting rise in nitrous oxide emissions has been seen.
- Rice cultivar **biodiversity can be increased** if local types become more productive and hence more appealing to farmers to produce.

### Limitations

- Increased weed growth, if left unchecked, will result in a significant **loss of yield**.
- If **organic inputs** in the soil structure are maintained, it can be sustainable.
- In addition, **scientists and farmers** must undertake more research by performing experiments on small plots of land at first, and accurate study records must be kept.
  - In **Telangana**, a large area was brought under SRI to conduct a study, and the results are quite encouraging in terms of water saving, lower input costs, and improved plant growth, adding that to save water.
  - A large area was brought under SRI to conduct a study, and the results are quite encouraging in terms of water saving, lower input costs, and improved plant growth.

### LIQUID NANO UREA

Priority: High 

Primary Source: The Indian Express

Prepp Prelims Booster: What is Liquid Nano Urea

Prepp Mains Booster: Working of Liquid Nano Urea; Benefits of it

### Context:

- Prime Minister Narendra Modi officially inaugurated the country's first **liquid nano urea** facility in **Kalol** during his visit to Gujarat.

- This patented product is projected to not only replace imported urea, but also to improve agricultural outputs.

### Is local liquid nano urea superior to imported urea?

- The liquid nano urea made by **Indian Farmers Fertiliser Cooperative (IFFCO) Limited** is available in a half-litre bottle for **Rs 240** and is now subsidy-free.
- A farmer, on the other hand, spends roughly Rs 300 for a 50-kg bag of generously subsidised urea.
  - A bag of urea costs between **Rs 3,500 and Rs 4,000** on the international market, and substantial volumes are imported by India.
  - The government will pay **Rs 2 lakh crore** in fertiliser subsidies this fiscal year, up 25% from Rs 1.6 lakh crore last year.

### What is liquid nano urea and how does it work?

- Urea is a white chemical nitrogen fertilizer that artificially supplies nitrogen, a vital nutrient required by plants.
  - It is a urea in nanoparticle form.
  - It has been developed by **IFFCO Nano Biotechnology Research Centre (NBRC)** in **Kalol**.
- While conventional urea has an efficiency of around **25%**, liquid nano urea can have an efficiency of **85-90%**.
  - Conventional urea does not have the desired effect on crops because it is frequently administered improperly, causing the nitrogen in it to vaporise or be lost as gas.
- A significant amount of nitrogen is also washed away during watering.
  - The plant absorbs liquid nano urea that is **sprayed directly on the leaves**.
  - Nano fertilisers give a focused delivery of nutrients to crops because they are **absorbed via the stomata**, which are holes present on the epidermis of leaves.
- IFFCO** recommends mixing 2-4 ml of nano urea with a litre of water and spraying it on crop leaves during active growth periods.
- Liquid nano urea **comprises 4% total nitrogen (w/v)** that is equally distributed in water. A nano nitrogen particle ranges in size from 20 to 50 nm.

### Future of liquid nano urea production

- In August 2021, IFFCO commissioned the country's first liquid nano urea facility, **Kalol**.
  - Over 3.6 billion bottles of this urea have been manufactured, with 2.5 billion sold.
- In addition to developing the **Kalol** facility, IFFCO is establishing new facilities in **Aonla, Phulpur, Bengaluru, Paradeep, Kandla, Deoghar**, and **Guwahati** for the

manufacturing of nano urea, nano DAP, and nano micronutrients.

- These plants will have a daily capacity of 2 lakh bottles.

### LIVESTOCK CENSUS

Priority: High



Primary Source: PIB

**Prepp Prelims Booster:** Who conducts Livestock Census

**Prepp Mains Booster:** Challenges in Livestock Sector, Measures by the government

#### Context:

Recently, the Union Minister of Fisheries, Animal Husbandry and Dairying has released the **Breed-Wise Report Of Livestock And Poultry** based on the **20th Livestock Census**.

#### What is the Significance of the Report?

- It was for the first time in the country that breed wise data was collected.
- It was for the first time tablet computers were used instead of paper mode which is indeed a unique attempt.
- The livestock and poultry birds were counted according to their breeds as defined by the National Bureau of Animal Genetic Resources (NBAGR), which is necessary for policymakers and researchers to identify the various livestock breeds for further research.
- Livestock provides livelihood to two-third of rural community; employment to about 8.8 % of the population in India.
- India has vast livestock resources. Livestock sector contributes 4.11% GDP and 25.6% of total Agriculture GDP.

#### What are the major highlights of the Breed-wise Report of Livestock and Poultry?

- The NBAGR has recorded 184 recognised indigenous/exotic & crossbred breeds of 19 different species in this report (National Bureau of Animal Genetic Resources).
- **Cow and Cattle:** This research covers 41 indigenous cow breeds as well as four exotic/crossbred varieties.
  - According to the report, **Exotic** and **Crossbred** cattle account for about 26.5 percent of the entire cow population, while Indigenous and Non-descript animals account for 73.5 percent.
  - In total Exotic/Crossbred cattle, Crossbred Jersey has the biggest share of 49.3 percent, compared to 39.3 percent for Crossbred Holstein Friesian (HF).
  - Gir, Lakhimi, and Sahiwal breeds account for the majority of indigenous cattle.

- **Buffalo:** The Murrah breed, which is popular in Uttar Pradesh and Rajasthan, contributes 42.8 percent of the buffalo population.
- **Sheep:** There are three alien kinds and 26 indigenous breeds of sheep in the country. The Corriedale breed is the most common pure foreign breed, accounting for 17.3 percent, while the Nellore breed is the most common indigenous breed, accounting for 20.0 percent.
- **Goats:** There are 28 different indigenous goat breeds in the country. With 18.6 percent, the Black Bengal breed provides the most.
- **Pigs:** Crossbred pigs account for 86.6 percent of exotic/crossbred pigs, whereas Yorkshire accounts for 8.4 percent. The Doom breed accounts for 3.9 percent of indigenous pigs.
- **Horse:** The Marwari breed comprises 9.8% of the total horse and pony population.
- **Donkey:** The Spiti breed accounts for 8.3 percent of the donkey population.
- **Camel:** The Bikaneri breed accounts for 29.6% of the Camel population.
- **Poultry:** Desi fowl and Aseel breeds contribute significantly to backyard poultry and commercial poultry farms.

#### What are the Challenges faced by the Livestock sector in India?

- **Infrastructure:** Less spending on livestock infrastructure like cold storage supply chains, veterinary services hospitals, doctors and nursing staff. Less spending has resulted in nearly 50% of Livestock sector is in unorganised sector; which has resulted in Low investment in the sector
- **Productivity:** One of the biggest issues is increasing farm animal productivity. Indian cattle produce an average annual milk yield of 1172 kg, which is barely about half of the global average.
- **Diseases:** Disease outbreaks such as Foot and Mouth Diseases, Black Quarter infection, Influenza, and others continue to wreak havoc on livestock health and output.
- **Less credit:** Only approximately 12% of total public expenditure on agriculture and related sectors went to the sector, which is disproportionately low given its contribution to agricultural GDP. Financial institutions have mostly ignored the area.
- **Loss of indigenous breeds:** Crossbreeding native species with exotic stocks to improve the genetic potential of diverse species has only been partially effective.
- **Fodder:** Lack of Availability of Green fodder over the year. This leads to an unbalanced diet to livestock. This affects the health and productivity of livestock.

- **Low on human resources** in Veterinary services like doctors and nurses.
- **Limited Spending on Research and Artificial Insemination services:** The key hurdles have been limited Artificial Insemination services due to a lack of quality germplasm, infrastructure, and technical manpower, as well as a low conception rate following artificial insemination.
- **Less focus on Value addition:** Low cold chain infrastructure, fridge van. Similarly, slaughterhouses are insufficient. Unregistered, makeshift slaughterhouses produce around half of the overall meat production. Livestock products have substantial marketing and transaction costs, accounting for 15–20% of the sale price.
- **Climate Change and Greenhouse Gas Emission:** India's large ruminant population contributes to greenhouse gas emissions. It will be a big challenge to reduce greenhouse gas emissions through mitigation and adaptation techniques.

### What are the measures taken by the Government to improve the Livestock sectors in India?

- **Animal Husbandry Infrastructure Development Fund (AHIDF):** To increase the infrastructure spending in Livestock sector. It aims to create infrastructure in the form of Cold storage Supply Chain, Reefer van and Others.
- **Rashtriya Gokul Mission:** To develop and conserve indigenous breeds of bovine population. To enhance milk production and to make it more remunerative to the farmers.
- **National Livestock Mission:** To ensure quantitative and qualitative improvement in livestock production systems and capacity building of all stakeholders.
- **National Artificial Insemination Programme:** To suggest novel methods of bringing about impregnation in female breeds. Further, it aims to prevent the spread of certain diseases which are genital in nature, thereby enhancing the efficiency of the breed.
- **National Cattle and Buffalo Breeding Project:** To genetically upgrade important indigenous breeds on priority basis with a focus on development and conservation.
- **Animal Husbandry Start up Grand Challenge:** To appreciate innovations coming from the villages to expand the dairy sector in India.

#### Investment models.

#### FDI INFLOWS BREAKS RECORD

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Meaning of FDI and FPI

Prepp Mains Booster: Reasons for increased investments

#### Context:

- The **Commerce and Industry ministry** said on May 20 that India's yearly FDI (foreign direct investment) inflow in 2021–22 was the "largest ever."



- The inflow was **USD 81.97 billion** in 2020–21, according to the ministry.
  - In the Financial Year **2021–22**, India received the largest annual FDI inflow of **USD 83.57 billion**.
- **Singapore** topped the list of top investor nations with 27%, followed by the United States (18%) and Mauritius (16%) in the previous fiscal year.
- **Computer software** and hardware drew the most inflows of all sectors.
  - The services sector and the automobile industry were next, according to the government.
  - In 2021–22, FDI equity inflows into **manufacturing** sectors surged by 76% (USD 21.34 billion) over 2020–21. (USD 12.09 billion).

#### What is FDI?

- When a firm invests in a business entity in another nation, it is known as foreign direct investment (FDI).
- Foreign enterprises directly participate in the day-to-day activities of the other country through FDI.
- This implies they're contributing more than just money; they're also bringing knowledge, skills, and technology.
- In general, FDI occurs when an investor develops international business activities or acquires foreign business assets, such as acquiring ownership or control of a foreign firm.

#### What is FPI?

- Foreign portfolio investment (FPI) is the holding of financial assets from a nation other than the investor's own.
- Stocks, ADRs, GDRs, bonds, mutual funds, and exchange traded funds are examples of FPI holdings.
- Along with foreign direct investment (FDI), FPI is a popular means for investors, particularly retail investors, to engage in an overseas economy.
- Unlike FDI, FPI consists of passive ownership; investors have no direct ownership of property or a stake in a firm.

#### Foreign Investment in India (Economic Survey)

- The largest component of the capital account is foreign investment, which includes both foreign direct investment (FDI) and foreign portfolio investment (FPI).
- Falling short of the pre-pandemic level, **Net foreign investment inflows (FIIs)** – mostly driven by FDI – decreased to US\$ 25.4 billion in the first half of 2022 compared to the same period in 2021.
- The most recent FDI aggregate data is available till November 2021. While net FDI inflows decreased to US\$ 24.7 billion, gross FDI inflows declined to US\$ 54.1 billion from April to November 2021, mostly to weaker equity investment.
- In terms of FDI inflows per sector, computer software and hardware received the most FDI equity inflows of US\$ 7.1 billion during April to September 2021. Singapore remains the top investment country in terms of FDI equity inflow, with the United States coming in second.
- The most recent FPI aggregate data is available until December 2021.
- FPI flows were turbulent, as seen in, due to global worries about **US monetary policy normalisation, rising global oil costs, fear of additional COVID-19 variations, and high inflationary pressures.**
- While the debt market saw net purchases from April to December 2021, valuation concerns and profit booking by portfolio investors caused outflows from the Indian stock market, resulting in a **net FPI outflow of 0.6 billion**, compared to a net FPI inflow of US\$ 28.5 billion the year before.

Science and Technology– developments and their applications and effects in everyday life.

### GM CROP RESEARCH

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: What is GM Crop; Gene Editing

Prepp Mains Booster: regulatory concerns for GM crops

#### Context:

The Department of Biotechnology (DBT) has issued guidelines to make genetically modified (GM) crop research easier and to avoid the obstacles of employing foreign genes to alter crop profiles.

#### Guidelines for Safety Assessment of Genome Edited Plants, 2022

- The guidelines provide a road map for the long-term application of **genome editing** technologies and are relevant to both public and commercial sector research organisations involved in genome editing plant research and development.
- The Guidelines allow researchers who utilise gene-editing technology to change a plant's genome from seeking clearance from the Environment Ministry's **Genetic Engineering Appraisal Committee (GEAC).**

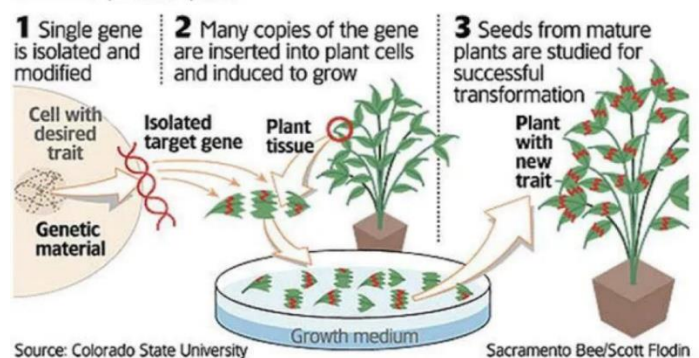
- The Environment Minister, as well as the states where such plants might be grown, make the ultimate decision. This exemption has also been approved by the Environment Ministry.

#### What is a Genetically Modified (GM) Crop?

- GM is a method that includes adding DNA into an organism's genome. New DNA is put into plant cells to create a GM plant.
- Typically, the cells are cultivated in tissue culture and eventually mature into plants. The modified DNA will be passed down to the seeds generated by these plants.
- All living species' traits are defined by their genetic composition and their interaction with their environment.
  - An organism's genetic composition is its **genome**, which is formed of DNA in all plants and animals.
  - The genome comprises genes, which are segments of DNA that hold the instructions for making proteins.
  - These proteins are responsible for the plant's properties. The colour of flowers, for example, is determined by genes that transmit the instructions for generating proteins involved in the production of the pigments that colour the flowers.
- Genetic modification of plants – is done by inserting a specific stretch of DNA into the plant's genome to give a new or different feature.
  - This might involve altering the plant's growth pattern or making it resistant to a certain disease. The additional DNA is incorporated into the genome of the GM plant, which is present in the seeds generated by these plants.

#### Genetic engineering

Researchers isolate a gene from an organism that has the trait they want to impart to a plant.



#### What is genome editing?

- Genome editing (also known as gene editing) refers to a set of technologies that allow scientists to alter an organism's DNA.

- These technologies enable the addition, removal, or modification of genetic material at particular points in the genome.
- This approach enabled agricultural scientists to make desired alterations to the genome by utilizing **site directed nuclease (SDN)** or **sequence specific nuclease (SSN)**. Nuclease is an enzyme that cleaves nucleic acid, which is the building unit of genetic material.
- Researchers have developed very effective clustered regularly interspaced palindromic repeat (**CRISPR**) - associated proteins based systems with the help of advanced research.
  - This system enables targeted genomic sequence intervention.
  - This system has opened up new avenues for plant breeding.
  - Agricultural scientists can now modify the genome to put certain features into the gene sequence using this technique.
  - The procedure is separated into three categories based on the type of edit that is performed: **SDN 1, SDN 2, and SDN 3**.
- **SDN 1**: inserts tiny insertions/deletions into the host genome's DNA without introducing foreign genetic material
- **SDN 2**: a tiny DNA template is used to produce alterations during the edit.
  - Both approaches use no alien genetic material and produce crop types that are indistinguishable from conventionally cultivated crop kinds.
- **SDN 3**: The procedure involves bigger DNA elements or full-length genes of foreign origin, which is **like** the production of genetically modified organisms (GMOs).

### How is gene editing different from GMO development?

- GMOs are organisms that have had their genetic material modified by the **introduction of a foreign genetic material**.
  - Soil bacteria are the finest mining source for such genes in agriculture, which are subsequently introduced into the host genome through genetic engineering.
  - In the case of cotton, for example, the insertion of genes cry1Ac and cry2Ab derived from the soil bacteria **Bacillus Thuringiensis (BT)** allows the native cotton plant to spontaneously produce endotoxins to combat pink bollworm.
  - BT Cotton takes use of this advantage to assist farmers in organically combating **pink bollworm**, the most frequent pest for cotton growers.

- **The primary difference between genome editing and genetic engineering is that the former does not require the insertion of foreign genetic material, whereas the latter does.**
- In agriculture, these techniques thrive to produce variations that are more yielding and more resistant to biotic and abiotic stress.
- Prior to the advent of genetic engineering, such variety enhancement was accomplished by selective breeding, which entailed carefully crossing plants with specified qualities in order to create the desired trait in the offspring.
  - Not only has genetic engineering improved the accuracy of this work, but it has also given scientists greater control over characteristic development.

### What are the regulatory concerns ?

- GM crops have been a source of contention across the world, with many environmentalists rejecting them due to concerns about bio safety and insufficient data.
- The adoption of GM crops in India is a time-consuming procedure involving numerous levels of scrutiny.
  - **The Genetic Engineering Appraisal Committee (GEAC)**, a high-level committee under the Ministry of Environment, Forestry, and Climate Change, is the **regulator** for the introduction of any GM material, and in the case of agriculture, multiple field trials, data on biosafety, and other information are required before any GM crop can be commercialised.
  - Bt cotton is the only crop that has yet to clear regulatory hurdles.
- Scientists in India and throughout the world have been keen to distinguish between GM and genome-edited crops.
  - They have pointed out that the latter contain no foreign genetic material, making them indistinguishable from typical hybrids.
  - Globally, European Union member nations have classified genome-edited crops as GM crops.
  - Argentina, Israel, the United States, Canada, and other countries have liberal policies for genome-edited crops.
- Last year, a group of distinguished agricultural experts wrote to Prime Minister Narendra Modi to express their concern over a decision to put the topic of genome-edited crops on the back foot.
  - The central government had requested opinions and concerns on the topic from states and union territories at the time, and

field experiments of such crops had been halted.

- The signatories said that the variations generated using SDN1 and SDN2 procedures do not include any alien DNA and may thus be classified as other hybrids.
- The Environment Ministry put an end to the discussion on March 30 by announcing new rules.
  - It exempted SDN 1 and SDN 2 genome from the same, instead relying on reports from the **Institutional Biosafety Committee** to exclude foreign genetic material.
- The institutional biosafety committees are expert bodies established under the Act to deal with GM material research and release. Such panels would now be tasked with certifying that the genome-edited crop has no foreign DNA. This would be a less time-consuming and labor-intensive technique for commercialising genome-edited crops.

### GREEN HYDROGEN

Priority: Medium



Primary Source: The Hindu

**Prepp Prelims Booster:** What is Green hydrogen

**Prepp Mains Booster:** Applications of Green Hydrogen.

#### Context:

- **Hardeep Singh Puri**, the Minister of Petroleum and Natural Gas, stated on May 23, that India will emerge as the global leader in **green hydrogen**.
  - Puri made the statements while in Davos, Switzerland, for the **World Economic Forum**, where he is part of an Indian team led by Commerce and Industry Minister Piyush Goyal.
- He said "India is accelerating its transformation to a green economy faster than any other country. We are accelerating this transformation by taking advantage of the present energy crisis"

#### What is Hydrogen?

- The **simplest element** is hydrogen. Each hydrogen atom contains just one proton.
- Hydrogen is also the universe's **most abundant element**.
  - The sun, for example, is primarily made up of hydrogen. The sun is made up mostly of hydrogen and helium gases.
- Only in **compound form** with other elements in liquids, gases, or solids can hydrogen occur naturally on Earth.
  - Water is made up of **hydrogen and oxygen (H<sub>2</sub>O)**.

- Hydrogen and carbon combine to generate **hydrocarbons**, which are present in natural gas, coal, and petroleum.

#### The World Economic Forum

- It is a summit held at Davos, Switzerland. People from all walks of life, including heads of state, policymakers, top executives, industrialists, media figures, and technocrats, are expected to attend the WEF summit.
- The World Economic Forum's discussions have an impact on governmental and private sector decision-making, notably on global topics including poverty, social concerns, climate change, and global economic recovery.
- Swiss ski resorts provide the ideal blend of economic, business, and political leadership for finding answers to global difficulties that arise from time to time.

#### Hydrogen as a Carrier of Energy

- Hydrogen is an energy transporter, not an energy source, and it has the ability to transmit or store massive amounts of energy.
- Hydrogen may be utilized to create energy, power, and heat in fuel cells.
- The most prevalent applications for hydrogen today are petroleum refining and fertilizer manufacture, with transportation and utilities as new areas.

#### Hydrogen as a Source of Energy

- Hydrogen is a **clean-burning fuel** that creates heat and electricity with just water vapour as a by-product when mixed with oxygen in a fuel cell.
- Hydrogen is characterised as an energy carrier since it **does not exist naturally** and must be produced from other sources of energy.
- Hydrogen can be **produced directly from fossil fuels** or biomass.
- It can also be produced by **sending electricity** through water, which breaks the water down into its hydrogen and oxygen constituents.
- The majority of hydrogen is now produced by **steam reforming natural gas**.
  - However, natural gas is already a good fuel that is getting increasingly limited and expensive.
  - Because it's a fossil fuel, the carbon dioxide generated during the reformation process contributes to global warming.
- Because hydrogen has a **high energy density per unit** of weight but a low energy density per unit of volume, new technology is required to store and transport it.
- Furthermore, **fuel cell technology** is still in its early stages of development, requiring efficiency and durability improvements.

## Application

- Hydrogen is a pure fuel that generates just water, energy, and heat when used in a fuel cell.
- Hydrogen and fuel cells have the potential to play a significant role in our **national energy policy**, with applications in nearly every sector—transportation, commercial, industrial, residential, and portable.
- Hydrogen and fuel cells have the potential to minimise greenhouse gas emissions in a variety of applications due to their high efficiency and near-zero emissions operation.
- Hydrogen and fuel cells have the potential to reduce emissions in the following ways:
  - Light-duty highway vehicles:** emissions reductions of more than 50% to 90% compared to today's gasoline cars.
  - Specialty vehicles will emit 35%** less pollution than existing diesel and battery-powered lift trucks.
  - Transit buses** were shown to be 1.5 times more fuel efficient than diesel ICE buses and 2 times more efficient than natural gas ICE buses.
  - Auxiliary power units (APUs)** reduce pollutants by more than 60% when compared to idle truck engines.
  - Combined heat and power (CHP)** systems reduce emissions by 35 to 50 percent compared to traditional heat and power sources.

## Way Forward

- The most difficult hurdle for hydrogen generation, particularly from renewable sources, is **lowering the cost** of hydrogen.
  - On a per-mile basis, hydrogen must be cost-competitive with conventional fuels and technology for transportation fuel cells.

Research is focusing on **enhancing the efficiency** and longevity of hydrogen production systems, as well as lowering the cost of **capital equipment, operations**, and maintenance to minimise overall hydrogen costs.

### GLOBAL CHIP SHORTAGE

Priority: Low



Primary Source: The Hindu

Prepp Prelims Booster: Semi conductor Chip

Prepp Mains Booster: reasons for global chip shortage

## Context:

Recently, Toyota Corporation has apologised to its suppliers and customers a third time in less than two months for delay in manufacturing of new vehicles and changing production plans. The delay has been due to the shortage of semiconductor chips which are essential for automobile industries.

## What are Semiconductor Chips?

- Semiconductor chips are chips made up of materials with conductivity that lies halfway between conductors and insulators. Pure elements, such as **silicon or germanium**, or **compounds, such as gallium, arsenide, or cadmium selenide**, can be used.

## Why has there been a global shortage of semiconductor chips?

Chips or semiconductor devices are in low supply around the world. This is attributable to a variety of factors, including the following:

- As customer preferences switched from one electronic fad to the next, the sector experienced gluts and shortages.
- Even **before COVID-19 Pandemic**, semiconductor production equipment was in low supply. Because the industry was heading toward 5G and enhanced communication, which necessitated the use of costly wafers, this was the case.
- During the Covid-19-induced lockdowns**, chip manufacture was also suspended.
- Work From Home:** People began working from home as a result of the pandemic, children connected to schools via laptops, get-togethers were held via video conferences, and subscription-based mobile games were popular. This move **resulted in a boom in demand for semiconductors** in the manufacture of laptops and tablets.
- After Pandemic:** Following the shutdown, the industry attempted to progressively alleviate the supply shortage, but they ran into **increased logistical challenges**. Global supply chains were thrown off.
- The chipmakers' **Just-In-Time (JIT) approach** became a **liability**. It allowed businesses to obtain inputs from vendors just when they were required. Due to low demand from the vehicle industry, chipmakers entered into agreements with other industries.
- COVID resurfacing in China 2022:** Shutdown and plant closures in China, due to the recent COVID resurfacing in 2022, exacerbate the already difficult semiconductor supply chain.
- Geopolitical issues:** Due to the Russian Invasion of Ukraine, in Central Europe, exports of critical materials used to produce chip sets have been hampered. For example, Moscow provides rare elements such as palladium, whereas Kyiv sells rare gasses used in semiconductor fab lasers.

## What are the steps taken in the world ?

- The European Chips Act (45 billion euros) and the CHIPS for America Act (\$52 billion) have been enacted by Europe and the United States, respectively. Certain policies would encourage fab makers to locate their

operations in these areas, thereby balancing the market.

- By 2030, these two will have enabled semiconductor firms to invest equally in the East and West. Currently, 80 percent of the population lives in Asia, while 20 percent lives in Europe and the United States.
- **Semiconductor Supply Chain Initiative under Quad:** Each Quad member brings a unique set of skills to the supply chain. And this will be used to reform global supply chains for semiconductor chips
  - **The United States:** With a significant presence in semiconductor production, leader in semiconductor design.
  - **Japan:** In terms of specialised semiconductor production materials.
  - **India:** Well-known for its expertise in semiconductor design.
  - **Australia:** Rare earth elements, battery technology, and artificial intelligence

#### What are the initiatives India has taken ?

- **India Semiconductor Mission:** Government with the objective of building the overall semiconductor ecosystem and to catalyse India's rapidly expanding electronics manufacturing and innovation ecosystem announced this mission with 4 sub schemes.
  - Scheme for setting up of Semiconductor Fabs in India
  - Scheme for setting up of Display Fabs in India
  - Scheme for setting up of Compound Semiconductors / Silicon Photonics / Sensors Fab and Semiconductor Assembly, Testing, Marking and Packaging (ATMP) / OSAT facilities in India
  - Design Linked Incentive (DLI) Scheme
- **Production Linked Incentives Scheme:** The Union Cabinet has approved a budget of Rs. 76,000 crore to help establish a 'semiconductors and display manufacturing ecosystem'.
- **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECES):** which will spend Rs 3,285 crore over eight years to promote the manufacturing of electronic components and semiconductors.

**Semicon India Summit 2022:** The conference is designed to bring together key stakeholders to showcase existing capabilities, ideate innovations and discuss global best practices.

**Conservation, environmental pollution and degradation, environmental impact assessment.**

#### BIODIVERSITY BILL

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** Amended bill features

#### Prepp Mains Booster: Shortcomings of the bill

##### Context:

Recently, the provisions of the Biological Diversity (Amendment) Bill, 2021 which is currently being reviewed by the Joint Parliamentary Committee (JPC) has attracted wide criticisms from the scholars.



#### What are the amendments in the Bill ?

- The bill modifies the Biological Diversity Act of 2002 to make compliance easier for domestic businesses.
- AYUSH practitioners and users of codified traditional knowledge will be exempt from sharing benefits with local communities.
- Benefit sharing obligations are removed from research and bio-survey operations under the bill.
- The user and the local management committee, which is represented by the National Authority, shall agree on terms for benefit sharing.
- Some acts and offences are decriminalised under the Bill.

#### Why amendments to the bill ?

- Traditional Indian medicine practitioners, the seed industry, industry and researchers complained that the Act imposed a large "compliance burden" and made it difficult to conduct collaborative research and investments, as well as simplify patent application processes.

#### What are the shortcomings in the Bill?

- **Definition-** There is no definition for "codified traditional knowledge."
- **Role of local communities-** The bill eliminates local communities' direct involvement in determining benefit sharing provisions.
- **Artificial distinction-** Bill Creates an artificial distinction between a registered AYUSH practitioner and a AYUSH company paving the way for potential abuse of the law.
- **Bio-piracy-** Environmentalist organisations have said that the amendments were made to solely benefit the AYUSH practitioners and will benefit AYUSH ministry. This would pave the way for bio piracy in the future.
- **Dilution of powers of NBA-** The clause of appointing 16 ex-officio officers of the Centre was viewed as aimed

to dilute the authority of the National Biodiversity Authority (NBA).

- According to Bill, companies are required to seek the approval of the NBA **only at the time of commercialisation, and not when applying for a patent was of concern.**
- **Decriminalisation of offences**– The Bill also decriminalised violations like biopiracy, making them civil offences, therefore nullifying the Act's deterrent functions.
- **Data availability**–Except for a few states, there was no information on the money collected from firms and traders in exchange for access to and benefit-sharing from the use of traditional knowledge and resources.
- **Unutilised funds**– According to the law, if information is missing, money should be spent on conservation in the region where the knowledge-bioresources originate, however the funds are now unused.
- **Companies' remuneration**– Indian pharmaceutical businesses are obligated by law to pay between 3–5 percent on extracted bioresources or 0.01–0.05 percent on annual gross ex-factory sales, however they have refused to pay.

### ETHANOL BLENDING

Priority: High



Primary Source: The Hindu

**Prepp Prelims Booster:** About Ethanol and Ethanol Blending

**Prepp Mains Booster:** Challenges to Ethanol Blending programme, Schemes for Ethanol Blending

#### Context:

The Union Cabinet has adopted amendments to the National Policy on Biofuels, 2018, that will push back the deadline for fuel firms to boost the ratio of ethanol in gasoline to 20% from 2030 to 2025.

#### What is Ethanol?

Ethanol or Ethyl Alcohol is a hydrocarbon that when burnt can generate heat and power engines.

#### What is the Ethanol Blending Programme?

Ethanol Blended Petrol (EBP) Programme:

- In January 2003, the EBP initiative was initiated to provide 5 percent ethanol mixed gasoline.
- The programme aimed to promote the use of alternative and environmentally beneficial fuels while also reducing energy import dependency.
- OMCs should continue to prioritise ethanol production from:
  - sugarcane juice/sugar/sugar syrup, and
  - B-heavy molasses.
  - C-rich molasses and
  - contaminated cereals and other sources
- With effect from April 1, 2019, this initiative has been extended to all of India, save the UTs of the Andaman

Nicobar and Lakshadweep islands, where OMCs sell fuel blended with ethanol up to 10%.

#### India's ethanol production estimates

- To achieve 20% ethanol blending, pan-India ethanol production capacity will have to increase from current 700 to almost 1500 crore litres annually.
- NITI Aayog has estimated an ethanol demand of 10.16 billion litres by 2025, based on the expected growth of vehicles.
- India's current ethanol production capacity consists of 426 crore litres from **molasses based** distilleries, and 258 crore litres from **grain based**. This is expected to increase to 760 crore litres and 740 crore litres respectively according to NITI Aayog.
- Moreover, this will require six million tonnes of **sugar** and 16.5 million tonnes of **grains** per annum in Ethanol Supply Year (ESY) 2025.
- The increased thrust upon electric vehicles could offset the ethanol demand from 1,016 crore litres to 722–921 crore litres by 2025.

#### Potential advantages of ethanol-blend gasoline

- **Reduce the reliance on crude oil:** Sugarcane, molasses, and maize may all be used to make ethanol, which, given India's agricultural basis, can significantly lessen the country's reliance on petroleum.
- **Reduce import costs:** In 2020–21, India's net petroleum imports were 185 million tonnes at a cost of \$55 billion. A successful 20 percent ethanol blending scheme, according to the NITI Aayog plan for ethanol blending, could save the government \$4 billion each year.
- **Save money:** Ethanol blending is expected to save the government \$6.45 billion this fiscal year (FY23).
- **Self-sufficiency:** As the world's third largest oil importer and consumer, India imports and consumes over 85 percent of its fuel. Thus, indigenous ethanol blending is important for Atma Nirbhar Bharat's long-term prosperity.
- **Reduced carbon monoxide emissions:** When compared to unblended gasoline, the roadmap estimates that E20 fuel reduces carbon monoxide emissions by 50% in two-wheelers and 30% in four-wheelers.

#### Challenges concerning ethanol blended petrol

- **Less efficiency:** Ethanol requires far more energy to operate a vehicle's engine than gasoline. When utilising E20, four-wheelers lose 67% of their fuel efficiency, 34 percent for two-wheelers originally designed for E0 and calibrated for E10, and 12 percent for four-wheelers originally designed for E10 and calibrated for E20.

- **Engine modification:** Vehicles manufactured in India from 2008 are E10 (10 percent ethanol blended in gasoline) material-compatible (rubber and plastic components) and E5 (5 percent ethanol blended in petrol) fuel-efficient compliance, although their engines are not tuned to E10 for maximum performance. When E10 gasoline becomes accessible across the country, new automobiles will require engine changes.
- **Increased vehicle cost:** Two-wheeled flex fuel cars would be 5,000 to 12,000 dollars more expensive than ordinary petrol vehicles.
- A flexible-fuel vehicle (FFV) is an alternative fuel vehicle with an internal combustion engine that can run on several fuels and stores both fuels in the same tank.
- **Supply limitation:** Sugar molasses capacity now accounts for only 8 to 9% of total capacity and is focused mostly in three states: Uttar Pradesh, Maharashtra, and Karnataka. These states are known as surplus states because their production exceeds the 10% blending limit. Every other state has a budget imbalance.
- **Environmental costs include:** There is no evidence that EBP use has reduced nitrous oxide emissions.
- **By-product:** Ethanol generates persistent by-products that can corrode and harm automobiles, which is why, while vehicles can run on ethanol, they must be calibrated appropriately.
- **Diversion of Land Usage:** According to a report by the Institute for Energy Economics and Financial Analysis (IEEFA), India will need to bring in 30,000 more sq km of land under maize cultivation by 2025 to reach its aim of 20% ethanol blended in gasoline.
- - According to the IEEFA, half of the land could be better used to create clean electricity from solar energy and renewable energy for electric vehicles (EV).
  - An EV powered by solar energy generated on one hectare of land, for example, may travel 32 times further than a car powered by ethanol produced on one hectare of sugarcane.
- **Food insecurity:** When India ranks 101 out of 116 countries on the World Hunger Index 2021, the IEEFA warns that rising manufacturing of food-based raw materials for ethanol production could have an impact on food security.
- **Water scarcity:** Sugarcane is India's cheapest source of ethanol. A tonne of sugarcane can yield 100 kg of sugar and 70 litres of ethanol on average, however producing 1 kilogramme of sugar requires 1,600 to 2,000 litres of water, suggesting that producing a litre

of ethanol from sugar requires roughly 2,860 litres of water, resulting in a water scarcity situation.

- **MSP:** Because the cost of raw materials, such as sugarcane and food grains, is controlled by the government to help farmers, the price of ethanol produced in India is greater than in the United States and Brazil, restricting EBP adoption.
- **Food Shortage:** Many cooperative sugar mills have complained about a funding shortage in their operations. Sugar mills' shaky balance sheets make banks wary of lending to them.

### Related Schemes

- **The E-100 Project:** The E100 project intends to establish an ethanol production and distribution network in India.
- **Pradhan Mantri JI-VAN Yojana 2019:** To promote an environment conducive to the establishment of commercial initiatives and the advancement of R&D in the 2G ethanol industry.
- **GOBAR (Galvanizing Organic Bio-Agro Resources) DHAN scheme:** GOBAR- DHAN scheme focuses on managing and converting bovine dung and solid waste in farms into useful compost, biogas, and bio-CNG, keeping communities clean and enhancing rural household income.
- **Repurpose Used Cooking Oil (RUCO):** Food Safety and Standards Authority of India (FSSAI) introduced Repurpose Spent Cooking Oil (RUCO), which intends to create an ecosystem that allows for the collection and conversion of used cooking oil to biodiesel.

### Way Forward

NITI Aayog has also suggested the following to promote ethanol:

- Create a "Clean Air Impact Fund" to offer viability gap funding (VGF) for initiatives like bio-ethanol that have long gestation periods and low returns on investment.
- Give 2G bioethanol projects "priority sector" status. Solar parks can be adapted to biofuels, with government land being leased to oil marketing corporations (OMCs) for energy crops.
- Tax incentives on E10 and E20 fuel may be proposed to compensate customers for the efficiency loss caused by ethanol blended fuels.
- Changes in agricultural patterns to lessen reliance on a single crop and to shift ethanol production to more environmentally sustainable crops.

In 2018, the National Policy on Biofuels emphasised 2G biofuels as well, although the E20 target refocused attention on first-generation feedstock choices. Because 2G biofuels technology is still in its early stages, the roadmap has called for technological advancements.

### DRAFT E-WASTE MANAGEMENT RULES

Priority: High



**Primary Source:** The Hindu

**Prepp Prelims Booster:** features of the draft e-waste rules

**Prepp Mains Booster:** Challenges associated with the draft rules

### Context:

Recently, the draft notification for electronic waste management was posted by the Environment Ministry for public comment. Electronic waste management is governed by a defined set of rules in India. These were announced in 2016 and updated in 2018. The new regulations are set to take effect in August.

### What are the key provisions of the draft notification for electronic waste management?

- **Targets:** By 2023, consumer goods businesses and electronics manufacturers must ensure that at least 60% of their electronic waste is collected and recycled, with targets of increasing to 70% and 80% in 2024 and 2025, respectively.
- The guidelines establish a system of certificate trading, similar to carbon credits, that will allow businesses to temporarily bridge deficits.
- **Extended Producer Responsibility (EPR)** certificates certify how much e-waste a company collects and recycles in a given year, and a company can sell excess quantities to another company to assist it achieve its requirements.
- **Registration on Portal:** Companies will be required to register on an internet portal and set annual production and e-waste collection goals.
- **Monitoring authority:** The Central Pollution Control Board (CPCB) is the main organisation in charge of coordinating EPR certificate transactions and ensuring that enterprises are fulfilling their targets. The overall execution of these laws will be overseen by a steering committee led by the Chairman of the CPCB.
- **Non-Compliance:** Companies that fail to fulfil their annual targets would face a fine or "environmental compensation," although the proposal does not indicate how much these fines will be.
- **Provisions to comply at a later date:** Even after three years, companies that fall short of their yearly aim can reach a year's target. Those who accomplish their targets after a year will receive an 85 percent return, 60 percent after the second year, and 30 percent after the third year.
- **Role of State governments:**
  - Establishing steps to protect the health and safety of workers working in e-waste dismantling and recycling facilities, and
  - Earmarking industrial space for e-waste dismantling and recycling facilities.

### What is the scenario of Electronic-waste in India?

- India created 1,014,961 tonnes of e-waste in FY 2019–2020, increasing 32% from FY 2018–2019, according to a 2020 study by the Central Pollution Control Board.
- According to the research, just 6% and 10% of this was actually collected in the country in 2018 and 2019, respectively.
- According to the report, the informal sector controls more than 90% of the country's e-waste collecting and treatment processes.
- The most recent draft recommendations for e-waste management propose that the formal sector handle more of this garbage.

### What were the Amendments to EWM Rules, 2016?

- The new E-Waste (Management) Amendment Rules, 2018 provide for the creation of **Producer Responsibility Organizations (PROs)**, who must now register with the CPCB under the new Rules.
- PROs will also be required to confirm that every collection is lawful and give proofs.
- PROs were previously unable to obtain garbage from both private and public entities.
- The Rules address this lack of recognition by requiring legitimate PROs to register with the CPCB.

### What are the Challenges associated with E-waste Management?

#### Volume of e-waste generated:

- India ranks fifth in the world in terms of e-waste generation.

#### Child labour:

- In India, around 5 lakh child labourers between the ages of 10 and 14 are observed working in various E-waste operations, often without proper protection or safeguards, in yards and recycling workshops.
- As a result, comprehensive legislation is urgently needed to prohibit child labour from entering the E-waste sector, including its collection, segregation, and delivery.

#### Ineffective legislation:

- On the majority of SPCB/PCC websites, there is no public information.
- On their websites, which serve as their primary public interface, 15 of the 35 PCBs/PCC contain no information about E-waste.
- Even the most fundamental E-waste Rules and Guidelines have yet to be uploaded.

#### Inadequate awareness and sensitization:

- There is limited outreach and understanding about disposal after determining the end of usable life.
- Furthermore, only 2% of people consider the environmental impact when discarding obsolete electrical and electronic equipment.

#### E-waste imports:

- Cross-border movement of waste equipment into India: E-waste from rich countries is transferred to

developing countries like India, China, Ghana, and Nigeria for recycling.

### STOCKHOLM +50

Priority: High 

Primary Source: Down To Earth

**Prepp Prelims Booster:** About Stockholm Conference 1972

**Prepp Mains Booster:** How the Earth has changed since Stockholm Summit

#### Context:

- Despite the fact that the Stockholm Conference of 1972 took place 50 years ago, environmental problems are only becoming worse.
- To feed the predicted global population of 10 billion people by 2050, the globe will need to generate at least 50% more food.

#### What is Stockholm Conference 1972?

- The **Stockholm Conference of 1972** was the first global gathering on environmental issues, with the theme **"Only One Earth."**
- The Stockholm Declaration was adopted on June 16, 1972, by 122 countries, 70 of which were developing and impoverished countries.
- They basically agreed to **26 principles** and a plan of action that established a multilateral environmental system.
- The **"interconnections between development, poverty, and the environment"** were recognised for the first time in this paper, which had a global audience.
- The conference had three dimensions: countries agreeing not to "harm each other's environment or areas beyond national jurisdiction," an action plan to study the threat to the Earth's environment, and the creation of an international body called **the UN Environment Programme (UNEP)** to bring countries together in cooperation.

#### Stockholm 2022

- On June 2-3, world leaders will address how the future 50 years will be handled using emergency measures, rather than how the previous 50 years were handled.
- **"Stockholm+50: A healthy planet for the prosperity of all – our responsibility, our opportunity,"** it is appropriately titled.
- While the Stockholm conference was able to give everyone some time, the present one does not have a deadline because time has already passed.

#### How has the earth changed since Stockholm 1972?

- For the first time, environmental issues were placed on the global agenda at the Stockholm Conference in 1972.
- According to the United Nations, there are now environmental framework legislation in over 176

countries, 150 countries have entrenched environmental protection or the right to a healthy environment in their constitutions, and 164 countries have created cabinet-level environmental protection committees.

#### World Population:

- The world population has expanded from over 3.85 billion people in 1972 to 7.8 billion people in 2022.
- The global population will continue to grow, the average age will rise, people will move to cities, and household sizes will shrink.

#### Air:

- Globally, locations influenced by windblown sand and dust (northern Africa and west Asia), fires (central Africa and Latin America), and anthropogenic pollution have the greatest annual average concentrations of PM 2.5. (south and east Asia).
- East-central China and the Indo-Gangetic Plain have the greatest levels of pollution.

#### Exposure to PM 2.5

- Even in 2050, a sizable portion of the world's population will be exposed to PM2.5, the most significant environmental risk factor for global burden of disease.

#### Biodiversity

- Between 1970 and 2016, the world's population sizes of mammals, birds, amphibians, reptiles, and fish decreased by an average of 68 percent, indicating that humans are destroying biodiversity at an unprecedented rate.

#### Loss of biodiversity

- Conservation is essential, yet it is insufficient to reverse biodiversity loss.

#### Use of the Land

- Most changes in land use, including forests and other types of ecosystems, are still attributed to agriculture and food production.

#### Degradation of the Land/Soil

- Human-caused land degradation is still a major environmental issue that threatens people's food security, livelihoods, and lives.

#### Conclusion

The world's food production and consumption practises must now be transformed as well. Reduced greenhouse gas emissions, fertiliser application, and irrigation water consumption would all be significant co-benefits of such a transition for the environment.

Priority: Medium 

Primary Source: The Indian Express

**Prepp Prelims Booster:** Meaning of Urban Forest; Nagar Van Scheme

**Prepp Mains Booster:** need for ecological innovation

#### Context:

- The Delhi government has planned three key programs to reform the city's natural community spaces.
- These include the transformation of **city parks**, the reclamation of **water bodies and wetlands**, and the **transformation of city forests**.

### Government plans for forests of Delhi

- Delhi has 17 city forests covering over 3,000 acres.
  - However, most locals are ignorant of these hidden treasures.
- The Delhi government has launched an initiative to convert these urban forests.
  - The government will open the city's ecological heritage to the public.
  - It will also renovate them with environmentally friendly facilities.
- Rejuvenating and making accessible these city forests will **assist lower per capita carbon footprint**—
  - by reducing the amount of trips people take to remote areas outside of Delhi for **eco-tourism** activities.

### Need for ecological innovation

- Delhi is one of the world's fastest-growing urban regions.
  - As the nation's capital, it attracts both job seekers and students from around the country.
- There is fierce rivalry for space, and planners and legislators must juggle competing agendas — for example, building a metro line without requiring large-scale tree removal.
- The distribution of green areas is a particular difficulty in Delhi.
  - Central and South Delhi are connected by a forested ridge.
  - East and north west Delhi have little forest cover.
- While providing world-class infrastructure for the capital city is crucial, so is ensuring green areas.

### Benefits for Delhi

- Delhi's administrative limits are restricted, as is the acreage given for forests.
- These urban green areas parks, city forests, animal sanctuaries — **serve as the city's green lungs**.
  - As temperatures rise, it is these green areas that help to cool the microclimate by counteracting the urban heat island effect.
  - They also help to **reduce floods** by keeping percolating surfaces in the middle of concreted landscapes.
- Another advantage of growing these urban forests is that they might provide employment.

- **Ecotourism** is a major component of city forest development plans, and many employment for naturalists, guides, birders, and other maintenance and protection workers would be generated.
- People who reside near these city forests would be the first to benefit from these new livelihood choices.

### COMMUNITY FOREST RIGHTS

Priority: Medium



Primary Source: The Indian Express

Prepp Prelims Booster: Meaning of Community Forest Resource Rights

Prepp Mains Booster: importance to recognise CFR Rights

### Context:

- The state of **Chhattisgarh** has become just the second in the country to recognise a village's Community Forest Resource (**CFR**) rights within a **national park**.
- The CFR rights of tribals in **Gudiyapadar**, a hamlet within the **Kanger Ghati National Park** in Bastar district, were recognised on 25 May, granting the community the ability to set forest use rules.

### What is a community forest resource?

- The community forest resource area is the **common forest land** that has historically been safeguarded and conserved for long-term usage by a certain community.

### What are Community Forest Resource rights?

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, is a historical legislation to ensure the tenurial, livelihood, and ecological security of India's forest dwelling communities.
- Among the rights granted by the FRA, the right to **Community forest resources** is essential since it grants the **Gram Sabha** the capacity and authority, under Sections 3 (1) I and 5, to establish their own system of forest management and governance.
- This right is further strengthened by Section 5 of the FRA. Which empowers the holders of forest rights, the **Gram Sabha**, and the village level institutions to
  1. safeguard wildlife, forests, and biodiversity;
  2. guarantee appropriate protection of neighbouring catchment regions, water supplies, and other ecologically vulnerable areas
  3. ensuring that the habitats of forest dwelling Scheduled Tribes and other traditional forest dwellers be protected from any detrimental actions that threaten their cultural and natural heritage;
  4. Ensure that Gram Sabha decisions to control access to communal forest resources and to halt

any activity that has a negative impact on wild animals, forests, and biodiversity are enforced.

### Gram Sabha's Role

Under the Forest Rights Act, Gram Sabha is the highest empowered authority with the ability to assess the rights of the village/community. Within its responsibilities, the Gram Sabha shall:

1. Form a committee called the Forest Rights Committee by electing not fewer than ten but no more than fifteen members from among its members.
2. Begin the process of determining rights to communal forest resources and notify the SDLC and bordering gram sabhas where there are significant overlaps.
3. Assist the FRC in determining the customary limits of communal forest resources.
4. Take into account the FRC's conclusions on the claim and approve it by approving a suitable resolution with a simple majority.

### Why is it important to recognise CFR rights?

- The FRA went into effect in 2008, with the goal of correcting the "historic injustice" meted out to forest-dependent communities as a result of the loss of their customary rights over forests.
- It is significant because it recognises the community's right to utilise, manage, and protect forest resources, as well as to legally keep forest property used for agriculture and housing.
- It also emphasises the critical role that forest residents play in forest sustainability and biodiversity protection.
- It is more important in protected forests like national parks, sanctuaries, and tiger reserves because traditional residents use their traditional knowledge to help maintain the protected woods.
- However, while CFR rights are a key instrument for empowerment, reaching an agreement among multiple villages on their customary borders may be difficult.

### CARBON CREDITS

Priority: High



Primary Source: Business line

Prepp Prelims Booster: Meaning of Carbon Credit

Prepp Mains Booster: Issues with Carbon Credits

### Context:

- The **carbon credit market** in India is expected to expand rapidly, according to the commitment made at the **COP 26** climate action conference to attain "**net zero**" emissions by 2070.
- Through policy reforms and legislation, the government is working towards a standardized **carbon trading system**.

### What is Carbon Credit?

- Carbon credits were created as a way to **minimise greenhouse gas** emissions. Companies are assigned a specific quantity of **credits**, which diminish with time. Any surplus might be sold to another enterprise.
- Carbon credits provide a **financial incentive** for businesses to minimise their carbon emissions. Those that are unable to easily cut emissions can continue to operate, but at a greater financial expense.
- Carbon credits are based on the "**cap-and-trade**" mechanism that was employed in the 1990s to decrease **Sulphur Emissions**.
- At the **COP26** climate change meeting in Glasgow in November 2021, negotiators decided to establish a worldwide carbon credit offset trading system.

### Fragmented market

- There is currently no single market for carbon credits. In addition to sovereign markets, there is the **voluntary market**.
  - Private enterprises prefer the voluntary market, where costs range from as little as 10 cents to \$80.
- **The Paris Agreement's Article 6** — establishes a framework for international collaboration on emission reductions.
  - This is intended to unlock the potential of international emissions trading and add to the **\$1 billion market of voluntary carbon credits**, which is rapidly developing.
- The **Renewable Energy Certificate (REC) mechanism**, a market-based instrument adopted in November 2010, provides a framework to address India's distributed availability of renewable energy sources.
  - One REC equals one MWh of renewable energy generated. After a decade, 59.5 million RECs have been traded on power markets for a total of Rs 9,266 crore (\$1.24 billion).

### Domestic demand

- As the government pushes for a standardized carbon trading market, India has the potential to be one of the world's largest carbon credit markets.
- The Ministry of Environment, Forestry, and Climate Change (**MOEFCC**) directed the **Bureau of Energy Efficiency (BEE)** in **March 2022** to design a carbon trading program for the energy sector by expanding the scope of the existing energy-saving trading mechanism.
- With the carbon market under **BEE**, most energy-intensive businesses will be part of the domestic carbon market, where a higher emphasis will be placed on harmonising with **PAT (perform, achieve, and trade)** characteristics.
  - It will jump-start the voluntary and compliance sectors.

- PAT and REC will be connected with the projected carbon market under BEE.

### Way Forward

- Carbon credit demand might grow by a factor of **15 or more by 2030**, and by a factor of up to 100 by 2050.
- Given the potential demand for carbon credits from worldwide initiatives to decrease greenhouse gas emissions, the world will require a big, open, verifiable, and ecologically robust voluntary carbon market.
- The market today is fragmented and complicated.

### UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION (UNCCD)

Priority: High



Primary Source: PIB

**Prepp Prelims Booster:** What is UNCCD; What is Desertification; What is UNFCCC; What is Bonn Challenge

**Prepp Mains Booster:** Issues with Carbon Credits

### Context:

- Union Minister Shri Bhupender Yadav addressed the United Nations Convention to Combat Desertification (UNCCD) Conference of Parties at its fifteenth session in Cote d'Ivoire.



**United Nations**  
Convention to Combat  
Desertification

### What is UNCCD?

- The UNCCD, together with the **UN Framework Convention on Climate Change (UNFCCC)** and the Convention on Biological Diversity, is one of three Rio Conventions (CBD).
- The negotiation of the UNCCD was called for in Agenda 21, the programme of action adopted at the 1992 UN Conference on Environment and Development (UNCED, or Earth Summit).
- The UNCCD was adopted on 17 June 1994, entered into force on 26 December 1996.
- It is the only **legally enforceable** international agreement that connects the environment, development, and sustainable land management.
- It is the only convention that sprang directly from the Rio Conference's Agenda 21.
- The International Year of Deserts and Desertification was designated in 2006 to promote the Convention.
- **Areas of emphasis:** The Convention explicitly targets the arid, semi-arid, and dry sub-humid areas known as the drylands, which include some of the most vulnerable ecosystems and peoples.

### COP 15 of UNCCD

- The **fifteenth** session of the Conference of the Parties to the UN Convention to Combat Desertification (UNCCD COP 15) will focus on the theme, '**Land. Life. Legacy: From scarcity to prosperity.**'
- The fifteenth Conference of the Parties (COP15) of the United Nations Convention to Combat Desertification (UNCCD) will be held in **Abidjan, Côte d'Ivoire**, from 9 to 20 May 2022.
- It will bring together leaders from governments, the private sector, civil society, and other key stakeholders from around the world to drive progress in future sustainable land management and to explore links between land and other key sustainability issues.
- **Drought, land restoration**, and associated factors such as land rights, **gender equality**, and **youth development** are among the Conference's primary goals.
- COP15 is intended to catalyse sustainable solutions for land restoration and drought resilience through the decisions reached by the **UNCCD's 197 Parties**, with a heavy emphasis on future-proofing land usage.

### India's statement in COP15

- Protecting both people and the environment will be impossible unless developed countries take the lead in drastically reducing emissions, as their historical and current liability for **global warming** is the greatest.
- **Covid 19** has exacerbated the issue of combating global warming by delaying or slowing climate action throughout the world, as the world is rapidly depleting its remaining carbon budget, putting it closer to the **Paris Agreement's** temperature limitations.
- India has made substantial progress toward meeting its goal of restoring 26 million hectares of damaged land by 2030.
- India has improved soil health monitoring through the **Soil Health Card Program**, which has been deployed across the country. Between 2015 and 2019, over 229 million Soil Health Cards were distributed to farmers, resulting in an **8-10% decrease** in the usage of chemical fertilisers and a **5-6% increase in production**.
- Following the global call for nominations for **World Restoration Flagships**, the Government of India supported six restoration flagships that aim to restore 12.5 million hectares of degraded land.

**Landscape restoration** is more than just planting trees; it is also necessary to realise the power of indigenous and local knowledge with the close aide of science and technology, as well as the integration of community needs.

### Disaster and disaster management.

### DROUGHT

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Meaning of Drought

Prepp Mains Booster: impact of drought; mitigation measures for drought

Suggested reading: <https://bit.ly/3POqgul>

### Context:

- According to a **United Nations report**, several parts of India are among the world's most vulnerable to drought areas.
- Frequent droughts in India lowered the country's Gross Domestic Product (**GDP**) by 2 to 5% between 1998 and 2017.
- Droughts generated \$124 billion in economic losses worldwide during the same time period.

### Drought in numbers

#### Drought around the world (1900–2022)

- More than **10 million people have died** as a result of significant droughts in the last century, resulting in hundreds of billions of dollars in economic losses throughout the world, and the figures are growing.
- **Africa** has seen more severe droughts than any other continent, with over 300 episodes reported in the last 100 years, accounting for 44 percent of the world total. Sub-Saharan Africa has recently seen the devastating effects of climatic disasters that are getting more frequent and extreme.
- **Asia** has had the biggest overall number of people affected by drought during the last century.

#### The effects of drought on human society

- Drought impacted more than 1.4 billion people between 2000 and 2019. After floods, drought is the calamity that affects the second-largest number of people.
- With 134 droughts, **Africa** had more droughts than any other continent, with 70 of them occurring in East Africa.
- Severe droughts have been estimated to have affected **India's gross domestic product** by 2 to 5%.
- Between 2002 and 2010, total **agricultural productivity in Australia** declined by 18% as a result of the **Millennium Drought**.
- The impact of drought is, however, not uniform across genders. **Water collection** is disproportionately burdened on women (72%) and girls (9%), who spend up to 40% of their caloric intake hauling water in some circumstances.
- Drought is a major factor in agricultural production variability, resulting in low yields and large financial losses.

### Drought impacts on ecosystems

- Drought-affected plants have more than quadrupled in the last 40 years, with drought and desertification claiming almost 12 million hectares of land each year.
- Ecosystems are gradually transforming into carbon sources, particularly during catastrophic drought periods, which have been observed on five of the six continents.
- Carbon absorption by terrestrial ecosystems offsets one-third of global carbon dioxide emissions, but their ability to retain carbon is particularly vulnerable to drought occurrences.
- The fast rise in surface temperature is linked to decreased biodiversity and greater extinction rates.
- The megadrought in Australia contributed to 'megafires' in 2019 and 2020, resulting in the most significant loss of habitat for vulnerable species in modern history; the Australian wildfires killed or displaced around 3 billion animals.
- The **Amazon** endured three major droughts in the first two decades of the twenty-first century, all of which resulted in huge forest fires.
  - Droughts are growing more prevalent in the Amazon area as a result of interconnected land-use and climate change.
  - If deforestation in the Amazon continues unchecked, by 2050, 16 percent of the region's remaining forests would have burned.

### Predictable futures: We are at a crossroads

- Droughts are predicted to become more common as a result of climate change in many sensitive parts of the world, particularly those with high population expansion, vulnerable populations, and food security issues.
- Drought, together with other issues like as water shortages, falling agriculture production, sea-level rise, and overpopulation, might cause up to 216 million people to migrate by 2050, according to the **World Bank**.
- **Climate change** will increase drought exposure in 129 nations over the next several decades — 23 predominantly owing to population expansion and 38 mostly due to the interplay between climate change and population growth.
- Drought losses might be five times more than they are now if global warming hits 3 degrees Celsius by 2100, as expected, with the Mediterranean and Atlantic areas of Europe experiencing the greatest rise in drought losses.

### Planning for the future

- Hundreds of millions of dollars have been pledged to international climate funding, with the goal of improving meteorological forecasting and integrating it with remote Earth observation capabilities to monitor drought threats.

## Landscape restoration

- Soil organic matter (SOM) is a crucial contributor to soil's water-holding ability; a 1% increase in SOM may retain up to 10,800 litres more water per hectare.
- High water absorption capacity are characteristic of moss-covered soil. Some mosses may absorb up to 1,400% of their dry mass in water, facilitating land rehabilitation and allowing for the creation of greater plant growth in damaged conditions.
- Sustainable land and water management strategies may create up to USD 1.4 trillion in output value globally.
- Approximately 4 million hectares of degraded land within "strict intervention zones" have been rehabilitated under the African Union-led restoration initiative known as the Great Green Wall, accounting for 4% of the Wall's overall goal of restoring 100 million hectares and assisting in the reduction of desertification and drought threats.
- Land restoration initiatives driven by farmers are critical for tackling serious land degradation that threatens the livelihoods of the poorest people living in drylands. Successful restoration initiatives must be scaled up to reach a large number of farmers and cover huge regions in order to rebuild hydrological cycles.

## Way forward

- Drought has far-reaching consequences that extend well beyond our planet's arid zones. Droughts are growing more often and severe around the globe, indicating that freshwater and rich soils are becoming increasingly limited. Drought can lead to starvation, forced migration, and even violence in severe situations.
- Drought-related mortality account for over 60% of all deaths caused by extreme weather events, despite droughts accounting for just 15% of natural catastrophes.
- Droughts caused around USD 124 billion in worldwide economic losses between 1998 and 2017. Droughts are expected to affect more than three-quarters of the world's population by 2050, according to current projections.
- Heatwaves, sand and dust storms, and desertification are signs of over-exploitation aiming at perpetual expansion, material wealth for some, unrestrained population increase, and an economy that still heavily relies on non-renewable energy sources.
- Drought is caused by land degradation and the climate catastrophe, not merely by a lack of rain.
- Recent scientific studies on drought suggest that the globe and all nation-states, not just those in dry regions, face a bleak future.

## IMPORTANT TOPICS FOR PRELIMS

Current events of national and international importance.

### DENISOVANS

#### Context:

Recently A tooth likely belonging to a Denisovan female who lived **between 13,000 and 16,000 years** ago was found in a Laos cave.



#### Who were the Denisovans?

- They were an **extinct archaic human species or subspecies** that roamed Asia during the **Lower and Middle Paleolithic periods**.
- They lived with Neanderthals for thousands of years.
- They have a lot of adaptability and flexibility.
- The discovery, according to researchers, demonstrates that Denisovans lived in **Southeast Asia's steamy tropics**.
- In 2010, they were initially recognised as a distinct species.

#### Findings related Denisovans:

- **2010:** A finger bone and two teeth dating from around 40,000 years old were discovered in the Denisovan Cave in Siberia in 2010.
- **2018:** Tam Ngu Hao 2 (Cobra cave) was discovered in 2018 high up in the limestone mountains, including relics of an old cemented cave sediment rich with fossils.
- **2019:** Another mandible with teeth fossil was discovered on the Tibetan plateau in 2019.

#### Importance of the finding:

- Denisovans were thought to exclusively live in frigid, high-altitude places like Siberia and the Himalayas.
- They were later discovered to be **suited to a warm environment** as well.

Denisovan genes are **found in 3 to 5% of some populations** (Philippine Negritos, Papuans, and Australian Aborigines).

## BOOKER PRIZE

**Context:**

Recently, author Geetanjali Shree's Hindi translated novel, *Tomb of Sand*, became the first Indian language book to win the International Booker Prize.

**What is the Booker Prize?**

- The Booker Prize is one of the most well-known literary prizes for English-language fiction, encompassing novels and collections of short stories.
- It was given for the first time in 1969.
- Every year, a group of judges selects the greatest work of the year, based on the requirement that it be written in English and published in the United Kingdom and Ireland.
- Eminent cultural historians, writers, educators, novelists, and others from related fields make up this panel of judges.
- The winner of the Booker Prize earns £50,000.

**Who have been some prominent winners?**

- Margaret Atwood ('The Testaments,' Yann Martel ('Life of Pi,' and Julian Barnes ('The Sense of an Ending') are among the notable winners of the prized medal.
- Arundhati Roy ('The God of Small Things'), Salman Rushdie ('Midnight's Children'), Kiran Desai ('The Inheritance of Loss'), and Aravind Adiga ('The White Tiger') are among the many Indian-origin authors who have received the Booker Prize in the past.
- Geetanjali Shree is the first Indian to be awarded a prize on a global scale.

**Who is Geetanjali Shree ?**

- Geetanjali Shree, also known as Geetanjali Pandey, is a Hindi novelist and short-story writer based in New Delhi, India.
- She is the author of several short stories and five novels. Her 2000 novel *Mai* was shortlisted for the Crossword Book Award in 2001; and its English translation by Nita Kumar was published by *Niyogi Books* in 2017.

- In 2022, her novel *Ret Samadhi* (2018), translated into English as *Tomb of Sand* by Daisy Rockwell, won the International Booker Prize.
- Aside from fiction, she has written critical works on Premchand.

## ASTRA MARK-1

**Context:**

- The Ministry of Defence recently announced that it has signed a contract with the Hyderabad-based public-sector Bharat Dynamics Ltd. for supply of the Astra Mark-1, air-to-air missile.

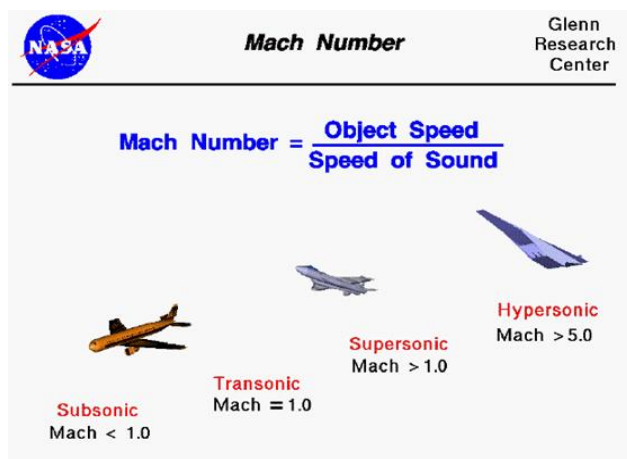
**What is Astra Mark-1?**

- The Astra Mk-1 is a beyond visual range (BVR), air-to-air missile (AAM).
  - **BVM** missiles are capable of engaging beyond the range of 20 nautical miles or 37 kilometres.
  - **AAMs** are fired from an airborne asset to destroy an airborne target.
- Astra project was officially launched in the early 2000s and around 2017, the development phase of Mk-1 version was complete.
- The missile is fully integrated on the Sukhoi 30 MKI I and will be integrated with other fighter aircraft in a phased manner, including Tejas and the Mig-29K of the Navy.
- Designed and developed by: Defence Research and Development Organisation
- Range: 110 Km
- Speed: In excess of Mach 4

**Key Facts for Prelims:****Mach Speed:**

- The Mach number describes the aircraft's speed compared with the speed of sound in air, with Mach 1 equating to the speed of sound.

It is named after **Ernst Mach**, an Austrian physicist, who first devised the measurement.



### TASMANIA FIRST TO BECOME CARBON NEGATIVE



#### Context:

According to new study, Tasmania has become one of the first areas in the world to dramatically reduce greenhouse gas emissions and reach net carbon negative emissions by reducing forestry activity. Bhutan and Suriname are the only two countries that have achieved carbon neutrality to far. According to a new scientific study by Griffith University's Professor Brendan Mackey and Australian National University's Professor David Linden Mayer published in Environmental Research Letters, the island state of Australia can also claim the rare achievement due to a drastic change in forest management in 2011/12.

#### What does Carbon Negative mean?

- Carbon negative refers to greenhouse gas emissions that are less than zero carbon dioxide and carbon dioxide equivalent (CO<sub>2</sub>e).
- Being carbon negative refers to the net emissions you produce, as it is impossible to emit a negative amount of carbon (or any other physical material).
- To be carbon negative, you must offset more carbon than you contribute to the environment through carbon collection, sequestration, or avoidance.

### NAGORNO-KARABAKH CONFLICT

#### Context:



- On May 23, Armenian Prime Minister Nikol Pashinyan and Azeri President Ilham Aliyev announced the formation of border security and delimitation committees in their respective nations, a step toward resolving a decades-long dispute over the **Nagorno-Karabakh Enclave**. Both presidents also agreed to begin developing a peace plan.
- Protests have erupted in the Armenian capital of **Yerevan** and other regions of the nation as a result of the two presidents' discussions.
  - Protesters and the opposition feel Mr. Pashinyan is giving up too much ground in the peace negotiations and have called for his resignation.

#### How did the Nagorno-Karabakh conflict begin?

- Nagorno-Karabakh is a landlocked, hilly, and wooded territory of Azerbaijan with a population of roughly 150,000 people.
- Nagorno-Karabakh**, also known as Artsakh in Armenian, is primarily ethnically **Armenian**, with a small Azeri minority.
  - It is located in the **South Caucasus area**, which spans the southern section of the Caucasus mountains and crosses the boundary between eastern Europe and western Asia.
- It consists primarily of modern-day **Armenia, Azerbaijan, and Georgia**.
  - Stepanakert** is the capital of Nagorno-Karabakh, while Susha is another important city in the area.
- Over the ages, Nagorno-Karabakh, which was originally part of the **Armenian Kingdom**, has been governed by many empires, including the Ottomans, Persians, and Russians.
  - For the majority of the nineteenth century, Tsarist Russia controlled over the **South Caucasus**, but its authority waned after the **1917 Russian Revolution**, which brought the Bolsheviks to power.

- **Armenia, Azerbaijan, and Georgia** eventually gained independence, with the Azeris absorbing Nagorno-Karabakh into their Republic.
  - **During World War I**, the Ottomans, supported by Azeris, assaulted the south Caucasus, particularly ethnic Armenians.
  - As the Ottomans withdrew at the end of World Conflict I, Azerbaijan and Armenia plummeted into a full-fledged war in 1920, wreaking havoc on Armenians in Nagorno-Karabakh.

### BMPT TERMINATOR TANK

#### Context:

Russia has deployed the **Terminator tank support system** – the **BMPT**, also known as the **BMPT 'Terminator'**, and its upgraded variant, the **BMPT-72** in an area that remains its immediate tactical priority in the Ukraine war, according to Western intelligence sources.

#### What exactly is a 'Terminator'?

- The Terminator, also known as the **Boyevaya Mashina Podderzhki Tankov (BMPT)**, is a Russian tank support combat vehicle.
- Russia built the Terminator after seeing the necessity for specialised protection for its main battle tanks during the **Afghan and Chechen wars**.
- The tank support vehicles are meant to **defend Russian tanks from opposing troops**. In urban warfare, they are essentially a substitute for mechanised infantry soldiers.
- The high degree of attrition sustained by Russian tanks in the continuing conflict in Ukraine as a result of the employment of anti-tank weapons supplied by the West appears to have prompted Russian military commanders to induct the Terminator.
- The manoeuvre is intended to provide Russian armour with close protection against Ukrainian tank-hunting troops.

#### Where have the Russians deployed it?

- Russia's only operational company of BMP-T Terminator tank support vehicles has likely been sent to the **Severodonetsk axis of the Donbas assault**.
- The **Severodonetsk region** remains one of Russia's urgent tactical priorities for the time being. However, with just ten Terminators available, they are unlikely to make a substantial contribution to the war.

### STARLINK

#### Context:

- After taking off from California on Friday, a SpaceX rocket sent 53 satellites for the **Starlink internet constellation** into orbit.
- The Falcon 9 rocket launched from the Vandenberg Space Force Base.

#### SpaceX

- SpaceX is a **commercial spaceflight company** that launches satellites and sends astronauts to the **International Space Station (ISS)**, including NASA astronauts. The company was founded in 2002 by Elon Musk to revolutionize space transportation, with the ultimate goal of making life multiplanetary.
- SpaceX designs, manufactures and launches the advanced rockets and spacecraft.
- It is the only private company ever to return a spacecraft from **low-Earth orbit**, which it first accomplished in December 2010.
- The company made history again in May 2012 when its **Dragon spacecraft** attached to the International Space Station, exchanged cargo payloads, and returned safely to Earth – a technically challenging feat previously accomplished only by governments.
- Since then Dragon has delivered cargo to and from the space station multiple times, providing regular cargo resupply missions for NASA.
- On May 30, 2020, SpaceX sent its first two humans to the **International Space Station (ISS) onboard the SpaceX Crew Dragon**, and has since launched many additional crews on behalf of NASA and other organisations.
- It is the only commercial spaceflight business capable of carrying people to space as of mid-2022, however **Boeing's CST-100 Starliner** may shortly challenge it.
- SpaceX also offers commercial flights to both Earth and Lunar orbit.

#### What is Starlink?

- SpaceX operates the Starlink satellite **internet constellation**. It offers satellite Internet connection to 32 nations that have permitted its usage and strives for worldwide coverage.
- Starlink has approximately **2,300 mass-produced tiny satellites in low Earth orbit (LEO)** that interact with approved ground transceivers.
- Starlink internet works by sending information through the vacuum of space, where it travels much **faster than in fiber-optic cable** and can reach far more people and places.
- While most satellite internet services today come from single **geostationary satellites** that orbit the planet at about 35,000km, Starlink is a constellation of multiple satellites **that orbit the planet much closer to Earth, at about 550km**, and cover the entire globe.
- Because Starlink satellites are in a low orbit, the round-trip data time between the user and the satellite – also known as latency – is much lower than with **satellites in geostationary orbit**.
- This enables Starlink to deliver services like online gaming that are usually not possible on other **satellite broadband systems**.

- In 2022, **NASA** expressed worries about Starlink, saying that a proposal to launch 30,000 additional Starlink internet satellites into orbit would not only disrupt ground observations, but also launch windows owing to the large number of satellites passing overhead.
  - The US government also observed an increase in the possibility of space debris collisions, while SpaceX claims to have automated systems in place to mitigate the risk as much as feasible.

### Other important missions of SpaceX

- **STARSHIP:** SpaceX is working on a vehicle that might revolutionise space travel. The Starship will be a totally reusable transport device capable of transporting up to 100 people to Mars.
- **FALCON-9 :** It is a reusable, two-stage rocket developed and built for the safe and reliable transportation of people and cargo into Earth orbit and beyond. The Falcon 9 is the world's first reusable orbital rocket. Reusability allows SpaceX to reuse the rocket's most expensive components, lowering the cost of access to space.
- **FALCON HEAVY :** It is the most powerful operational rocket in the world. Falcon Heavy can lift roughly 64 metric tonnes (141,000 kg) into orbit, which is more than twice as much as the next closest operational rocket, the Delta IV Heavy.
- **DRAGON SPACECRAFT :** It is capable of carrying up to 7 passengers to and from Earth orbit, and beyond. It is the only spacecraft currently flying that is capable of returning significant amounts of cargo to Earth, and is the first private spacecraft to take humans to the space station.

### INS SURAT & INS UDAYAGIRI

#### Context:

The Indian Navy's frontline warships 'Surat' and 'Udaygiri' were launched at Mazagon Docks Limited (MDL) by the Ministry of Defence.

About

#### About

- 'Surat' is the fourth P15B class Guided Missile Destroyer, while 'Udaygiri' is the second P17A class Stealth Frigate.
- The Directorate of Naval Design (DND) designed both warships in-house and built them at MDL in Mumbai.
- The two warships will strengthen the Indian Navy's weaponry and demonstrate to the rest of the world India's strategic strength and self-reliance.
- They are outstanding instances of India's increasing domestic capabilities.
- The warships will be among the world's most technologically advanced missile carriers, capable of meeting both current and future requirements.

### Project 15B and P17A Frigates

- The Indian Navy's next-generation **stealth guided-missile destroyers**, the **Project 15B class**, are being built at the MDL and are the successors to the weapon-intensive **P15A (Kolkata Class) destroyers**.
- The **P17A Frigates** are a follow-on class to the **P17 (Shivalik Class) Frigates**, with better stealth, upgraded weaponry and sensors, and platform management systems.
- MDL and **Garden Reach Shipbuilders & Engineers (GRSE)** are building seven P17A Frigates in various stages.
- The government's vision of 'Atma Nirbhar Bharat' includes indigenous production of complicated frontline platforms such as destroyers and frigates.

### INS NIRDESHAK

- The second of the four Survey Vessels (Large) projects, INS Nirdeshak, was recently launched (the first being "Sandhayak").
- The ships' primary duty will be to conduct extensive coastal and deep-water hydrographic studies of ports and navigational channels.

### WORLD PRESS FREEDOM INDEX

#### Context:

Recently released **World Press Freedom Index** points India's fall of 8 places in ranking down to 150th position from 2021's 142nd rank out of 180 countries. The index was released on occasion of The World Press Freedom Day on May 3rd, 2022.

#### What is in The World Press Freedom Index 2022?

- Every year the index is prepared and published by Reporters Sans Frontières (RSF) or Reporters Without Borders, an international not-for-profit organization for journalism, since 2002.
- The Index ranks countries and regions based on the level of journalistic freedom they have. It is not, however, a measure of the quality of journalism.
- **Parameter:** Pluralism, media independence, media environment and self-censorship, legislative framework, openness, and the quality of the infrastructure supporting news and information production are among the criteria.

#### What is the Global Scenario according to the World Press Freedom Index 2022?

- According to the World Press Freedom Index:2022, Norway (1st) Denmark (2nd), Sweden (3rd) Estonia (4th) and Finland (5th) grabbed the top five positions.
- North Korea, on the other hand, remained at the bottom of Reporters Without Borders' list of 180 countries and territories.
- Russia was ranked 155th, down from 150th last year, while China advanced two places to 175th, according

to Reporters Without Borders. China was ranked 177th in the world last year.

**In the Indian Subcontinent:** Nepal has climbed up by 30 positions to 76th from last years' 106th position, Pakistan at 145th, Sri Lanka 127th, Bangladesh 152nd and Myanmar at 140th position in the index.

### ADVANCED TOWED ARTILLERY GUN SYSTEM (ATAGS)

#### Context:

- The indigenous **Advanced Towed Artillery Gun System (ATAGS)**, developed by the Defence Research and Development Organisation (DRDO) in collaboration with the commercial sector, reached a major milestone this week when it successfully completed validation testing to match Army specifications.
- The week-long validation retrials for the **Preliminary Service Quality Requirements (PSQR)** were held at the Pokhran field firing ranges from April 26 to May 2.

#### Specifications of the Gun

- The ATAGS is a 155mm, 52-calibre heavy artillery gun.
- The ATAGS has a range of over 45 kilometres.
- It is jointly developed by **Armament Research and Development Establishment (ARDE)**, the Pune-based laboratory of **DRDO**, in partnership with Bharat Forge and Tata Group.

#### What is ATAGS?



- The Advanced Towed Artillery Gun System (**ATAGS**) development began in 2012, with **Bharat Forge Limited** and **Tata Power SED** as strategic partners.
- ATAGS is one of the most sophisticated and first guns in the world to be able to fire BMCS zone 7. It has a

shooting range of 48 kilometres, which is a new record for the 155mm family.

- It is a large calibre Gun system with the capability to program and fire future **Long Range Guided Munitions (LRGM)** to achieve precision and deep strike.
- The system is configured with an all- electric drive that will ensure maintenance free and reliable operation over longer periods of time.
- The system is currently in the advanced stage of development.

### BRAHMOS MISSILE

#### Context:

Recently, Indian Air Force has successfully tested the Extended Range BrahMos Missile through air launch with Sukhoi 30 fighter jet.

#### What is BrahMos Missile?

- BrahMos is a supersonic cruise missile jointly developed by India and Russia.
- It is a joint venture between the Defence Research and Development Organisation of India (DRDO) and the NPOM of Russia.
- BrahMos, is named on the rivers Brahmaputra and Moskva.
- Stages: It's a two-stage missile with first stage solid propellant engine and second stage liquid ramjet.



- It is a multiplatform missile that can be launched from land, air, or sea, as well as a multi-capability missile with pinpoint precision that can operate at any time of day or night, regardless of the weather.
- Range: The maximum range of BrahMos missile is 290 km
- Speed: Brahmos is one of the fastest cruise missiles in service today, with a top speed of Mach 2.8, approximately three times the speed of sound.
- It works on the "Fire and Forgets" principle, which means it doesn't need any additional instructions after it's launched.

#### What is the Extended Range Version?

- The tested Extended Range BrahMos missile version has a range of 350 km .

- The missile's range was initially limited to 290 kilometres due to Missile Technology Control Regime requirements (MTCR).
- India's admission into the MTCR club in June 2016, has led India to increase the range to 350 km and then further upto 600 km.

### What is the Difference between Cruise Missile and Ballistic Missile?

| Ballistic Missile                                                                                                                                                                          | Cruise Missile                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• It is only propelled for a short time after launch</li> </ul>                                                                                     | <ul style="list-style-type: none"> <li>• Self-propelled till the end of its flight.</li> </ul>                                                                                    |
| <ul style="list-style-type: none"> <li>• It's like a rocket engine.</li> <li>• <b>Path:</b> Follows the parabolic path</li> </ul>                                                          | <ul style="list-style-type: none"> <li>• Similar to a jet engine.</li> <li>• <b>Path:</b> follows the path parallel to surface of the earth</li> </ul>                            |
| <ul style="list-style-type: none"> <li>• Long-range missiles depart and re-enter the earth's atmosphere.</li> </ul>                                                                        | <ul style="list-style-type: none"> <li>• The flight path is within the earth's atmosphere.</li> </ul>                                                                             |
| <ul style="list-style-type: none"> <li>• Low precision because most of its course is unguided, and its trajectory is determined by gravity, air resistance, and Coriolis Force.</li> </ul> | <ul style="list-style-type: none"> <li>• Hits targets with high precision as it is constantly propelled.</li> </ul>                                                               |
| <ul style="list-style-type: none"> <li>• <b>Range:</b> Can have a very long range (300 km to 12,000 km) as there is no fuel requirement after its initial trajectory.</li> </ul>           | <ul style="list-style-type: none"> <li>• <b>Range:</b> It has Small range (below 500 km) as it needs to be constantly propelled to hit the target with high precision.</li> </ul> |
| <ul style="list-style-type: none"> <li>• <b>Payload:</b> Heavy payload carrying capacity.</li> </ul>                                                                                       | <ul style="list-style-type: none"> <li>• <b>Payload:</b> Payload capacity is limited and small.</li> </ul>                                                                        |
| <ul style="list-style-type: none"> <li>• <b>No. of Payloads:</b> Can carry multiple payloads in the form of <b>Multiple Independently targetable Re-entry Vehicle</b></li> </ul>           | <ul style="list-style-type: none"> <li>• <b>No. of Payloads:</b> Usually carries a single payload.</li> </ul>                                                                     |
| <ul style="list-style-type: none"> <li>• <b>Use:</b> Developed primarily to carry nuclear warheads.</li> </ul>                                                                             | <ul style="list-style-type: none"> <li>• <b>Use:</b> Developed primarily to carry conventional warheads.</li> </ul>                                                               |

- |                                                                                                                       |                                                                           |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• E.g. Prithvi I, Prithvi II, Agni I, Agni II and Dhanush missiles.</li> </ul> | <ul style="list-style-type: none"> <li>• E.g. BrahMos missiles</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|

### INDIAN ARMY'S FIRST FEMALE AVIATOR



#### Context:

- 26-year-old Captain **Abhilasha Barak** of Haryana is the Indian Army's first female **combat aviator**.
- She graduated from the Combat Army Aviation Training School in Nashik. A K Suri, Director General of Army Aviation, was the event's chief guest.

#### Women in Armed forces

- In recent years, the three services have steadily opened significant positions for women.
- In 2018, **Indian Air Force** flying officer **Avani Chaturvedi** made history by being the first Indian woman to **solo fly a combat aircraft**. In her first solo flight, she piloted a **MiG-21 bison**.
  - Chaturvedi was one of three women commissioned as flying officers in July 2016, less than a year after the government decided to open the fighter stream to women on a trial basis.
- The **Navy** announced the deployment of its first group of female pilots on the **Dornier maritime aircraft** in 2020.
- In a historic step, the Army began the process of inducting women into **military police** in 2019.

### GLOBAL TRAVEL AND TOURISM DEVELOPMENT INDEX

- **World Economic Forum** publish this index.
- Every two years, this Index evaluates 117 economies, finding the critical elements that enable the resilient and sustainable expansion of the travel and tourism industries.
- Out of 117 rated nations, **India came in at position 54, while Japan came out on top**.

## History of India and Indian National Movement.

### QUTUB MINAR COMPLEX

#### Context:

- On May 24, a Delhi court reserved its decision on a petition appealing the dismissal of a civil complaint seeking to "restore" 27 Hindu and Jain temples inside the Qutub Minar complex in New Delhi, alleging that they were demolished to make way for the **Quwwat-ul-Islam mosque**.
- The first complaint was dismissed by a civil judge in Delhi last year on the grounds that it was barred under the **Places of Worship (Special Provisions) Act, 1991**, prompting the petitioners to launch this appeal.
- The Archaeological Survey of India**, on the other hand, objected to the petition, claiming that the Qutub Minar complex is not a place of worship and was not one when it was initially designated as a protected monument in 1914.

#### Qutub Complex

- The Qutb Minar Complex, a **UNESCO World Heritage Site**, is dominated by the early thirteenth-century stone tower that rises over the horizon.
- It was previously part of the **Tomar Rajput rulers' of Lal Kot**, Delhi's earliest urban complex.
- The complex also includes the magnificent Iron Pillar, the incomplete Alai Minar, and the mausoleum of Iltutmish.

#### 1. Qutub Minar



- The Qutub Minar is distinctive in many aspects, despite the fact that the practice of erecting towers can be found throughout India, West Asia, and elsewhere.
- The **Quwwat-ul-Islam mosque** has a tower or minar next to it.
  - It was known as the **mazana**, or the location from which the call to prayer (azan) was issued.
- The major attraction of the minar is the skillful projection of **balconies** that are attached to the tower by a technique known as "**stalactite honey-combing**" (A framework of hexagonal cells resembling the honeycomb built by bees).

- The combination of **red and white sandstones** in the panels and upper levels enhances overall effect.

#### 2. The Quwwat-ul-Islam Mosque

- Jami Masjid or Quwwatul Islam mosque was originally a Jain temple that was later transformed to a Vishnu temple.
- Qutbuddin Aibak** conquered Qila Rai Pithora and built a mosque on the site.
- Following Aibak's death, Iltutmish expanded the mosque.



- Alauddin Khalji's** (AD 1296–1316) subsequent modifications resulted in a significant extension of the mosque and other separate structures within the complex.

#### 3. Alai Darwaza

- The Alai Darwaza was designed to be the primary **entrance to Alauddin Khalji's grandiose expansion of the Quwwat-ul-Islam Mosque** in the early fourteenth century.
  - A large bulging dome with a centre knob, resting on horse-shoe shaped arches, covers its four gates, making a square.
- Alai Darwaza is one of India's best examples of early Sultanate architecture, with graceful proportions and exquisite embellishments.



#### 4. Iron Pillar

- The Iron Pillar, which stands in the heart of the Quwwat-ul-Islam Mosque, a marvel of architecture and traditional knowledge, the way it has **resisted corrosion over the last 1,600 years**.
- The **inscription on the pillar indicates** it was built on a hill called **Vishnupada**. The pillar is said to be a tribute to **Lord Vishnu**, the **Gupta** emperors' patron god.

Because of its pure iron composition, **high phosphorus** content, and casting procedure, the pillar is said to have withstood corrosion.

#### CHARAK SHAPATH

##### Context:

- A day after the first-year students took the '**Maharishi Charak Shapath**' instead of the **Hippocratic Oath** during the 'white coat ceremony,' the Tamil Nadu Department of Health and Family Welfare relieved Madurai Medical College Dean A. Rathinavel of his post.
- The National Medical Commission recently suggested that the Hippocratic Oath be replaced with the '**Maharishi Charak Shapath**,' which drew widespread condemnation, especially from the medical community.

##### What is Hippocratic Oath ?

- Hippocrates of Kos**, a Greek physician of the classical period (4th–5th century BC), is credited with writing the Hippocratic Oath, which roughly corresponds to the period between the Buddha's death (486 BC) and the emergence of the Mauryas (321 BC) in India.
- The oath dictates the obligations of the physician to students of medicine and the duties of pupil to teacher.
- In the oath, the physician pledges to prescribe only beneficial treatments, according to his abilities and judgment; to refrain from causing harm or hurt; and to live an exemplary personal and professional life.

##### Who was Charaka and what is the Charak Samhita?

- Like several other sages mentioned in the literature of ancient India, the historicity of Charaka is uncertain.
- It is a compilation of medicine that carries his name is unlikely to have been the work of a single individual, and not all of it is likely to have been written at the same time.
- The Charak Samhita is a medical pharmacopoeia and collection of commentaries and discussions on medical practices that is historically dated to the **1st–2nd centuries AD**.

##### What is Charaka Shapath?

- The Charaka Shapath, often known as the Charaka oath, is a passage from the Charaka Samhita, a Sanskrit-based literature on Indian traditional medicine Ayurveda from the first to second century AD. It is a set of rules given to new medical students by a trainer, similar to dos and don'ts.
- This ethical code of Charaka is universal, and remains just as relevant and applicable today.

#### CANONIZATION OF DEVASAHAYAM PILLAI

##### Context:

Blessed Devasahayam was canonised by Pope Francis during a Canonisation Mass in **St Peter's Basilica** attended by nearly 50,000 believers from all over the world, as well as government delegations honouring him and nine other new saints.

##### Who is Devasahayam Pillai?

- Devasahayam was born on April 23, 1712 in **Kanyakumari's** Nattalam village.
- Devasahayam was born into a Hindu household in a deeply caste-ridden society and named **Nilakandan** by his parents **Vasudevan Namputhiri** and **Devika Amma**.
- He began his work as a treasurer in **King Marathanda Varma's** royal palace, where he came into touch with various Dutch officials.
- On 14 May 1745, he was baptised into Christianity after being encouraged by a Dutch naval officer in particular and assumed the name '**Lazarus**,' meaning '**God is my help**'.
- While preaching, he especially stressed the **equality of all people**, notwithstanding caste disparities, which aroused the animosity of the higher classes, and he was **jailed** in 1749.
- Devasahayam was killed in the Aralvaimozhi jungle on January 14, 1752.
- His mortal remains were placed within what is now **Saint Francis Xavier's Cathedral** in Kottar, Nagercoil, and he is generally regarded as a martyr.

##### What is Canonization?

Canonization is the formal act of a Christian communion—most notably the Roman Catholic Church, but also the Eastern Orthodox Church—declaring one of its deceased members worthy of public worship and including his or her name in the canon, or approved list, of that communion's recognised saints.

### Other saints from India

- The first Indian lay brother to be canonised was Portuguese Indian lay brother **Gonsalo Garcia of Vasai**, near Mumbai. In **1862**, he was canonised.
- Goan priest **Joseph Vaz** and **Mother Teresa** were named saints in 1995 and 2016, respectively.
- So far, the Vatican has designated **four Kerala-born** Indian Catholics as Saints.
- While Pope Francis canonised **Fr Kuriakose Elias Chavara** and **Sister Euphrasia** as saints in 2014,
- **Sister Alphonsa** was named a saint in 2008. She was the first indigenous person to be canonised.
- Nun **Mariam Thresia** was also canonised in 2019.

## GYANVAPI MOSQUE ISSUE

### Gyanvapi Mosque

- The Gyanvapi Mosque is thought to have been constructed in 1669 under the reign of Mughal emperor **Aurangzeb**.
  - He ordered the demolition of the old **Vishweshwar temple** and the construction of a mosque in its place.
- This is also stated in AS Altekar's 1937 book **History of Benares: From the Earliest Times Down to 1937**, which was written when he was the head of the Banaras Hindu University's Department of Ancient Indian History and Culture.
- The temple's plinth was kept unaltered and functioned as the mosque's courtyard.
- One of the walls was spared as well, and it became the qibla wall, the mosque's most elaborate and essential wall facing Mecca.
- The mosque was constructed using materials from the demolished temple.
- The mosque's name is thought to have come from a nearby well known as the Gyanvapi, or **Well of Knowledge**.
- Instead of facing the sanctum sanctorum of the temple, an old sculpture of the Nandi bull inside the enclosure of the current Kashi Vishwanath Temple faces the mosque's wall.
  - It is thought that Nandi stands facing the old Vishweshwar temple's sanctum sanctorum.
- The mosque is not an ASI-protected structure, and the ASI has no involvement in its preservation or maintenance.

### Kashi Vishwanath Temple

- The exact date when the temple was initially built is uncertain. When **Qutb-Uddin Aibak** overthrew the Raja of Kannauj in 1194, his troops demolished the original or oldest Vishwanath temple.
  - The temple was repeatedly constructed and destroyed many times after that.

- During the latter Mughal period, **Raja Jai Singh II** of Amer restored the temple for the fourth time (in the 1730s). He was the empire's governor and **senior mansabdar** at the time, and he expanded Varanasi's ghats and built the Jantar Mantar.
- **Malhar Rao Holkar**, the Maratha ruler, devised a plan to destroy the mosque and rebuild the temple in **1742**. This plan, however, was prevented by the then-Nawab of Awadh.
- **Ahilyabai Holkar**, Malhar Rao's daughter-in-law, built the current temple next to the mosque in 1780.
- The temple is built in the Nagara style, which houses the sacred **Jyotirlinga**. The main temple is shaped like a **quadrangle** and is flanked by smaller shrines dedicated to different gods.
- The **Jnana Vapi** (knowledge well) is a minor well at the temple that stands to the north of the main temple.

### What is the dispute?

- Petitioners have claimed the mosque on several occasions, claiming it is the original holy Hindu worship site.
- Apart from the Ramjanmabhoomi Temple-Babri Masjid site in Ayodhya, the **VHP's Ram Temple campaign** also planned to "liberate" the **Kashi-Vishwanath Temple-Gyanvapi** mosque site and the **Shri Krishna Janmabhoomi** in Mathura.
- The **Places of Worship (Special Provisions) Act, 1991**, states that
  - The character of all places of worship, except the one in Ayodhya that was then under litigation, must be preserved as it was on August 15, 1947.
- No encroachment of any such location previous to that date can be challenged in court.

## KANHERI CAVES

### Context:

On the occasion of Buddha Purnima, the Ministry of Tourism unveiled the amenities at Kanheri Caves.

### Kanheri Caves



- The Kanheri Caves are a collection of caves and rock-cut monuments on Mumbai's western suburbs. The caves are located within the Sanjay Gandhi National Park's woodlands.
- Kanheri is derived from the Prakrit word '**Kanhagiri**,' and it appears in the Nasik inscription of **Satavahana ruler Vasisthiputra Pulumavi**.
- Kanheri was referenced in travelogues written by foreigners.
- Kanheri was first mentioned by **Fa-Hein**, who visited India between 399 and 411 CE, and thereafter by various other travellers.
- The Kanheri caves are one of the country's largest single excavations, with over 110 separate rock-cut monolithic excavations.
- With multiple water cisterns, epigraphs, one of the oldest dams, a stupa burial gallery, and a good rainwater harvesting system, the scale and scope of excavations show its popularity as a monastery and pilgrim centre.
- The excavations were mostly conducted during the Hinayana period of Buddhism, however there are many examples of Mahayana style building as well as a few Vajrayana printings.
- Kanheri flourished due to the patronage of Satavahana, Traikutakas, Vakatakas, and Silaharas, as well as donations from the region's affluent merchants.

### MAHAPARINIRVANA STUPA

#### Context:

PM Modi made a visit to Kushinagar and offered his prayers at the Mahaparinirvana Stupa.

#### Mahaparinirvana Stupa

#### 4 holy Sites of Buddhism



- Mahaparinirvana Stupa is a massive brick stupa that was excavated in 1867. A Brahmi inscription can be

found on the stupa's exterior, as well as a reclining Nirvana Buddha statue inside.

- The Buddha statue is positioned on a brick pedestal with his face towards west.
- The cremated remains of Buddha are buried here, according to the Brahmi inscription, making it a significant sacred site for Buddhists.

### TRIBAL DANCE OF ODISHA

#### Samuduni Dekha

- It is a social tradition found in Juanga community in Keonjhar district.
- In this tradition, the mother who goes to stay with her married daughter and the entire community comes out in celebration to welcome her often with song and dance.

**Other Folk Dances of Odisha:** Some of the folk dances from Orissa are:

- Ghumura Dance, Changu Dance, Baagh Naach or Tiger Dance, GotiPua Dance, Nachni Dance, Ruk Mar Nacha, Chhau Dance, Dalkhai, Karma Naach, Dasakathia Dance, Dalkhai Dance, Chaiti Ghoda Dance, Ranapa Dance, KelaKeluni Dance, Ravana Chhaya, Dandari dance.

**Tribes found in Odisha:** Bhatra, Paraja, Dongria Kondh, Kutia Kondh, Gond and Saura, Juanga

### MARTAND TEMPLE

#### Context:

- The Archaeological Survey of India (ASI) denied it provided any permission for doing puja at the core protected area of the 8th Century protected site of Martand Temple in south Kashmir's Anantnag by J&K Lieutenant Governor Manoj Sinha.

#### Martand Sun Temple



- It was a Hindu temple in Kashmir dedicated to the god Surya, and was built in the eighth century CE.
- The temple, which is now in ruins, is located five kilometres from Anantnag in Jammu and Kashmir.
- It was built by **Lalitaditya Muktapida**, a King of the Karkota Dynasty

- Later, it was demolished by the Islamic ruler of Kashmir, Sikandar Butshikan in the early 15th century CE.
- This temple has been built with strong and square limestones and exhibits pillars in Greek pattern.
- **Lalitaditya was not only the founder of a vast empire but also the founder of the art and skill of Kashmiri Hindus for six centuries.**
- This temple is a fine example of Kashmiri architecture, combining Gandhara, Gupta, Chinese, Roman, Syrian-Byzantine, and Greek architectural styles.
- Various wall carvings in the antechamber of the temple depict other gods, such as Vishnu, and river goddesses — Ganga and Yamuna.

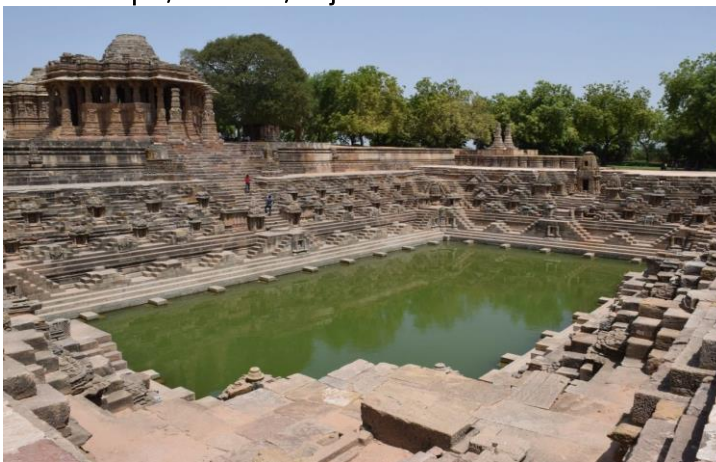
### Other Sun Temples of India

#### 1. Sun Temple, Konark



- The Sun temple at Konark, built by the eastern Ganga ruler Narasimha Varmana around 1250 A.D.
- It's a massive and amazing edifice, designed like a colossal chariot with **12 pairs of decorative wheels drawn by seven rearing horses.**

#### 2. Sun Temple, Modhera, Gujarat



- Modhera is a town in Gujarat on the banks of the Pushpavati River.
- It is known for the Sun Temple, which was erected by King Bhimdev of the Solanki dynasty in 1026 AD.
- Solankis were said to be Suryavanshi, Gurjar, or Sun god's offspring.

### PALA ARCHITECTURE



#### Context:

Dr Rajat Kumar Kar, who chronicled the **Rath Yatra**, wrote on diverse topics and worked to revive Pala art passed away recently.

#### Pala Architecture

- Pala Kings contributed significantly to the field of architecture. Mostly bricks are made, some also use stones. Also influenced by religion, especially **Buddhism** [Pal dynasty ruler and Buddhist followers] and Hindu temples.
- Monastery (Viharas): They got built Buddha vihar and temples at Nalanda, Vikramshila, Odantpuri, Sompuri etc.
- The Pala ruler **Dharmapala (783–820 AD)** founded **Vikramashila** in response to the perceived decline in the quality of study at Nalanda.
- **Dharmapala's Somapura maha vihara** in Paharpur boldly proclaims the quality of architectural art accomplished during the Pala reign.
- Ramapala established the city of **Ramvati**, which had a variety of structures and temples.
- The temples are known to express the local Vanga style. Mahipala built hundreds of temples and buildings at Kashi.
  - Vishnupada temple with hemispherical mandap like an umbrella at Gaya.
  - Shiva temple at Konch in the Gaya district is architecturally important because of its pinnacle and corbelled lattice window.
- Rock-cut temple at **Kahalgaon (Bhagalpur)**, dating from the 9th century, is an interesting one as it has a gabled vaulted roof, which is the characteristic of South Indian Architecture.
- The 9th century **Siddheshwara Mahadeva temple** in Barakar in Burdwan District shows a tall curving shikhara crowned by a large **amalaka** is an example of early Pala style.
- Other examples are found at Surajgarha, Jaimangalgarh etc.

- Many of the temples from the ninth to the twelfth century were located at Telkupi in **Purulia** District. They were submerged when dams were built in the region.
- These were amongst the important examples of architectural styles prevalent in the region which showed an awareness of all the known Nagara sub-types that were prevalent in the rest of North India.

### Pala Sculpture

- Pala sculptures are known for their free-flowing movement. Almost all of the figurines are around the same size.



- Pala statues were known for their bronze casting.
- Under the patronage of the Pala kings, the Gupta legacy of sculptural art reached new heights, and the '**Pala School of Sculptural Art**' was born.
  - It is a medieval sculpture in the Eastern Style. Under the Palas, the art in Bengal contained many indigenous elements and lasted until the end of the 12th century.
  - **Stone** and **copper** statues were built in huge numbers in monastery places like Nalanda, Bihar Sharif, Rajgir, Bodh Gaya, Ghosranwan, and others.
- **Maheshwara** (influenced by Tantricism) was even more popular than Ganesha among the many Shaiva idols. During the 11th and 12th centuries, Vaishnava pictures were also created.
- The influence of **Tantricism** led to the addition of feminine, animal, and other elements to deity statues.

### Pala Painting

- The earliest examples of miniature painting in India exist in the form of illustrations of the religious texts on Buddhism executed under the Palas of eastern India and the Jain texts executed in western India during the 11th–12th centuries A.D.

- Manuscripts and wall paintings are the two types of artwork.



- Palm leaves were used to write manuscripts.
- Scenes from Buddha's life, as well as gods and goddesses from Mahayana sects, are shown in these paintings. Tantra's influence may clearly be seen in these paintings.
- The primary colours are red, blue, black, and white.
- Sinuous lines, delicate and nervous lines, sensuous elegance, linear and ornamental emphasis, and subtle colour tones are all hallmarks of Pala art.

### THRISSUR POORAM

- Thrissur Pooram, also known as the festival of festivals, has a more than 200-year tradition.
- Sakthan Thampuran, the former king of Kochi, initiated this wonderful festival.
- Festival-related festivities are held at the **Vadakkumnathan temple** in the centre of Thrissur town and the nearby Thekkinkadu field during the Malayalam month of Medam (April–May).
- The pooram festival is primarily contested by two factions representing the **Paramekkavu** and Thiruvambadi geographical divisions.
- Thiruvambadi and Paramekkavu goddesses are thought to be present at the pooram.



- Though Lord Krishna is the main deity of Thiruvambadi, Goddess Bhagavati is the second most important deity who participates in the pooram.
- Festival has the greatest traditional music available (Chembada Melam, Pandi Melam and Panchavadyam).

- The fondness of elephants in Thrissur is legendary. The most renowned elephants are paraded by Devaswoms in competition.

## TRADITIONAL MARTIAL ARTS IN KHELO INDIA GAMES

### Context:

- At Panchkula, Union Sports Minister Anurag Thakur unveiled the mascot 'Dhakad,' as well as the official logo and jersey for the Fourth Khelo India Youth Events, praising Haryana's efforts to host the games.

### Khelo India Programme

- The Khelo India programme has been introduced to revive the sports culture in India at the grass-root level by building a strong framework for all sports played in our country and establishing India as a great sporting nation.

### Khelo India Youth Games 2022

- Khelo India Youth Games 2022 is going to be held in Haryana.
- The mascot of the games is 'Dhakad'.
- Have introduced five traditional games like **gatka**, **thang-ta**, **kalaripayattu**, **mallakhamb** and **yogasana** in Khelo India Youth Games.

### Gatka

- Gatka, commonly known as Gatka art, is an old fighting style involving wooden sticks (stick-fighting).
- It's an Indian martial art having a connection to **Sikh heritage**.
- This art is a component of the broad arena of Sikh Shastar Vidiya, which includes the practice and use of numerous weapons as well as physical training by Sikh warriors known as Nihangs.



- Since the sixth Guru, Sri Guru Hargobind Ji, the Nihangs have carried down the spectacular skills of Shastar Vidiya, popularly known as Sikh Martial Art, through generations.
  - Sri Guru Gobind Singh Ji, the tenth Guru, was regarded as the best weapon master of his time.

### Thang-Ta



- The Manipuri martial art is called Thang-Ta (sword and spear). It is dedicated to fighting skill and worship. The Meitei creation of Thang-Ta goes back to antiquity.
- It is a popular term for the ancient Manipuri Martial Art known as **HUYEN LALLONG**. The art developed from the war environment of the tiny state of Manipur in North-east India, which was an independent kingdom since the early Christian era.

### Kalaripayattu



- It is a martial art that evolved as a style in Kerala during the 3rd and 2nd centuries BC.
- In Sangam literature, the word Kalari is used to designate both a battlefield and a fighting arena.
- It is also regarded as one of the world's oldest combat methods.

### Mallakhamb



- Mallakhamb is sometimes referred to be the "mother of all ancient Indian sports," although its exact roots are difficult to pinpoint.

- Mallakhamb is mentioned in ancient Indian epics such as the Ramayana, as well as ancient Chandraketugarh pottery from the second to first centuries BCE and records of Buddhist Chinese pilgrims to India.
- Mallakhamb is first mentioned in writing in an early 12th-century document called Manasollasa, written by Chalukya monarch Someshvara III, who reigned in what is now South India at the time.
- Mallakhamb appears to be a sort of aerial yoga or gymnastics done on a vertical pillar at first appearance (traditionally a Sheesham or Indian rosewood pole polished with castor oil).

Indian and World Geography-Physical, Social, Economic Geography of India and the World.

### CALL OF PORT: CHITTAGONG

#### Context:

Recently Bangladesh Prime Minister has offered India the use of the Chittagong Port as a connectivity solution towards NorthEast India.



India has obtained access to the key Chittagong Port after Bangladeshi Prime Minister Sheikh Hasina offered it. This is a significant breakthrough in India-Bangladesh relations.

#### What exactly is Chittagong Port?

- Bangladesh's main seaport is the Chittagong/Chattogram Port.
- It is located on the banks of the Karnaphuli River in the port city of Chittagong.
- The port handles 80% of Bangladesh's export-import commerce and has been utilised for trans shipment by India, Nepal, and Bhutan.
- It was the 58th busiest cargo port in the world in 2019, according to Lloyd's. The port is one of the world's oldest.
- With Chinese finance and assistance, Chittagong Port is being upgraded and modernised.
- China was largely assumed to maintain the right to use the port according to its own plans and requirements.

#### What is the significance of the port?

- The usage of Chittagong port was made feasible by a deal that allows Chittagong and Mongla ports to serve as transshipment hubs.
- The port is important to the North-Eastern States of India because it improves communication links of the North-East with mainland India and also with neighbouring countries.
- The distance, time, and cost of logistics for delivering goods will be reduced as a result.
- Currently, the road route from West Bengal to the Northeast spans about 1,200 kilometres.

### JUTE INDUSTRY IN WEST BENGAL

#### Context:

The Barrackpore MP wrote to the West Bengal Chief Minister, requesting her involvement in the mills' "arbitrary decision" to cap the price of raw jute met the union minister recently.

#### What is jute?

- Jute is a tall, resilient grass with each portion of it having multiple applications.
- It has a **four-month harvest period** starting from April/May
- During this four month, the leaves of jute can also be sold in vegetable markets.
- The fibre used to make jute items comes from the outer layer of the stem.
- Various committees have long called for a "**Golden Fibre Revolution**," but the jute industry is in desperate need of fundamental reforms.

#### The Importance of Jute

- **Jute requires very less water and fertilizer as compared to rice.**
- It is pest-resistant, and weeds have little chance against it because of its high growth rate.
- Jute is the world's second most plentiful natural fibre.
- It possesses **high tensile strength, acoustic and thermal insulation, breathability, low extensibility, and antistatic qualities**, as well as being easy to combine with synthetic and natural fibres.
- **Insulation (instead of glass wool), geotextiles, activated carbon powder, wall coverings, flooring, clothes, carpets, ropes, gunny bags, handicrafts, curtains, carpet backings, paper, sandals, carry bags, and furniture are all examples of jute's uses.**

#### State of Indian Jute Industry

- India is **the largest jute producer in the world, followed by Bangladesh.**
- West Bengal, Odisha, Assam, Meghalaya, Tripura, and Andhra Pradesh are the main producers of jute.
- There are approximately 70 jute mills in the country, with about 60 of them located along both sides of the Hooghly River in West Bengal.

- It is a labour-intensive business. It employs roughly two lakh people in West Bengal alone, and 4 lakh people nationwide.

### MAHARASHTRA BECOMES LARGEST SUGAR PRODUCER

#### Context:

- After a five-year break, **Maharashtra** has reclaimed its status as India's top sugar producer, surpassing Uttar Pradesh (UP).
- The state expects to produce **138 lakh tonnes** in the crushing year 2021-22 (October-September).
  - This is a new high, surpassing the previous record of 107.21 lt in 2018-19.

| TOP SUGAR PRODUCING STATES<br>(IN LAKH TONNES) |             |                  |           |         |           |
|------------------------------------------------|-------------|------------------|-----------|---------|-----------|
| YEAR<br>(OCT-SEP)                              | MAHARASHTRA | UTTAR<br>PRADESH | KARNATAKA | GUJARAT | ALL-INDIA |
| 2013-14                                        | 76.85       | 64.87            | 41.77     | 11.77   | 243.60    |
| 2014-15                                        | 105.07      | 71.01            | 49.35     | 11.54   | 283.13    |
| 2015-16                                        | 84.24       | 68.55            | 40.49     | 11.68   | 251.25    |
| 2016-17                                        | 42.38       | 87.73            | 21.44     | 8.85    | 202.62    |
| 2017-18                                        | 107.05      | 120.50           | 36.58     | 10.67   | 323.28    |
| 2018-19                                        | 107.21      | 118.22           | 44.29     | 11.23   | 331.62    |
| 2019-20                                        | 61.70       | 126.37           | 35.00     | 9.30    | 273.85    |
| 2020-21                                        | 106.30      | 110.59           | 44.65     | 10.50   | 311.20    |
| 2021-22*                                       | 138.00      | 104.00           | 60.00     | 12.00   | 355.50    |

\*Projected

### Indian Polity and Governance

#### RAJYA SABHA ELECTIONS

#### Context:

The Rajya Sabha election to fill vacant seats will take place on June 10. The elections will be held for 57 seats across 15 states. This biennial election this time is crucial as the Presidential elections are due in July. Seven seats of nominated members are also vacant.

#### What exactly is Rajya Sabha ?

- The Rajya Sabha has **245 members** and the majority mark stands at 123.
- Members of Rajya Sabha are elected through the **proportional representation process** with the **single transferable vote (STV) system**.
- India's parliamentary system is **based entirely on that of England**. The Parliament is divided into two chambers: the upper and lower houses.
- The members of the lower house, the Lok Sabha and the House of Commons, are directly elected by citizens in general elections.
- The outcome of this election will determine who forms the country's administration.
- Members of the upper chamber, India's Rajya Sabha and the United Kingdom's House of Lords, are elected indirectly.

- The Rajya Sabha, like the Lok Sabha, allot **a fixed number of candidates to each state based on its population**.
- The Rajya Sabha's composition varies whenever a new state is founded or many states are merged. The **Constitution, however, places a limit on the number of members in the Rajya Sabha is 250**.
- Currently there are 245 members (including vacancies) in the House, with **12 of these members being nominated by the President**.
- A Rajya Sabha Member of Parliament serves for six years rather than the five years that a Lok Sabha Member of Parliament serves, and elections for 33 percent of the seats are held every two years.

#### How is Election Process process for Rajya Sabha?

- Election Process:** Members of the Rajya Sabha are chosen using the **single transferable vote (STV) system and proportional representation**.
- Instead of voting for each seat directly, the elected members of the state legislative assembly rank all of the candidates **running for election in order of preference for getting elected**.
- In order to win the election, the candidate needs a particular quota of votes. Which is determined by the below formula:

$$\text{required votes} = \frac{\text{Total no of MLAs}}{\text{No of vacancies} + 1} + 1$$

The votes are then tabulated for each candidate running for election using the MLA's preference list.

- If there is no clear winner, **then the first preference votes of the already won candidate is transferred to the second preference** to get the winner.
- The process is repeated until all candidates have been elected or have dropped out.

#### LEGISLATIVE COUNCIL ELECTIONS

#### What is a legislative council ?

India has a bicameral legislature, which consists of two Houses of Parliament. The Legislative Assembly is the state's counterpart of the Lok Sabha, while the Legislative Council is the state's equivalent of the Rajya Sabha.

#### What is the Composition of the Legislative Council ?

- Strength of the State Legislative Council:** As per **article 171 clause (1) total member** cannot be more than one third of the membership of the State Legislative Assembly. And also **total members cannot be less than 40 members**.
- The Chairman and Deputy Chairman of the State Legislative Council are elected by these members.
- Members of Legislative Council (MLCs) are chosen in the following manner:

- **1/3rd:** to be elected by the members of local bodies such as Municipalities, Gram panchayats, Panchayat Samitis and District Councils.
- **1/3rd:** to be elected by the members of the State Legislative Assembly from among the persons who are not members of the State Legislative Assembly.
- **1/6th:** to be nominated by the Governor from persons having knowledge or practical experience in fields such as literature, science, arts, the co-operative movement and social services.
- **1/12th:** to be elected by persons who are graduates of three years' standing residing in that state.
- **1/12th:** to be elected by teachers who had spent at least three years teaching in educational institutions within the state not lower than secondary schools, including colleges and universities.

### Tenure

- a continuing chamber, that is, it is a permanent body and is not subject to dissolution
- The tenure of the MLCs is six years.
- 1/3rd of the members of the State Legislative Council retire after every two years
- The vacant seats are filled up by fresh elections and nominations by the Governor at the beginning of every third year.

### How does the election of MLC by the members of the assembly take place?

- Elections to the members of legislative council elected by legislative assembly members council are conducted by ECI.
- These elections are indirect elections. The Constitution has adopted Proportional representation with a Single Transferable vote system to conduct these elections.
- Unlike the presidential election these are open ballot elections.

## CHIEF ELECTION COMMISSIONER

### Context:

Rajiv Kumar, the Election Commissioner, took over as the new **Chief Election Commissioner (CEC)**, according to the Union Ministry of Law and Justice.

### Election Commission of India

- It is an **autonomous constitutional body** responsible for administering Union and State election processes in India. The Commission was established in accordance with the Constitution on 25th January 1950.

- It administers **elections to the Lok Sabha, Rajya Sabha, State Legislative Assemblies in India, and the offices of the President and Vice President** in the country.
  - **Article 324(1)** provides for Superintendence, direction and control of elections to be vested in the Election Commission.

### Composition of the Commission

- According to **Article 324(2)**
  - The Election Commission shall be composed of the **Chief Election Commissioner** and **such other Election Commissioners** as the President may determine from time to time.
  - The **President** shall appoint the Chief Election Commissioner and other Election Commissioners, subject to the provisions of any law passed by Parliament in this regard.
- **Article 324 (3):** When any other Election Commissioner is so appointed the Chief Election Commissioner shall act as the Chairman of the Election Commission.
- After consulting with the election commission, the president may appoint any **regional commissioners** he deems essential to assist the election commission.
- The conditions of service and tenure of office of the Election Commissioners and the Regional Commissioners shall be such as the President may by rule determine.

### Tenure

- The **President appoints** Chief Election Commissioner and Election Commissioners.
  - They have **tenure of six years**, or up to the **age of 65 years**, whichever is earlier.
- The **Chief Election Commissioner** can not be removed from his office except in the like manner and on the like grounds as a **Judge of the Supreme Court**.
  - Any other Election Commissioner or a Regional Commissioner can not be removed from office except on the **recommendation of the Chief Election Commissioner**.

Originally the commission had only a Chief Election Commissioner. It currently consists of the Chief Election Commissioner and two Election Commissioners.

## WORLDWIDE GOVERNANCE INDICATORS (WGI) PROJECT

### Context:

- India's scores were "far below" those of its neighbours on all categories in a review of the World Bank's WGI, a vital element **of India's sovereign ratings**.
- Think tanks, polling organisations, and foreign media outlets like Freedom House, Economist Intelligence Unit, etc. are some of the data sources that can result in a downgrade of a sovereign rating.

## About WGI Project

The Worldwide Governance Indicators (WGI) project reports aggregate and individual governance indicators for over 200 countries and territories over the period 1996–2020, for six dimensions of governance:

1. Voice and Accountability
2. Political Stability and Absence of Violence/Terrorism
3. Government Effectiveness
4. Regulatory Quality
5. Rule of Law
6. Control of Corruption

- These aggregate indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries.
- They are based on over 30 individual data sources produced by a variety of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms.

**Economic and Social Development – Sustainable Development, Poverty, Inclusion, Demographics, Social Sector initiatives, etc.**

### AKRUTI PROGRAMME

#### Context:

- The Nuclear Power Corporation of India Limited (NPCIL), which is equipping unemployed youth in 16 village panchayats in the Tarapur Atomic Power Station (TAPS) colony with technological entrepreneurial skills through its **Advanced Knowledge and Rural Technology Implementation (AKRUTI) programme**, is preparing to launch similar initiatives in villages surrounding the Kudankulam Nuclear Power Project (KKNPP).

## Advanced Knowledge and Rural Technology Implementation (AKRUTI) programme

- **BARC** is the Department of Atomic Energy's leading multifunctional research and development centre.
- BARC's nuclear energy research has not only resulted in a complete Indian nuclear power programme, but also in a vast amount of information in the form of **Non-Power Applications (NPAs)** and **spin-off technologies** (Spin-offs) with social and industrial advantages.
- A systematic programme for Advanced Knowledge and Rural Technology Implementation (**AKRUTI**) has been developed under the DAE Societal initiative, based on the creation of NPAs and Spin-offs in **medical**, food preservation, waste management, and other industrial and rural applications at BARC.

- **Entrepreneurs** have implemented NPAs and Spin-offs and fostered technopreneurship in rural regions as part of the AKRUTI initiative.
- AKRUTI Technology Package was renamed **AKRUTI Technology Plus** in June 2020.

### Tarapur Atomic Power Station (TAPS)

- The Tarapur Atomic Power Station (TAPS) is **India's oldest nuclear** power facility, located near **Boisar in Maharashtra**.
- Two **120MW** boiling water reactors (BWR) were commissioned in October 1969, and two pressurised heavy water reactor (PHWR) units were commissioned in 2005 and 2006.

The Tarapur nuclear power station, which is owned and maintained by the state-run Nuclear Power Corporation of India (NPCIL), celebrated its 50th anniversary in October 2019.

### Kudankulam Nuclear Power Plant (KNPP)

- The Kudankulam Nuclear Power Plant (KNPP) is located in the Tirunelveli region of Tamil Nadu, India, some 650 kilometres south of Chennai. The Nuclear Power Corporation of India is working on it (NPCIL).

Phase one of the project saw the construction of two 1,000 megawatt (MW) pressurised water reactor (PWR) units based on Russian technology. According to the deal made between India and Russia in December 2008, an extra four units would be installed.

### UNIQUE DISABILITY ID

#### Context:

The Union **Ministry of Social Justice and Empowerment (MoSJE)** has recently requested that states expedite the implementation of the Unique Disability ID (UDID) scheme for persons with disabilities (PwD) in 75 districts across India.

### What is the Unique Disability ID (UDID) scheme?

- UDID scheme is an initiative of the Government of India since 2016 which aims at building a holistic end-to-end integrated system for Issuance of Universal ID & Disability Certificates for Divyangjan for their identification and disability details.
- It will ensure complete digitization of certification of disability and a viable mechanism for cross-checking genuineness of the certificate to achieve pan-India validity.
- The UDID scheme is being implemented with a view of creating a National Database for PwDs, It includes –
  - Through a centralized web application, data about people with disabilities may be accessed online from anywhere in the country.

- Online registration and submission of disability certificate/Universal ID card application forms; offline applications may also be accepted and digitised by authorities.
- Quick Assessment process for calculating the percentage of disability by the hospitals/ Medical Board
- Non-duplication of PwDs data
- Persons with Disabilities/on their behalf can renew and amend their information online.

### What are Benefits of UDID?

The UDID card shall bring a host of benefits to the Persons with Disabilities as given below:

- The card will collect all of the relevant facts, which can be decrypted with the help of a reader, thus PwD/Divyagjan will not need to produce numerous copies of documents, maintain, or carry various documents.
- In the future, the UDID card will be the only proof of identity and verification for disabled people seeking various benefits.
- The UDID Card will also make it easier to track beneficiaries' physical and financial success at all levels of the implementation hierarchy, including village, block, district, state, and national levels.

### KVIC INITIATIVES UNDER PMEGP

#### Context:

As many as 150 trained Khadi artisans including 100 women artisans in Assam and Arunachal Pradesh are associated with various self-employment activities of Khadi and Village Industries Commission (KVIC).

#### KVIC-PMEGP

It is a credit-linked subsidy programme aimed at creating jobs in the non-farm sector in both rural and urban areas by establishing micro-enterprises.

- The Scheme began in 2008.
- It's a Central Sector scheme.
- The programme is run by the Ministry of Micro, Small and Medium Enterprises (MSME).
- At the national level, the Khadi and Village Industries Commission (KVIC) is in charge of implementing the programme. It is the single point of contact for the program's implementation.
- At the state level, the Scheme is carried out through banks, District Industries Centres (DICs), State KVIC Directorates, and State Khadi and Village Industries Boards (KVIBs).
- Individuals over the age of 18, Self Help Groups (SHGs), Cooperative Societies active in manufacturing, and institutions established under the Societies Registration Act of 1860 are all eligible to participate in this programme.
- While developing the project, there is no income cap.

- Only new units are eligible for assistance under the plan, as are units that have received government subsidies under either state or central government schemes; existing units are not eligible for subsidy under the PMEGP.
- A minimum of 75 projects will be given to each district in order to ensure inclusive growth across the country.
- Physically disabled, OBC, SC/ST, women, and applicants from the **North Eastern region (NER)** in rural regions are eligible for a higher subsidy rate.

### KISAN DRONES

#### Context:

Minister of Civil Aviation Shri Jyotiraditya M Scindia today interacted with various farmers across the country on the benefits and challenges of Kisan Drones.

#### Kisan Drones

- An unmanned tank stocked with insecticides and fertilisers will be mounted on the Kisan drone.
- The drones will have a high capacity of 5 to 10 kilogrammes.
- In approximately 15 minutes, the drone will spray the same amount of pesticide over one acre of land.
- It will save time, labour, and ensure that spraying is done consistently.
- They will also be used to transport vegetables, fruits, seafood, and other farm products to markets.
- These commodities will be delivered to the market with minimal damage and in less time, allowing farmers and fishermen to earn more money.

#### Significance

- Kisan Drones will be employed to strengthen the country's agriculture economy.
- Kisan Drones will be promoted for crop evaluation, land record digitization, and insecticide and nutrient spraying.
- High-capacity drones will be used to transport veggies, fruits, and seafood directly from farmers to markets, ushering in a new edge revolution.
- The growth of the drone sector in India will create new jobs and opportunities for Indian youngsters.

### MALAVIYA MISSION



**Pandit Madan Mohan Malaviya National Mission on Teachers & Teaching (PMMNMTT):**

- The Government of India's Ministry of Education launched the Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMTT).
- The scheme's goal is to improve school and higher education quality by addressing all issues relating to teachers, teaching, teacher preparation, professional development, Curriculum Design, Designing and Developing Assessment and Evaluation methodology, Research in Pedagogy, and developing effective Pedagogy.
- It is a Central Sector Scheme which was launched in December 2014.

### Aim of the mission:

- To provide quality teachers in schools and colleges.
- To attract talented people in the education sector and
- To improve quality in teaching.
- To set the teaching standard so that an organized cadre of professional teachers can be created.

### Objective of the mission:

- To develop innovative teaching methods and high-level institutional facilities in all the constituent areas of education.

### Strategies of the Mission:

- **Programmatic and scheme based interventions:** pre-service & in-service training through existing and new institutional structures, new academic programmes & courses, strengthening post-graduate and doctoral programmes, pre-scheduling year-long training calendars, online training;
- **Project-based activities:** ICT based training, training of Mathematics, Science, Language teachers for schools, Core science & engineering courses in technical education, general courses in social sciences, humanities and vocational courses.

### Deliverables of the Mission:

- Over one lakh qualified teachers for schools, general and technical education colleges and universities across various disciplines.
- Induction of an adequate number of SC, ST, OBC, Minorities and Women
- Creation of a sufficient base of teacher educators and promote excellence in faculty for academic leadership positions
- Creation of around 87 new institutional structures.
- Creation of subject-based networks in different disciplines.

### GOVERNMENT SOCIAL SECURITY SCHEMES

- On the 7th anniversaries of three social security (Jan Suraksha) schemes, Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), and Atal Pension Yojana (APY), let us

reflect on how these schemes have provided people with affordable insurance and security, as well as their achievements and salient features.

**Schemes under Ministry of Finance**  
which have benefited the women in India

| Atal Pension Yojana (APY)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)                                                                                                                                                                                                                                                                                                                                                                | Pradhan Mantri Suraksha Bima Yojana (PMSBY)                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>It envisages a universal social security system for all Indians, specially the poor and the under-privileged by offering guaranteed minimum monthly pension of Rs. 1000 -Rs. 5000 at the age of 60 years.</li> <li>more than 93 lakh subscribers (43%) out of a total of around 2.15 crore subscribers under APY are women. (As on 22.02.2020)</li> <li>Enrolment of women under APY has shown a steady increase from 37% (December 2016) to 43% (February 2020).</li> </ul> | <ul style="list-style-type: none"> <li>The objective of this scheme is to create a social security system for the poor and underprivileged in the age group of 18-50 years by providing a renewable life insurance cover of Rs.2 lakhs with just a premium of Rs.330.</li> <li>Under PMJJBY, 40.70% enrollments are of women members and 58.21% of claim beneficiaries are women. (As on 31.01.2020)</li> </ul> | <ul style="list-style-type: none"> <li>The objective of this scheme is to provide a very affordable insurance scheme for the poor and underprivileged people in the age group of 18 to 70 years with a bank account at a premium of Rs.12 per annum; risk coverage of Rs.2 lakhs for accidental death and full disability and Rs.1 lakh for partial disability.</li> <li>Under PMSBY, 41.50% enrollments are of women members and 61.29% of claim beneficiaries are women. (As on 31.01.2020)</li> </ul> |

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### PURCHASING MANAGERS' INDEX (PMI)

- Even as inflationary pressures increased, India's manufacturing sector saw a small increase in new orders and production in April, according to the S&P Global India Manufacturing **Purchasing Managers' Index (PMI)**, which jumped to 54.7 from 54 in March.
- A result of more than 50 on the survey-based index suggests that business activity is increasing.

### Purchasing Managers' Index (PMI)

The Purchasing Managers' Index (PMI) is a measure of business activity in the manufacturing and service industries. It is a survey-based metric that inquires about changes in respondents' perceptions of important business factors from the previous month. It is calculated individually for the manufacturing and service sectors before being combined to form a composite index.

### SKILL INDIA INTERNATIONAL CENTER IN VARANASI

#### Context:

- India and the United Arab Emirates have committed to work together to build and strengthen a comprehensive institutional framework for including all essential stakeholders in expanding skills-based cooperation.
- A Memorandum of Understanding (MoU) was signed between **NSDC International (NSDCI)** and Hindustan Ports Private Limited, a subsidiary of DP World, to establish a **Skill India International Centre** in Varanasi to train Indian youngsters for abroad jobs in logistics, port operations, and related fields.
- The Skill India International Centre in Varanasi would provide international-standard training to candidates, preparing them for worldwide markets.
- It is noted that this Memorandum of Understanding will assist in boosting the UAE-India connection and increasing labour productivity.

### What is the purpose of Skill India International Center?

- The purpose of the Skill India International Centres is to provide **high-quality training** to **Indian youth**.
- The centres will house **training facilities** that will provide **skills in demand** by worldwide companies in nations such as the United Arab Emirates (UAE), Canada, Australia, and the Gulf Cooperation Council (GCC).
- In order to simplify the supply of qualified and certified workers in other countries, the Skill India International Centres will have a **large network of partnering organisations** and **international recruiters**.
- These organisations will **collaborate** with NSDCI to aggregate demand from international marketplaces.
- Mobilization, counselling, skill training, pre-departure orientation, foreign language training, placement, and immigration and post-placement support will all be available at the centres.

### What is the Skill India Mission?

- The Skill India Mission is a government initiative that began in 2015. It is an umbrella programme that encompasses a variety of skilling methods and programmes.
- The main goal is to provide the country's youth with adequate skill sets that will allow them to work in relevant areas and increase productivity.
- Weavers, cobblers, carpenters, welders, masons, blacksmiths, nurses, and other traditional occupations are all offered training, advice, and assistance by the mission.
- New domains will be emphasised as well, such as real estate, transportation, construction, gem industry, textiles, banking, jewellery design, tourism, and other areas where skill levels are lacking.

### What is NSDC International Limited (NSDCI)?

- NSDC International Ltd. is a subsidiary of National Skill Development Corporation.
- National Skill Development Corporation has a subsidiary, NSDC International Ltd.
- The NSDCI is driving the Skill India International Mission to make India the world's skill capital.
- The vision is to make India a preferred partner for sourcing competent and certified workers all around the world.
- Its goal is to establish a globally benchmarked quality skills ecosystem and secure its position as a worldwide talent supplier.
- It provides resident Indians with global job prospects and overseas Indians with global career mobility.

### E-SHRAM PORTAL

- The portal officially launched in August 2021 with the goal of developing a national database of

unorganised workers and making social security systems more accessible to them.

### What is the proposal?

- According to the Ministry, talks are on to link the e-Shram site to the **Pradhan Mantri Suraksha Bima Yojana**.
- Workers will be able to receive **direct benefit transfers** (DBT) through their **e-Shram unique ID** number under the plan.

### e-Shram Portal

- The Ministry of Labour & Employment has developed e-SHRAM portal for creating a **National Database of Unorganized Workers (NDUW)**, which will be seeded with Aadhaar.
- It will have **details of name, occupation, address, occupation type, educational qualification, skill types and family details** etc. for optimum realization of their employability and extend the benefits of the social security schemes to them.
- It is **the first-ever national database of unorganised workers** including migrant workers, construction workers, gig and platform workers, etc.

### Pradhan Mantri Suraksha Bima Yojana (PMSBY)

- The Scheme is available to people in the age group **18 to 70 years** with a bank account who give their consent to join / enable auto-debit on or before 31st May for the coverage period 1st June to 31st May on an annual renewal basis.
- **Aadhar** is the primary KYC for the bank account.
- The risk coverage under the scheme is **Rs.2 lakh** for accidental death and full disability and **Rs. 1 lakh** for partial disability.
- The premium of **Rs. 12 per annum** is to be deducted from the account holder's bank account through 'auto-debit' facility in one instalment.

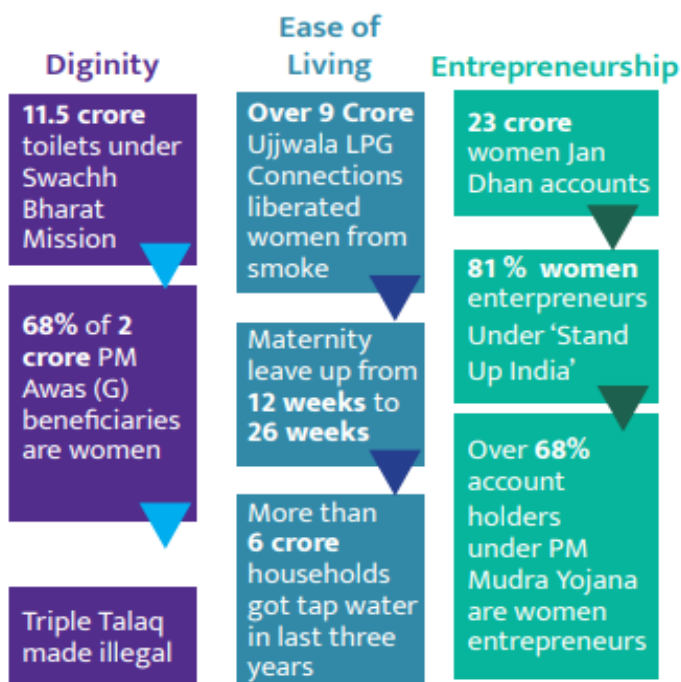
### WOMEN EMPOWERMENT SCHEMES IN THE LAST 8 YEARS

Suggested reading: <https://bit.ly/3Mijrz2>

### Context:

- On May 31, the Modi government completed its eighth year in office. Since regaining power in 2019, it has completed numerous significant agenda items.
- In the run-up to **Azadi Ka Amrit Mahotsav**, the government has proclaimed a new era of "**nari shakti**."
  - Currently, programmatic interventions demonstrate India's successes in **gender mainstreaming**, not just in text but also in spirit.

## Improvement in the lives of women



### Schemes and Programmes for Women empowerment

- The Pradhan Mantri Matru Vandana Yojana (PMMVY)** : formerly known as the Maternity Benefit Programme, has been contributing to a better enabling environment by giving economic incentives to pregnant or breastfeeding mothers for improved health and nutrition.
- The Pradhan Mantri Mahila Shakti Kendra initiative** encourages community engagement by involving student volunteers in the empowerment of rural women.
- The National Creche Scheme** provides day care services for working women's children aged 6 months to 6 years.
- Rastriya Mahila Kosh (RMK)** would give micro-credit to underprivileged women on concessional conditions for different livelihood and income-generating activities in a client-friendly approach to help them achieve socio economic development.
- Swadhar Greh** would give assistance and rehabilitation to poor and distressed women.
- Ujjawala** is a Comprehensive Scheme for the Prevention of Trafficking, as well as the Rescue, Rehabilitation, Reintegration, and Repatriation of Trafficking Victims for Commercial Sexual Exploitation.
- One Stop Centre (OSC)** and **Women Helpline (WH)** schemes are being established to provide women victimised by violence with access to an integrated range of services such as medical aid, police help,

legal aid/case management, psychological therapy, and temporary support services.

- The Gender Budgeting Scheme** is being adopted as a tool for mainstreaming gender perspectives at all levels of policy/program development, budgeting, implementation, impact evaluation, and reviewing of policy/program objectives and allocations.
  - The Scheme contributes to the improvement of institutional structures as well as the training of diverse stakeholders in order to mainstream gender concerns in the Central and State Governments.
- National Nutrition Mission (NNM)**: The Government of India has authorised the establishment of the National Nutrition Mission (NNM), which will begin in 2017-18.
  - As the apex organisation, the NNM will monitor, supervise, set objectives, and steer nutrition-related actions across Ministries.
  - The initiative will attempt to minimise stunting, undernutrition, anaemia, and low birth weight newborns through the use of objectives.
- Beti Padhao and Beti Bachao** : The project, which was launched with an initial financing of Rs.100 crore, intends to address the issue of diminishing child sex ratio image (CSR) and is a national effort conducted jointly by the Ministries of Women and Child Development, Health and Family Welfare, and Human Resource Development.
  - Beti Bachao Beti Padhao (BBBP) is a comprehensive programme that is being implemented to address the falling Child Sex Ratio (CSR) and related concerns of women's empowerment across the life cycle.
- Sukanya Samridhi Yojana** : This is Government of India-backed saving plan, part of the 'Beti Bachao, Beti Padhao' campaign, aimed at the parents of female children.
  - The initiative encourages families to save for their female child's future schooling and marriage expenditures.
  - Parents can begin saving early because the minimum investment is minimal and the account is operational for 14 years from the date of establishment.

### NATIONAL ACHIEVEMENT SURVEY (NAS)

- The **National Achievement Study (NAS)**, which is a nationally representative, large-scale study of students' learning, is conducted by the Ministry of Education of the Government of India.
- The National Assessment of Educational Efficacy (NAS) assesses the state of the country's educational system by surveying children's learning abilities in grades 3, 5, 8, and 10.
- Every three years, the survey is performed, with the most recent one taking place in 2017.

- The findings can be used to compare performance across the spectrum and among populations in order to find the optimal path to improvement.

### DEPRECIATING RUPEE

#### Context:

Recently, The rupee hit an all-time low of 77.44 against the US dollar, owing to a sell-off in equity in the global market, currency outflows, and fears of RBI tightening monetary policy announcement leading to depreciation of the rupee.

#### Why has the Rupee depreciated?

##### Global market

- to a sell-off in equities on concerns about faltering global economic growth prospects
- The increase in interest rates by the US Federal Reserve caused a sell-off in global equity markets.
- Ongoing geopolitical tension in Europe
- Growth recovery concerns due to the recent COVID-19 surge in China,

##### Domestic market

- Fears of growing inflation and measures of RBI to tighten monetary policy to combat it.

#### What are the impacts of the Indian rupee's Depreciation?

For the Indian Economy, rupee depreciation is a double-edged sword. Impacting economy in positive as well as the negative ways in the following way

##### Positive impacts:

- Exports may benefit from a weaker currency due to a decrease in the cost of production.
- Reduction in import bill on fuel import in the Fiscal year
- Improving the Foreign Exchange Reserve of RBI and External Debt of Government of India.
- The cost of fuel may reduce in the short term, thus stabilizing the inflation in the Indian Economy.

##### Negative Impacts:

- It raises the danger of imported inflation
- makes it more difficult for the RBI to keep interest rates around zero for an extended period of time.
- Rise in the import bill due to import of fuel.
- Increased Cost of Credit for borrowers in the Indian economy.
- Increased burden of interest payment on the loans taken by the government of India.

General issues on Environmental Ecology, Biodiversity and Climate Change – that do not require subject specialisation

### SELA MACAQUE

#### Context:

- Recently, a new species of old world monkey recorded from Arunachal Pradesh has been named after a strategic Sela mountain pass as the Sela macaque .
- Sela is located in western Arunachal Pradesh, between the towns of **Dirang and Tawang**.

#### About Sela Macaque:

- The Sela macaque belongs to the *Macaca sinica* species group. However, it is distinguished from the rest of the group by features such as brown collar hair and muzzle, as well as the lack of chin whiskers.



#### What is the protection status of the macaque?

- The macaque is not yet included in any schedule of the Wildlife (Protection) Act, 1972 in India.
- It is also **not recorded** in the IUCN's Red Book Data.

#### Where is Sela Pass?

- The Sela Pass (also known as Se La) is a high-altitude mountain pass in Arunachal Pradesh that runs between the Tawang and West Kameng districts.
- It connects the Indian Buddhist town of Tawang with Dirang and Guwahati at a height of 4170 m (13,700 feet).
- The National Highway 13 (formerly NH 229) runs through the pass, linking Tawang to the rest of India.
- The pass has a limited quantity of flora and is normally snow-covered at least part of the year. Sela Lake, near

the pass's peak, is one of the area's approximately 101 sacred lakes according to Tibetan Buddhism.

- Despite the fact that Sela Pass receives a lot of snow in the winter, it is normally open all year unless landslides or snow force it to close.



### What is the Sela Tunnel project?

- It is a strategic tunnel project being constructed by the Border Roads Organisation to provide all weather connectivity to Tawang to the rest of India.
- The tunnel is being built beneath India's Sela Pass, which stands at 4,200 m (13,800 feet) and is part of the Trans-Arunachal Highway system.
- A new 12.4-kilometer road will connect it to NH 13 and cut the travel time between Dirang and Tawang in half.
- It includes two tunnels and a link road; Tunnel 2 will be one of the longest tunnels to have been constructed above an altitude of over 13,000 feet.
- The total length of the project, including the tunnels, the approach and the link roads, will be around 12 km.

## TORTOISE CONSERVATION

### Context:

Over 400 tortoises are in the pond of Thoroth Addukath Bhagavathi Temple in Kasaragod as the temple has been protecting and conserving various tortoise species for several centuries.

### How is the tortoise related to the Thoroth Addukath Bhagavathi Temple in Kasaragod?

- There is a belief among the devotees of the Thoroth Addukath Bhagavathi Temple that offering rice (*nivedya chor*) to tortoises will redeem them from their sins and cure their skin-related ailments.
- Tortoises are protected and conserved in the naturally formed pond (aamakulam), spread over two acres of temple land.
- There is a sculpture of Kurmavatara who is considered to be second of the ten incarnations of Lord Mahavishnu, on the *mandapam*.
- The myth has it that when Goddess Bhagavathy was in the pond, a tortoise appeared. The Goddess

realised that it was no ordinary tortoise. The tortoise revealed his real identity of Lord Mahavishnu. The Goddess requested him to appear for devotees and cure their diseases



### World Turtle Day

It was launched by American Tortoise Rescue (a nonprofit organization) in 2000. It is now celebrated throughout the globe annually on May 23rd.

### What are the other types of Turtles?

#### Olive Ridley Turtles

- They are the **smallest and most abundant sea turtles** found in the world.
- These **carnivorous turtles** got their name from their olive-colored carapace.
- They are well-known for their unique mass nesting known as **Arribada**, in which thousands of females gather on the same beach to lay eggs.

#### Habitat

- They can be found in the **Pacific, Atlantic, and Indian oceans**.
- The **Gahirmatha Marine Sanctuary** in Odisha is home to the world's largest sea turtle rookery (a colony of breeding animals).

#### Protection Status

- **Schedule 1** of the Wildlife Protection Act, 1972
- **Vulnerable** on the IUCN Red List
- CITES **Appendix I**

#### Leatherback turtles



- They are named for their shell, which is leather-like rather than hard, like other turtles.

- They are the largest sea turtle species and also one of the most migratory, crossing both the Atlantic and Pacific Oceans.
- Pacific leatherbacks migrate from nesting beaches in the Coral Triangle all the way to the California coast to feed on the abundant jellyfish every summer and fall.
- Although their distribution is wide, numbers of leatherback turtles have seriously declined during the last century as a result of intense egg collection and fisheries bycatch.
- Globally, their status according to IUCN is listed as Vulnerable

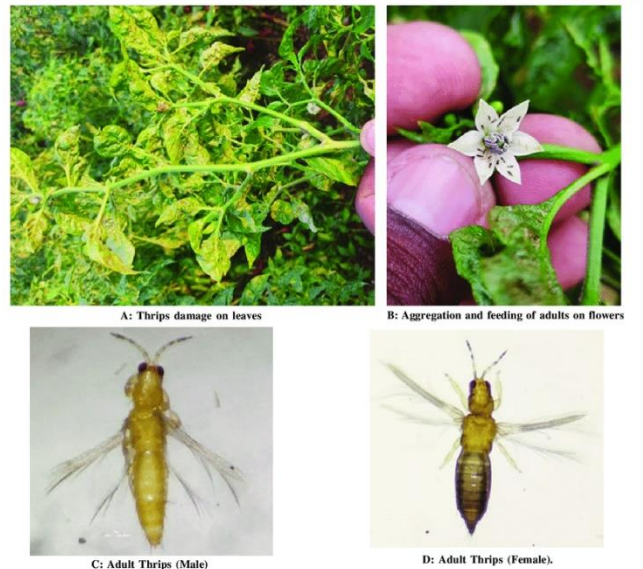
#### Indian star tortoise



- It is a species of tortoise found in dry areas and scrub forests of India, Pakistan and Sri Lanka. It is accustomed to monsoon seasons. These tortoises are easily recognizable by their star-patterned shells.
- Its IUCN status is Vulnerable. It falls under Schedule IV of Wild Life Protection Act 1972 while it is listed in Appendix I of CITES

#### THRIPS PARVISPINUS

- A new kind of insect is wreaking havoc on the **chilli crop in several southern Indian states**.
- It is an Indonesian invasive bug species. It was detected for the first time in India in 2015.
- The bug species is wreaking havoc on flowering plants and impeding fruit development.
- **Each female Thrips lays eggs through Parthenogenesis** (without the need for a male) and feeds on the sap of leaves, flowers, and fruits, wreaking havoc on the crop in no time.
- **Reason for spread:** Farmers' indiscriminate use of pesticides, whether consciously or unknowingly, has been the primary cause of this insect gaining pesticide tolerance and the extinction of its 'natural enemies' in the field.
- As an immediate cure, scientists advise farmers to use integrated pest control strategies such as spraying neem oil and employing bio-pesticides.



#### AMRIT SAROVAR MISSION

##### Context:

- On May 13, 2022, the country's first "Amrit Sarovar" will be opened in **Patwai, Rampur (UP)** by Union Minister for Minority Affairs Shri Mukhtar Abbas Naqvi and Uttar Pradesh Jal Shakti Minister Shri Swatantra Dev Singh.
- He stated that the **participation and collaboration of the general public, villagers, and the promptness of the Gram Panchayat and the District Administration** played a significant role in the rapid opening of this big "Amrit Sarovar."

##### What is Amrit Sarovar Mission?

- In April 2022, the Amrit Sarovar Mission was launched with the goal of **conserving water for the future**.
- The Mission **works through** States and Districts, emphasising several initiatives such as the **Mahatma Gandhi NREGS, XV Finance Commission Grants, PMKSY sub-schemes such as Watershed Development Component and Har Khet Ko Pani**, as well as State-specific schemes.
- The location of the Amrit Sarovars will be approved by a special Gram Sabha, which will also name a **Panchayat Partinidhi** to oversee the development of the Amrit Sarovar on its behalf.
- **Participating Ministries/Departments:** Department of Rural Development, Department of Land Resources, Department of Drinking Water and Sanitation, Department of Water Resources, Ministry of Panchayati Raj, and Ministry of Forest, Environment, and Climate Change are among the ministries and departments involved.
- **Technical Partner:** Bhaskaracharya National Institute for Space Application and Geoinformatics is a technical partner (BISAG-N).
- **Duration of the Mission:** Mission Amrit Sarovar is scheduled to be completed by August 15, 2023.

##### What is the objective of Amrit Sarovar Mission?

- As part of the Azadi Ka Amrit Mahotsav, the Mission aims to improve and **rejuvenate 75 water bodies** in each district in the country.
- It would result in the production of 50,000 water bodies, each roughly an acre in size or more.
- Each Amrit Sarovar will be 1 acre in size and have a 10,000 cubic metre water storage capacity.

### NEW SPECIES OF SNAKE FOUND IN MEGHALAYA

- Trimeresurus mayae**, or **Maya's Pit viper**, was found by a team of **herpetologists** at Umroi Military Station in the **Ri-Bhoi region of Meghalaya**.
  - The snake was **named after Col Yashpal Singh Rathee's late mother, Maya**, and resembled Pope's pit viper save for the colour of the eyes.
  - Further investigation revealed that the species and Pope's pit viper had quite different **hemepenis** (the copulatory organ).



### GM TOMATOES

#### Context:

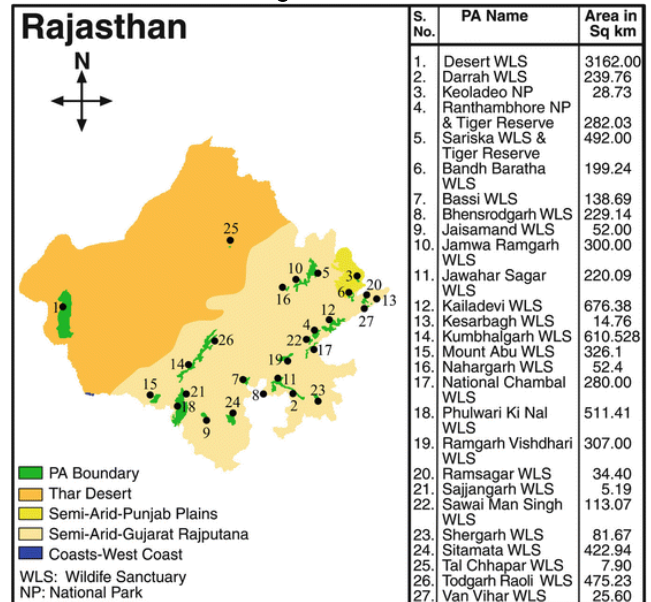
A study published in Nature Plants aims to combat vitamin D shortage by genetically altering tomato (*Solanum lycopersicum*) plants so that the fruit includes a considerable amount of provitamin D3, a precursor to vitamin D production in humans.

#### What is GM Tomato ?

- A genetically modified tomato is a tomato that has had its genes modified, using genetic engineering.
- The first trial genetically modified food was a tomato engineered to have a longer shelf life (the Flavr Savr), which was on the market briefly beginning in 1994. The first direct consumption tomato was approved in Japan in 2021.
- Primary objective was to develop a tomato with:
  - increased resistance to pests or environmental stresses,
  - to enrich tomatoes with nutrients and vitamins,
  - Increase the shelf life of tomato

### RAMGARH VISHDHARI WILDLIFE SANCTUARY

- After receiving approval from the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) in July 2021, Ramgarh Vishdhari Wildlife Sanctuary was designated as a tiger reserve on May 16, 2022.
- After **Ranthambore, Sariska, and Mukundra**, it is now India's 52nd tiger reserve and Rajasthan's fourth.
- According to the National Tiger Conservation Authority, there were **2,967 tigers in India in 2019**.



### Wildlife Protected Areas (PAs) of Rajasthan

### FIRST MOVERS' COALITION

#### Context:

India has joined the World Economic Forum (WEF) and US-led First Movers Coalition Steering Board, which was established during COP26 in Glasgow, Scotland.

#### What is first movers coalition?

- A global programme that uses the purchasing power of businesses to decarbonize seven industrial sectors that are "hard to abate" has been launched.
- This comprises the sectors that account for 30% of global emissions, such as aluminium, aviation, chemicals, concrete, shipping, steel, and trucking. It aims to scale up vital developing technologies required for the Net-Zero Transition as well as commercialise zero-carbon technologies.

### General Science

### INDIA HYPERTENSION CONTROL INITIATIVE

#### Context:

According to the India Hypertension Control Initiative (IHCI) survey, over 23% of India's 2.1 million people have uncontrolled blood pressure.

#### What is the IHCI?

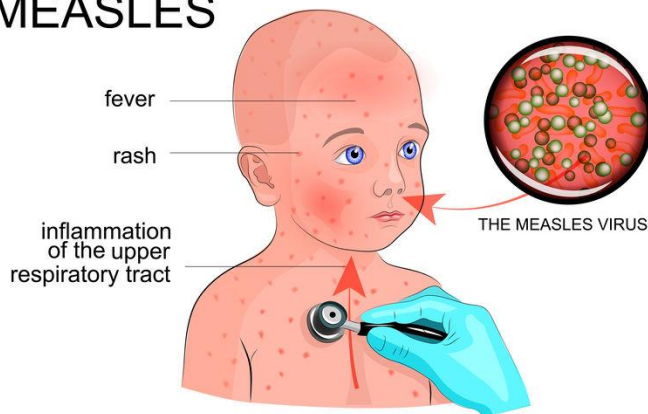
- Hypertension** is defined as having a **systolic blood pressure level greater than or equal to 140 mmHg** or a

**diastolic** blood pressure level greater than or equal to 90 mmHg or/and taking anti-hypertensive medication to lower his/her blood pressure.

- Recognizing hypertension as a severe and rising public health concern in India, the **Health Ministry**, the **Indian Council of Medical Research (ICMR)**, state governments, and **WHO-India** launched a five-year project to monitor and treat hypertension.
- The programme began in November of 2017. IHCI covered 26 districts in five states in its first year.
  - It has grown to 52 districts in eleven states by December 2020.
- India has committed to a **"25 by 25" goal**, which aims to reduce premature mortality due to non-communicable diseases (NCDs) by 25% by 2025.
  - One of the nine voluntary targets includes reducing the prevalence of high blood pressure by **25% by 2025**.

## MEASLES RUBELLA

### MEASLES



#### Context:

- The surge in measles cases in India has been ascribed to **pandemic-related disruptions**, the diversion of resources away from regular immunization, and the relaxing of mobility restrictions.
- The COVID-19 epidemic cost the **MR Elimination** programme two years. The deadline for eradicating MR has been pushed back to 2023.

#### What is Measles-Rubella?

- Measles is a highly contagious virus that is one of the main causes of **child mortality** worldwide.
- When infected persons sneeze or cough, droplets of the virus spread from person to person.
  - High fever**, runny nose, bloodshot eyes, and small white spots on the inside of the mouth are typical symptoms 10–12 days after infection.
  - A **rash** appears on the face and neck a few days later and progressively spreads lower.

- Blindness, **encephalitis** (an illness that causes brain enlargement), severe diarrhoea, and pneumonia are among the most serious effects of measles.

#### MR Program

- India is dedicated to eliminating measles and controlling rubella, and in order to attain this aim, the **MR vaccine** was launched throughout the country in a phased campaign mode in **2017**.
- The MR campaign targets around 41 crore children aged **9 months to 15 years** (almost one-third of the total population of the nation), followed by two doses of regular immunisation at 9–12 months and 16–24 months.
- Rubella component is now routinely immunised as part of the MR vaccine.

#### Significance of MR Elimination

- Zero transmission of measles and rubella viruses is defined as MR eradication.
- It should have evidence of **no clinical illness for at least three years**.
- It may be accomplished in **two ways**:
  - surveillance**: identify areas where either virus is still being transmitted; and
  - vaccination**: two doses of the MR vaccine, the first between nine and 11 months of age and the second ideally in the second year of life.
- The MR vaccine is a two-in-one vaccination that protects against two illnesses.
- This is due to the fact that fever and rash surveillance cover both disorders.

## MONKEYPOX

#### Context:

- A case of monkeypox, a rare viral infection related to smallpox, has been identified in the **United Kingdom** in a person who just travelled from Nigeria.

#### What is Monkeypox Virus?

- The monkeypox virus is an orthopoxvirus that causes a condition that is comparable to **smallpox** but less severe.
- While smallpox was eliminated in 1980, monkeypox is still present in Central and West African nations.
- Two distinct clade are identified: the West African clade and the Congo Basin clade, also known as the Central African clade.

#### Disease occurrence

- According to the CDC's monkeypox summary, the virus was initially found in 1958 after two outbreaks of a pox-like disease in laboratory monkey colonies, leading to the moniker "monkeypox."

- The first human case of smallpox was discovered in the Democratic Republic of the Congo (DRC) in 1970, at a period of increased efforts to eradicate the disease.
- According to the WHO, human cases of monkeypox have been recorded in **15 countries** across four continents.
- **The DRC** (which has the world's highest rate of infection), the **Central African Republic, the Republic of the Congo, Gabon, Cameroon, Nigeria, Côte d'Ivoire, Liberia, and Sierra Leone** have all verified locally acquired cases.
- Imported cases have been discovered in Africa's South Sudan and Benin, as well as in the **United States, the United Kingdom, Israel, and Singapore.**

### Transmission

- Monkeypox is a **zoonotic** disease.
- Cases are frequently discovered near tropical rainforests where the virus is carried by animals.
  - **Squirrels**, Gambian pouched rats, dormice, several monkey species, and others have all been shown to be infected with the monkeypox virus.
- Transmission between humans is **limited**.
- It may be spread by body fluids, skin lesions, and internal mucosal surfaces like the mouth and throat, as well as respiratory droplets and infected items.

### Symptoms

- Fever, a wide distinctive rash, and enlarged lymph nodes are all symptoms of monkeypox.
- Monkeypox can take anywhere from 5 to 21 days to incubate.
- The febrile stage of disease lasts 1 to 3 days and includes symptoms such as fever, severe headache, lymphadenopathy (lymph node swelling), back pain, myalgia (muscle discomfort), and severe asthenia (lack of energy).
- The skin eruption stage follows the **febrile stage** and lasts 2 to 4 weeks.
- Lesions progress from macules (flat-base lesions) to papules (hard, raised lesions), vesicles (filled with clear fluid), pustules (filled with pus), scabs, or crusts.
- In reported occurrences, the percentage of patients who died ranged from 0% to 11%, with the percentage being greater among small children.

### Treatment

- Patients with monkeypox receive supportive treatment based on their symptoms. Several drugs that might be beneficial against the monkeypox virus are being researched and tested.
- Human monkeypox prevention and control relies on community awareness and health worker education to prevent infection and stop transmission.

- The majority of human monkeypox infections are transmitted from animal to human. All items containing animal flesh or parts should be properly prepared before consuming, and contact with ill or deceased animals should be avoided.
- Avoid coming into contact with deceased persons or contaminated objects. When caring for the ill, whether in a health institution or at home, gloves and other personal protective apparel and equipment should be used.

## WEST NILE VIRUS

### Context:

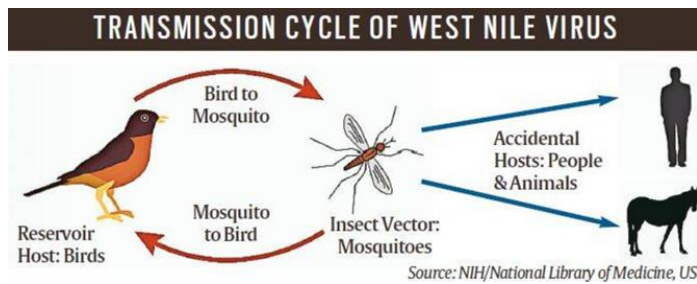
- In May last week, the Kerala health department issued an alert after the death of a 47-year-old from Thrissur due to the West Nile Virus.

### What is West Nile Virus (WNV)?

- The West Nile Virus is a **single-stranded RNA virus** spread by mosquitoes.
  - A virus with single-stranded and double-stranded RNA as its genetic material is known as an RNA virus.
  - SARS (severe acute respiratory syndrome), influenza, the common cold, and Hepatitis B and C are all diseases caused by the RNA virus.
- It's a flavivirus that causes St. Louis encephalitis, Japanese encephalitis, and yellow fever, among other diseases.
  - The Flaviviridae are a family of enveloped RNA viruses that are positive, single-stranded, and enveloped. Flavivirus is the genus that contains all members of this family.
  - They are present in arthropods (mostly ticks and mosquitoes) and can infect people on rare occasions.

### Transmission

- Mosquitoes of the Culex genus are the primary vectors of transmission.
- Infected mosquitoes transmit the virus between and among humans and animals, especially birds, which serve as the virus's reservoir host.
  - Mosquitoes become infected after feeding on infected birds, which then carry the virus around in their blood for a few days.
  - The virus finally makes its way into the salivary glands of the mosquito.
  - The virus may be introduced into humans and animals through mosquito bites, where it can grow and cause sickness.



- It can also be transmitted by blood transfusions, from a woman to her kid, or through laboratory exposure to the virus.
- Contact with infected humans or animals is not thought to be a way for it to spread.

### Incubation

- The incubation time for WNV disease is typically 2 to 6 days, according to the US Centers for Disease Control and Prevention (CDC).
  - It can last anywhere from 2 to 14 days, and in immunocompromised persons, it can last for many weeks.
- There has been no documented human-to-human transmission of WNV through casual contact yet.

### What are the Symptoms of WNV?

- In 80 percent of afflicted persons, the disease has no symptoms.
- The rest contract West Nile fever, also known as severe West Nile sickness. Fever, headache, weariness, body aches, nausea, rash, and swollen glands are among the symptoms they experience.
  - It is frequently lethal in people with comorbidities and those who are immunocompromised (such as transplant patients).
- A severe case of West Nile encephalitis or meningitis, as well as West Nile poliomyelitis or acute flaccid paralysis, can result from a severe infection.
- Diseases that infect the nervous system, particularly the central nervous system, are known as neuroinvasive diseases.
  - Guillain-Barré syndrome and radiculopathy have also been linked to WNV.
  - Guillain-Barre syndrome is an uncommon condition in which the body's immune system destroys one's own nerves.

### WMV in India

- Antibodies to WNV were initially discovered in people in India in 1952 in Mumbai, and virus activity has since been recorded in southern, central, and western India.
- WNV has been isolated:
  - From Culex vishnui mosquitos in Andhra Pradesh and Tamil Nadu,
  - From Culex quinquefasciatus mosquitoes in Maharashtra, and Karnataka.

### Preventive measures

- Because WNV epidemics in animals occur before human cases, having an active animal health surveillance system in place can assist provide early warning.
- WNV infections are most common during the time when mosquito vectors are most active and the ambient temperature is warm enough for virus replication.
- As a result, health authorities around the world recommend taking personal protective measures to limit the risk of mosquito bites, such as using mosquito repellents, and for public health departments to ensure larval source reduction, particularly at mosquito vector breeding and resting areas.

### Treatment

- There is no specific prophylactic, treatment, or vaccine for WNV.
- As a result, neuroinvasive WNV patients are only offered supportive therapy.

## SHIGELLA

### Context:

The latest episode of probable food poisoning in the Kasaragod district is thought to be the result of a shigella bacteria epidemic.

### What is Shigella Infection?

- Shigella Infection also known as shigellosis, is a contagious intestinal infection. Shigella is a genus of bacteria that causes shigellosis, a type of infection.
- It is the world's second most common cause of bacterial diarrhoea and the third-highest cause of death in children under the age of five.



### What are the symptoms?

- **Incubation:** Shigellosis has a 1–4 day incubation period, although Shigella dysenteriae type 1 can take up to 8 days.
- **Asymptomatic infection** is possible, especially in people who have already been infected. Aside from that, most diseases in healthy people are minor and go away in a few days.

- Common Symptoms are:
  - Diarrhea (often containing blood or mucus)
  - Stomach pain or cramps
  - Fever
  - Nausea or vomiting

### How do you get Shigella infection?

People become infected with Shigella by:

- Eating food or drinking liquids contaminated by an infected person.
- Touching contaminated surfaces or objects and then touching their mouth or putting a contaminated object into their mouth.

### What is the treatment?

- Currently, there are no vaccines available for shigellosis due to their large dependence on the prevailing species and serotypes.
- The important step in shigella treatment is the maintenance of hydration and electrolyte balance.
- For young children, oral rehydration with a reduced osmolarity solution.
- Antibiotics are advised for lowering the duration of the illness and preventing transmission.
- The current drugs of choice are:
  - 3rd-generation cephalosporins (ceftriaxone or cefixime)
  - macrolides (azithromycin).

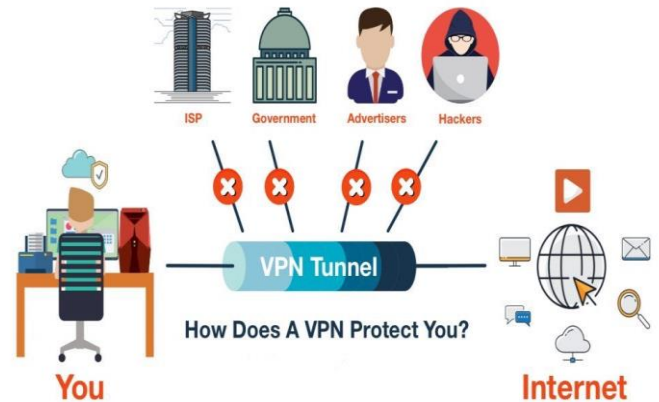
## VIRTUAL PRIVATE NETWORK (VPN)

### Context:

- The government issued a strong warning to virtual private network (VPN) service providers, advising them to follow the cybersecurity guidelines issued by the Indian Computer Emergency Response Team (CERT-In) or move out of the country.

### What are the guidelines?

- The Indian IT Ministry has forced VPN businesses to collect and store customer data for at least **five years**.
  - CERT-in**, or the Computer Emergency Response Team, has also requested that data centres and crypto exchanges collect and store user data for the same time period in order to coordinate response actions and emergency cyber security measures in the nation.
- According to the new governing law, failing to meet the guidelines — might result in **a year in prison**.
  - Companies must also keep track of and preserve user details long after a user has discontinued his or her service subscription.



### How does a VPN work?

- A VPN hides a user's IP address by letting the network redirect it through a specially configured remote server run by a VPN host.
  - This means that if someone surf online with a VPN, the VPN server becomes the source of his data.
  - This means his Internet Service Provider (ISP) and other third parties cannot see which websites he visits or what data he sends and receives online.
  - A VPN works like a filter that turns all user data into "gibberish".
  - Even if someone were to get their hands on user data, it would be useless.

## CHINA REPORTS FIRST HUMAN CASE OF H3N8 BIRD FLU

### What is H3N8?

- H3N8 is a form of **canine influenza**, generally known as dog flu.
- Canine influenza A(H3N2) viruses differ from seasonal influenza A(H3N2) viruses that spread seasonally in humans, according to the Centers for Disease Control and Prevention (CDC) in the United States.
- The H3N8 virus was **first discovered in horses and then spread to dogs**.

Other notable Diseases caused by influenza viruses

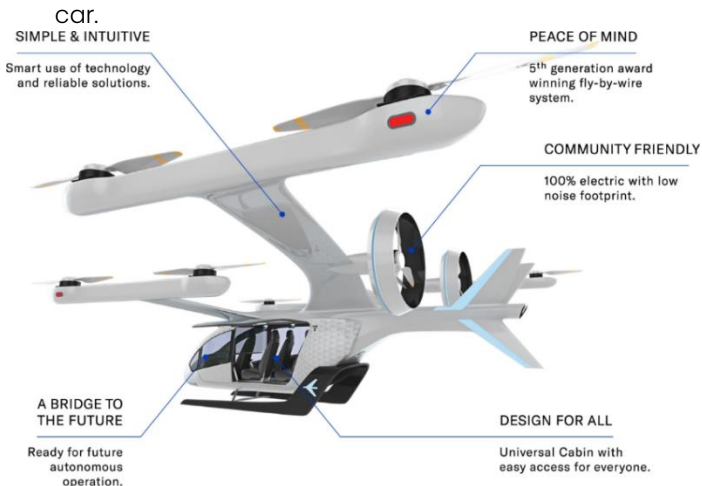
- H5N1 → Bird Flu
- H7N7 → Horse flu also called as equine influenza
- H1N1 → Swine flu

## eVTOLs

### Context:

- Recently, the Union Minister for Civil Aviation announced that India will see the deployment of electric vertical take-off and landing (eVTOL) aircraft to ensure urban air mobility in the days to come.

- Israeli startup has recently introduced a full-scale prototype of an eVTOL, to be used as a personal flying car.



#### What is eVTOL?

- An electric vertical take-off and landing (eVTOL) aircraft is a variety of VTOL (vertical take-off and landing) aircraft that uses electric power to hover, take off, and land vertically instead of conventional fossil fuels.
- This technology came due to major advances in electric propulsion (motors, batteries, fuel cells, electronic controllers) and the growing need for new vehicles for urban air mobility (air taxi).
- Examples are being developed by aircraft companies such as Boeing, Airbus, Embraer, Honda, Toyota, Hyundai and NASA.

#### What are the Advantages of eVTOL?

- Cost Effective: as there will be no requirement of runway and other infrastructure in air transport
- No Emission of greenhouse gases: as there is no requirement of fossil fuels. It will lead to fulfilling the climate change commitment.
- Reduction in road traffic and vehicular congestion in the cities. This will in turn also help to curb the air pollution in India.
- Development of electric mobility technology: May lead to push for new investment, research and development in electric vehicles technology in India.

#### What are the Applications of eVTOL?

- Air Taxi
- Home Delivery
- Cargo Transport
- Emergency Medical Services (EMS)
- Recreation

### PARAM PORUL

#### About PARAM PORUL:

- A cutting-edge supercomputer called **PARAM PORUL** is part of the National Supercomputing Mission's Phase 2 at NIT Tiruchirappalli (NSM).
- Most of the parts built and manufactured for PARAM PORUL were done so domestically.

- 15 supercomputers with a total processing capability of 24 petaflops** have been placed across the country as part of NSM to date. It is based on **Direct Contact Liquid Cooling technology** to achieve a high-power utilisation effectiveness and hence reduce the operational cost.
- The first Supercomputer built domestically was **PARAM Shivay**.

### BioRRAP

#### Context:

To follow the regulatory approvals for a research project on a single platform, the Department of Biotechnology developed BioRRAP.

#### What is BioRRAP?

- BioRRAP gives applicants a single path to regulatory organisations that can grant the necessary approval for biological research.
- The BioRRAP ID generated through this portal is linked with the portals of various regulatory agencies, which will increase the credibility of these biological studies, strengthen interdepartmental synergies, and improve the effectiveness with which the regulatory agencies oversee various facets of biological research.

## CASE STUDIES

### LANTANA AS INSECTICIDE

- Lantana has killed native species of plants in large parts of India and is spreading even to regions at an elevation of 1,500 m.
- Lantana is being used to make furniture in Dehradun and Pauri districts of Uttarakhand for the last decade.
- The shrub's leaves are not attacked by any predator due to its strong smell.
- The extract of boiled lantana leaves are used as an insecticide on vegetables successfully.

#### About Lantana

- Lantana camara is a tiny perennial shrub that grows in thickets that are dense and impenetrable.
- It's a Central and South American native.
- It is an invasive species that was introduced as an ornamental plant in tropical areas (introduced in India in 1807).
- It is an agricultural weed that is often harmful to biodiversity.

### AROYAPACHA: THE MIRACLE HERB

- A 1987 case offers lessons on what can go wrong in absence of clear laws on access and benefit sharing
- AROYAPACHA (*Trichopus zeylanicus travancoricus*) is a small slender plant that grows in the forests of the Western Ghats.

- It provides one of the best examples of how access and benefit-sharing can go wrong in the absence of clearly defined mechanisms.
- In 1987, a team led by P Pushpangadan and S Rajasekharan from the Council of Scientific And Industrial Research's Regional Research Laboratory in Jammu, visited Agasthya Hills to document the plants in the area.
- Their guides, members of the Kani tribe told them how arogyapacha kept them energetic even on an empty stomach.
- By 1995, the researchers, who had shifted to Tropical Botanical Garden and Research Institute (now Jawaharlal Nehru Tropical
- Botanic Garden and Research Institute) in Palode, Kerala, had studied the plant and developed a product, Jeevani from it.
- The technology was transferred to Arya Vaidya Pharmacy of Coimbatore for a licence fee of ₹10 lakh and a royalty of 2 per cent on ex-factory sale to the research institute.
- The researchers helped the tribal community set up Kerala Kani Samudaya Kshema Trust in 1997 and transferred ₹5 lakh to the trust as fixed deposit.
- The trust was to receive annual royalty from the sale, too.
- Immediately after the arrangement, problems emerged.
- The manufacturer had believed that Kanis would collect and sell arogyapacha leaves to them.
- But as per laws, they could collect only minor forest produce and arogyapacha was not in that list.
- Criminal cases were filed against members of the tribe who continued to collect and sell the herb.
- Traders too moved in to smuggle large quantities of the plant.
- Some families started cultivating the plant but could not sell the harvest which was seized at the forest check-posts since it was put in the list of endangered species.
- Members of the tribe were also divided on the arrangement, since the research institute had made deals with only a few of them though the knowledge belonged to the community.
- And the world lost access to a miracle herb.

## PLACES IN NEWS

### 1. Finland, Sweden and Norway

Finland and Sweden has applied for NATO membership



### 2. Reunion Island

Indian Navy P-8I aircraft was deployed from the French island of La Reunion to carry out **"joint surveillance and patrolling operations"** with the French Navy in the South-Western Indian Ocean.



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### 3. Jamaica

Address by the hon'ble President of India Shri Ram Nath Kovind At the joint sitting of both the houses of Parliament of Jamaica



### 4. LAC

China is constructing a second bridge in Pangong Lake



### 5. Odesa, Mariupol plant

Russia pounds Ukraine's vital port of Odesa, Mariupol plant with bombs.

How much of Ukraine does Russia control?



### 6. Indus Valley Civilization - Mature phase Sites



### 7. Pantanal Wetland

The Pantanal, the world's largest wetland, is in danger of collapsing in South America.



## PRACTICE QUESTIONS

- Q1.** "The recent discovery of iron artifacts in Mayiladumparai will rewrite the timeline in the Indian history". In this context, compare the iron age culture across India.
- Q2.** The contribution of Raja Ram Mohan Roy towards Indian society changed the social and religious discourse in Modern India. Discuss
- Q3.** The recent news regarding abortion rights in the United States of America brings the Indian Medical Termination of Pregnancy (MTP) Act into the limelight. In this context, critically discuss the barriers faced for safe abortion in India.
- Q4.** "Air pollution is a major contributor for premature deaths in the emerging countries". In this context, discuss the impact of air pollution on India.
- Q5.** Discuss the impact of the recent Supreme Court Judgement regarding the states power with respect to the GST council recommendation.
- Q6.** Critically evaluate the performance of the women empowerment schemes undertaken in the last decade.
- Q7.** "Capital punishment violates the condemned person's right to life". Do you agree? Justify with reasonable arguments.
- Q8.** For India, Indo-Pacific Economic Framework (IPEF) may prove to be a good opportunity. Given New Delhi's reluctance to join the Regional Comprehensive Economic Agreement (RCEP). In this context, examine how IPEF is different from RCEP and Trans-Pacific Partnership (TPP) and its impact on global trade.
- Q9.** Reducing the input costs is one of the major step towards doubling farmers income. In this context, discuss the working and benefits of liquid nano urea.
- Q10.** "Criminalizing marital rape destabilize the institution of marriage ". Critically Analyse.
- Q11.** Do you think the uniform civil code will ever become a reality in India? What other viable alternative would you suggest?
- Q12.** The contribution made by the ASHA workers during the COVID-19 Pandemic is appreciated by international bodies. In this context, critically analyse the issues faced by healthcare workers in India.
- Q13.** Trace the development of Climate Change initiatives from the in the last five decades.
- Q14.** Explain what a drought is and describe its different types. Discussing the environmental and societal impacts of droughts, enumerate the factors that aggravate these.