

Monthly

prepp

Current Affairs

Notes

July 2022



Plan to Restore Banni Grasslands



Konark Temple Restoration



Red Panda's in Singalilla National Park



Shinzo Abe: A Friend India Will Miss

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GENERAL STUDIES 1

The Freedom Struggle – its various stages and important contributors/contributions from different parts of the country.

CHAMPARAN SATYAGRAHA

Priority: Medium



Primary Source: The Indian Express

Prepp Prelims Booster: What is Champaran Satyagraha?

Prepp Mains Booster: Reasons and the features of Champaran Satyagraha

Context:

- Recently, Suranjan Das, vice chancellor of Jadavpur University, published a book titled **Gandhi and the Champaran Satyagraha: Select Readings**.
- The study was supported by the government of West Bengal and the Netaji Institute for Asian Studies.

**What is Champaran Satyagraha?**

- Champaran Satyagraha of **1917 was the first civil disobedience movement of India**. Champaran district is a historic region in Bihar, India, that is now divided into the East Champaran district and the West Champaran district.
- Farmers in this region **revolted against the British in 1914 and 1916** over the conditions **imposed on indigo cultivation**.
- Earlier, similar conditions existed in Bengal, but as a result of a major uprising in 1859-61, the peasants there won their freedom from the indigo planters.

What is the reason behind resistance of the Indigo cultivators?

- Peasants in Champaran revolted against the government in indigo plant cultivation in 1914 (at Pipra) and 1916 (Turkaulia) because European planters had forced them to grow indigo on 3/20 of the land area (called tinkathia system).
- When **German synthetic dyes replaced indigo at the end** of the nineteenth century, European planters demanded **high rents and illegal dues from the peasants** in order to **maximize their profits before the peasants could switch to other crops**.
- Without food and money, the situation became increasingly unbearable, and peasants in Champaran revolted** against the government in indigo plant cultivation in 1914 (at Pipra) and 1916 (Turkaulia).

What are the features of Champaran satyagraha?

- Gandhi was asked by **Rajkumar Shukla**, a local, to investigate the problems of farmers in the context of indigo planters in Champaran, Bihar.
- When Gandhi arrived in Champaran, accompanied by **Rajendra Prasad, Mazharul- Haq, Mahadev Desai, Narhari Parekh, and J.B. Kripalani**, the authorities ordered him to leave immediately.
- Gandhi **defied the order and chose to face the consequences**. This method of **passive resistance or civil disobedience in the face** of an unjust order was novel at the time.
- Finally, the authorities relented and allowed Gandhi to conduct an investigation.
- Gandhi was able to persuade the authorities **to abolish the tinkathia system** and compensate the peasants for the **illegal dues extracted from them**.
- As a **compromise with the planters**, he agreed to **compensate them for only 25% of the money taken**.
- Within a decade, the planters had abandoned the area**. Gandhi had won **India's first battle of civil disobedience**.
- Brajkishore Prasad, Anugrah Narayan Sinha, Ramnavmi Prasad, and Shambhusharan Varma** were also prominent leaders associated with the Champaran Satyagraha.

ACHARYA PRAFULLA CHANDRA RAY

Priority: Low



Primary Source: PIB

Prepp Prelims Booster: Indian National Movement.

Prepp Mains Booster: Modern Indian History from about the middle of the eighteenth century until the present- significant personalities.

Context:

Recently, Ministry of Culture along with Vijnana Bharti (VIBHA) and the Department of Chemistry, University of Delhi, and Vijnana Bharti (VIBHA) organized a two days International Conference on the "Contributions of Acharya Prafulla Chandra Ray as a Chemist and Freedom Fighter".

What is the International conference on Acharya Prafulla Chandra Ray?

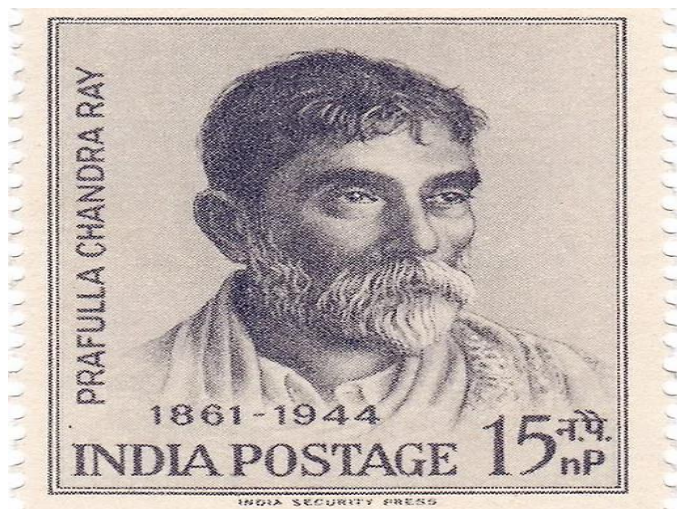
- Under the auspices of Azadi Ka Amrit Mahotsav, the Conference will take place on the 2nd and 3rd of August 2022, the 161st anniversary of Acharya Prafulla Chandra Ray's birth focusing on Acharya Prafulla Chandra Ray's legacy and contributions to society, with a goal of raising public understanding of the history and significance of ancient chemistry.

Acharya Prafulla Chandra Ray**Contribution towards Chemistry:**

- Prafulla Chandra Ray (1861–1944), a well-known Indian scientist and teacher who is referred to as the "Father of Indian Chemistry," was one of the country's earliest "modern" chemical researchers.
- He received his initial training at the University of Edinburgh and spent a significant amount of time at Presidency College in Calcutta before moving on to Calcutta University.
- In 1895, he made the stable compound Mercurios Nitrite (Mercury Nitrite).

- He was originally given the Companion of the Indian Empire (CIE) imperial title by the British government before being given the Knighthood in 1919.
- He was chosen to serve as the Indian Science Congress's General President in 1920.
- He was a patriot who wanted Bengalis to succeed in business.
- By founding a chemical company called the **Bengal Chemical and Pharmaceutical Limited** in 1901, he himself set an example in the **Swadeshi Movement** which was guided by the founding idea of **Atma Shakti (self reliance)**.
- Bengal Chemicals and Pharmaceuticals Limited, which became Public Sector Enterprise, became India's only manufacturer of anti-malarial drugs.
- Prafulla Chandra Ray wrote numerous works, including "History of Hindu Chemistry - From the Earliest Times to the Middle of the Sixteenth Century AD," which documented India's traditional chemical practises from the Vedic era onward.

Contribution towards the Social Reforms:



- Ray was a vocal rationalist who despised the caste system and other illogical social structures.
- In response to the floods, he established the Bengal Relief Committee in 1923.
- He gave to the Indian Chemical Society, Brahma Girls' School, and Sadharan Brahma Samaj.
- He gave money in 1922 to start the Nagarjuna Prize, which would be given out for the best chemistry work.
- From his generosity, another award bearing Ashutosh Mukherjee's name was founded in 1937 and will be given for the outstanding work in zoology or botany.
- Up until the time of his death in 1944, he persisted in his aim of social reform.

Contribution towards the national movement:

- Ray rarely actively participated in the nationalist movement because of his position as a lecturer at the Presidency College in Calcutta at the time, but he was aware that India's economic development would be impossible without political freedom.
- He therefore identified with all political movements, whether they were moderate, radical, or part of the non-cooperation movement. His admiration for Subhas Chandra Bose and Mahatma Gandhi is widely documented in his writings.

Contribution toward literary work:

- A History of Hindu Chemistry from the Earliest Times to the Middle of Sixteenth Century (1902)
- Saral Prani Bijnan (Simple Science) (1902)
- Life and Experience of a Bengali Chemist (1932)

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

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: About Sannati and Kanaganahalli Buddhist Sites

Prepp Mains Booster: Significance of Sannati Excavation

Context:

- The ancient Buddhist site in Kanaganahalli in Kalaburagi district, which is a component of the Sannati site and was **unearthed by the Archaeological Survey of India (ASI)** between **1994 and 2001**, has finally received some attention after going almost unnoticed for 20 years.
- Until recently, some ancient artefacts discovered during excavation were stored in three tin huts at the same location, while many more were left lying around in the open.



Archaeological Survey of India (ASI)

- The Archaeological Survey of India, or ASI, is an affiliated agency of the Government of India's Ministry of Culture.
- It is responsible for archaeological research and conservation, as well as the protection and preservation of historic monuments and archaeological sites around the country.

Background

- Before the **Kali temple at the Chandralamba temple complex** in Sannati **collapsed** in 1986, **Sannati and Kanaganahalli** were modest, unremarkable villages on the bank of **the Bhima**.
- As they were clearing the wreckage, they came across an **Ashokan edict** that put the villages on the map and provided new opportunities for historical research on the Mauryan Emperor Ashoka and the early history of Buddhism.
- It attracted historians from all across India and beyond and served as the impetus for the ASI excavations at Sannati and the neighbouring Kanaganahalli.

What is the significance of Kanaganahalli excavation?

- The Kanaganahalli excavation revealed several wonders, including **the great Maha Stupa**, known in the

inscriptions as **Adholoka Maha Chaitya (the Great Stupa of the Underworlds)**, and, most significantly, the stone picture of Emperor Ashoka, who is flanked by his queens and female attendants.

- The Mauryan Emperor's stone portrait, which bears the inscription "**Raya Asoko**" in **Brahmi**, is thought to be the **only surviving representation of him**, even though the stupa is one of the biggest of its era.
- Between the third century B.C. to the third century A.D., three construction phases of the Maha Stupa are said to have taken place: **the Maurya, Early Satavahana, and Later Satavahana**.
- It is thought that an earthquake demolished the stupa.
- One hundred and twenty **drum-slabs** decorated with various **Dharma-Chakras**, Stupas, the **First Sermon**, **Bodhi-tree**, Naga Muchulinda, and Vihara complexes; over ten inscribed sculptures of the Buddha; **over a dozen Buddha-Padas**;
- Fragments of **Ayaka pillars, umbrella stones**, and various other artefacts were also recovered.
- The recoveries also included about 60 dome slabs with the sculpt

What are the Challenges?

- Long-term **neglect resulted** in the building developing cracks and the entire property becoming a wasteland filled with thorny shrubs and weeds.
- Also, well developed roads are not available.
- With armed guards stationed outside its entrance and the exception of a few instances when a small group of researchers, historians, and enthusiasts visit, the **ASI site appears empty throughout the year**.
- Sannati Development Authority was constituted by the State government to provide this function.
- Even ten years after it was built, the **museum building has not yet been turned over to ASI**.

MONUMENT OF NATIONAL IMPORTANCE

Priority: Medium



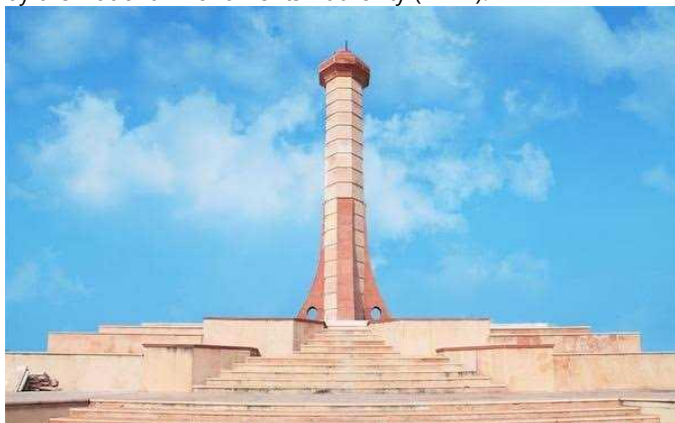
Primary Source: PIB

Prepp Prelims Booster: About Mangarh Hillock; Bhils Tribe; National Monuments Authority

Prepp Mains Booster: How monuments of national importance is decided

Context:

The Mangarh hillock in Rajasthan should be classified as a monument of national importance in remembrance of the 1500 Bhil tribal independence fighters, according to a report by the National Monuments Authority (NMA).



What are Monuments of National Importance?

The Archaeological Survey of India identifies any monument as the "Monuments of National Importance" if it is a:

- The remains of a historic site
- The location of an old monument
- The area surrounded by walls or other coverings used to safeguard the monument
- Land that allows for public access to the monument

What is the Background of the Mangarh Hillock?

- The hillock, is located near the boundary between Gujarat and Rajasthan, and was the scene of a tribal rebellion where more than 1500 **Bhil tribal freedom warriors were massacred in 1913**.
- There has been a call for the construction of a memorial at the site, also known as the Adivasi Jallianwala.
- Over 1,500 tribal members were killed when British soldiers opened fire on them on **November 17, 1913**, as they were having a protest assembly there under the direction of a **local leader** named **Govind Guru**.

What is the National Monuments Authority (NMA)?

- According to the provisions of the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act 2010, it was constituted under the Ministry of Culture.
- Specific responsibilities for the conservation and preservation of monuments and sites have been assigned to the NMA, including management of the prohibited and restricted zones around centrally declared monuments.
- Examining applications for licences to conduct construction-related activities in restricted and regulated areas is one of the duties of the NMA.

About Bhils Tribe:

- Bhils are people who are of pre-Aryan ancestry.
- The name "Bhil" is derived from the Dravidian word "billu," which is also known as "Bow."
- The Mahabharata and Ramayana are two older epics that mention the name Bhil.
- Bhils are frequently referred to as the bowmen of Rajasthan. They are the tribal communities that are spread out the greatest in India.
- They are the biggest tribe in South Asia.
- They can be broadly divided into two types:
 - Rajput Bhils and
 - Central Bhils, also known as pure Bhils.
- In addition to the mountainous regions of India's Madhya Pradesh, Maharashtra, Gujarat, and Rajasthan, the central Bhils can also be found in Tripura's northwest.
- In the states of Andhra Pradesh, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Tripura, they are regarded as Schedule Tribes.

UNESCO'S CONVENTION FOR THE SAFEGUARDING OF THE INTANGIBLE CULTURAL HERITAGE

Priority: Medium



Primary Source: PIB

Prepp Prelims Booster: About UNESCO Intangible Cultural Heritage

Prepp Mains Booster: Significance of Indian Election

Context:

- Recently, India has been elected to the **Intergovernmental Committee** of UNESCO's 2003

Convention for the Safeguarding of **Intangible Cultural Heritage (ICH)**, For the 2022-2026 cycle.

- India has served on the **ICH Committee twice**, from 2006 to 2010 and again from 2014 to 2018.
- Previously, Durga Puja in Kolkata was inscribed on UNESCO's Representative List of Humanity's Intangible Cultural Heritage (ICH).

UNESCO's Convention for the Safeguarding of the Intangible Cultural Heritage



- The **United Nations Educational, Scientific, and Cultural Organization (UNESCO)** adopted the Convention on the Protection of Intangible Cultural Heritage in 2003, and it entered into force in 2006.
- It has **24 members** who are elected in the Convention's General Assembly based on the principles of equitable geographical representation and rotation.
- It is elected in the **Convention's General Assembly** based on the principles of equitable geographical representation and rotation.
- **Members of the Committee** from each state are elected for a four-year term.
- The Intergovernmental Committee's core functions include:
 - Promoting the Convention's objectives,
 - providing guidance on best practises, and making recommendations on measures to protect intangible cultural heritage.
- **The Committee** also considers requests for the inscription of intangible heritage on the Lists made by States Parties, as well as proposals for programmes and projects.

What is Intangible Cultural Heritage?

- **According to UNESCO, Intangible Cultural Heritage (ICH)** includes oral traditions, performing arts, social practises, rituals, festive events, knowledge and practises concerning nature and the universe, or the knowledge and skills to produce traditional crafts.
- **UNESCO** established its Lists of **Intangible Cultural Heritage** with the goal of ensuring better protection and awareness of important intangible cultural heritages around the world.
- The list was created in 2008, following the implementation of the 2003 **Convention for the Protection of Intangible Cultural Heritage**.
- It is also known as living cultural heritage and is typically expressed in one of the following ways:
 - Oral Traditions
 - Performing Arts
 - Social Practices
 - Rituals and Festive events
 - Knowledge and Practices concerning nature and the universe

- Traditional Craftsmanship

Intangible Cultural Heritage and India

- In total, 14 elements of the country's Intangible Cultural Heritage have now been inscribed on UNESCO's Representative List.
 - Previously, **UNESCO** designated **Dholavira**, a Harappan city in Gujarat, as India's 40th world heritage site.
 - Currently, there are 492 elements on the Representative List of Humanity's Intangible Cultural Heritage.
- Durga Puja** is the most recent addition in it.

Publications:

- **Representative List of Humanity's** Intangible Cultural Heritage
- List of **Intangible Cultural Heritage** in Urgent Need of Protection
- Good safeguarding practises registry

India's Elections in Intergovernmental Committee of UNESCO

- **India** has previously served two terms on the **Intergovernmental Committee of this Convention**.
- One spans the years 2006 to 2010, while the other spans the years 2014 to 2018.
- India has developed a clear vision for the protection and promotion of humanity's intangible cultural heritage for its 2022-2026 term.
- India will prioritise the following areas: encouraging community participation, strengthening international cooperation through intangible heritage, promoting academic research on intangible cultural heritage, and aligning the Convention's work with the **UN Sustainable Development Goals**.
- Prior to the elections, this vision was also shared with the other **State Parties** to the **Convention**.
- In September 2005, India ratified the 2003 Convention for the Protection of Intangible Cultural Heritage.
- As one of the first **States Parties to ratify the Convention**, India has demonstrated a strong commitment to issues concerning intangible heritage and has actively encouraged other States Parties to do the same.
- India ranks high in the list of intangible cultural heritage, with 14 inscriptions on the **Representative List of Intangible Cultural Heritage of Humanity**.
- Following the inscription of **Durga Puja in 2021**, India submitted a nomination for Gujarat's Garba to be debated in 2023.

What is the significance of India's Elections

- It will assist India in focusing on encouraging community participation, strengthening international cooperation through intangible cultural heritage, promoting academic research on intangible cultural heritage, and aligning the Convention's work with the **UN Sustainable Development Goals**.
- India will be able to closely monitor the 2003 Convention's implementation.
- Given the imbalance in the inscriptions on the Convention's three lists, India will work to promote international dialogue among **State Parties to the Convention** in order to better showcase the diversity and importance of living heritage.
- The three lists are as follows:

- Urgent Safeguarding List,
- Representative List and
- Register of Good Safeguarding Practices
- India seeks to mobilise the capacity of various actors worldwide to effectively safeguard intangible heritage in order to broaden the scope and impact of the Convention.
- Noting the imbalance in the inscriptions on the Convention's three lists, namely the **Urgent Safeguarding List, Representative List, and Register of Good Safeguarding Practices**, India will work to promote international dialogue among State Parties to the Convention in order to better highlight the diversity and importance of living heritage.

STATUE OF PEACE OF SWAMI RAMANUJACHARYA

Priority: Low



Primary Source: The Hindu

Prepp Prelims Booster: About Ramanujacharya

Prepp Mains Booster: Kashmir relationship with Ramanujacharya

Context:

- Recently, through a video conference, Union Home and Cooperation Minister Shri Amit Shah unveiled a 4-foot-tall marble statue of **Swamy Ramanujacharya** called the "**Statue of Peace**" in **Srinagar, Jammu and Kashmir**.
- According to the Home Minister, the original message of Ramanujacharya and **his disciple Ramananda** has given rise to numerous sects throughout the nation.
- With the placement of this peace statue, Kashmir would get closer to achieving peace and progress while also receiving the blessings and message of Ramanujacharya.

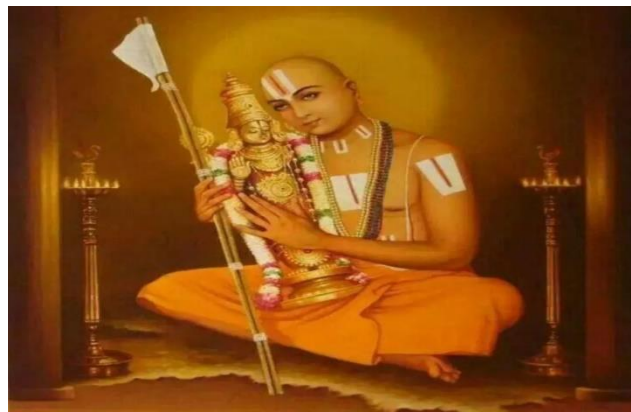
What is Kashmir's Relationship to Saint Ramanuja?

- Although Ramanujacharya spent much of his life and worked in South India, his influence on education and love can be seen all throughout the nation.
- Ramanujacharya spent his entire life serving the nation, the nation's religion, and Kashmir in particular.
- In the eleventh century, Ramanujacharya travelled to Kashmir in order to obtain the valuable manuscript Bodhayana Vritti, **a study of the Brahma Sutras**.

Who was Ramanujacharya?

- Ramanuja, who was born in Sriperumbudur, near modern-day Chennai, preached Vishishta Advaita Vada in the 12th century.
- He believes that God is **Saguna Brahman** and that the creative process, encompassing all of creation's things, is genuine and not illusory, as Shankaracharya believed.
- As a result, Ramanuja believes **that God, soul, and matter are all real**. The inner substance, on the other hand, is God, and the rest are his qualities.
- As in dualism, the universe and Brahman are considered **two equally real entities in Vishishta Advaita Vada**, but the universe is generated out of Brahman rather than being separate from it.
- The **Brahman** is regarded as a **personal god with omniscience** who created the universe from himself.
- As a result, the world bears the relation of the portion to the whole or the relation of a '**qualified consequence**' to the base to Brahman.

- Through the **Vishishtadvaita** sect, Ramanujacharya reinterprets **inclusive society, religion, and**



philosophy.

- By following the **Manasa, Vacha, Karmana formula**, he dedicated his life to serving the community. His message caused numerous sects to sprout up all throughout the nation.
- With Ramanujacharya's message in mind, **Gujarati poet Narsi Mehta** wrote "**Vaishnav Jan To Tene Kahiye Je Peer Parai Jaane Re.**"
- **Sant Kabir** acknowledged that Ramanujacharya was **responsible** for all that he had **accomplished in life**.

Statue of Equality

- The Ramanuja statue, also known as the Statue of Equality, is a statue of the 11th-century vaishnavite Ramanuja that can be seen on the grounds of the Chinna Jeeyar Trust in Muchintal, **Hyderabad, Telangana**.
- The 216-foot-tall statue of Ramanujacharya, an 11th-century social reformer and saint, will be seated.

How has Ramanujacharya contributed to Indian society?

- Ramanujacharya **travelled all over India** during his more than 100-year life span in order to disseminate the **message of devotion and equality** among the populace.
- Ramanujacharya's life duration brought honour to **India's spiritual and social character**.
- Ramanujacharya's "**Vishishtadvaita**" demonstrated the **value of philosophy in everyday** life in addition to being a unique contribution to philosophy.
- Ramanujacharya gave the **rich bhakti tradition of the South**, particularly the tradition of the **Alvar saint-poets**, a philosophical foundation.
- When Ramanujacharya demonstrated that bhakti transcends caste distinction and placed **emphasis on everyone's right to worship God**, he opened the doors of "Vaishnavism" for members of so-called inferior castes.
- In the **modern social structure, the idea of equality** was **first** presented by **Ramanujacharya**, who also blended the intellectualism of Vedanta with the devotional essence and linked the mind with the heart and the immaterial with the material.
- Ramanujacharya, according to him, strove to implant the idea of renouncing all worldly pleasures in order to seek refuge in God.
- He also demonstrated the route to **redemption via devotion**.
- A significant component of the value system has been striving for the **welfare of all living things**. This "**benefit of all**" concept is also evident in the path of devotion based on Ramanujacharya's Vishishtadvaita.

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

UNITED NATIONS' WORLD POPULATION PROSPECTS (WPP)

Priority: Medium

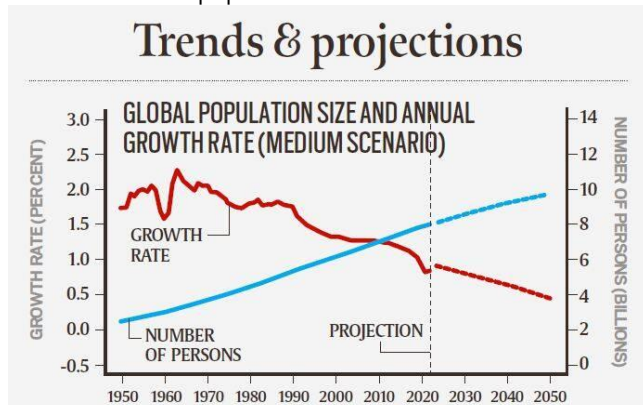


Primary Source: The Hindu

Prepp Mains Booster: Implication of India overtaking China in population growth

Context:

- Recently, the World Population Prospects (WPP) 2022 edition has been made public by the UN. The publication coincided with World Population Day (11 July).
- According to the research, India will overtake China as the world's most populated nation in 2023.



What is World Population Prospects (WPP)?

- Since 1951, the UN's Population Division, which is a part of the Department of Economic and Social Affairs, has published the WPP every two years.
 - The 27th edition of the study is from 2022.
- A historical time series of population indicators beginning in 1950 is provided for each version of the WPP.
- It does this by updating estimates of historical trends in fertility, death, or international migration using recently disclosed national data.

What are the Key Highlights of 2022 report?

Overall Population:

- The population of the planet is still increasing, although at a slower rate.
- Around 8.5 billion people are anticipated to live on the planet in 2030, 9.7 billion in 2050, and 10.4 billion in 2100.
- The worldwide growth rate dropped below 1% in 2020 for the first time since 1950.

Population Growth Rates:

- Rates of population growth vary greatly between different nations and areas.
- Up to 2050, just eight nations, including Pakistan and India, would account for more than half of the anticipated rise in world population.
- The 46 LDCs are among the fastest-growing economies in the world.

Elderly Population:

- The number of older people and their proportion of the population are both growing.
- The percentage of the world's population that is 65 or older is expected to increase from 10% in 2022 to 16% in 2050.

Fertility Rate:

- A persistent decline in fertility has increased the proportion of people who are working age (between 25 and 64 years).
- The "demographic dividend"—a limited window for enhanced economic growth—is made possible by this change in the age distribution.

International Migration:

- For some nations, population trends are significantly impacted by international migration.
- Migration will be the only factor influencing population increase in high-income nations over the coming few decades.
- The predicted net outflow of migrants throughout the time period exceeded 1 million for 10 nations from 2010 to 2021.
- Temporary labour movements were a major factor in the outflows from many of these nations, including Pakistan (net outflow of 16.5 million), India (-3.5 million), Bangladesh (-2.9 million), Nepal (-1.6 million), and Sri Lanka (-3.5 million) (-1.0 million).
- During this time, there was an outflow of migrants from other nations due to unrest and insecurity.
- Reducing **fertility-related policies** would not significantly affect the rate of global growth in the short term.
 - The momentum of prior growth is expected to account for two-thirds of the predicted rise in the world's population through 2050.
 - The current population's young age distribution reinforces this.
 - Because of this, additional government initiatives to lower fertility would not start to have a significant difference until 2050.

Development and Population:

- Rapid population expansion is both an effect and cause of slow economic development.
- Sustainable development is hampered by high fertility rates that persist and rapid population increase.
- For instance, the need to educate an increasing number of children and teenagers consumes resources away from initiatives to raise the standard of education.
- At the same time, completing the SDGs, especially those pertaining to gender, health, and education, is expected to speed the shift toward reduced fertility in nations with persistently high levels.
- Population loss** is now happening in more and more nations.
 - In many nations, fertility has significantly decreased in recent decades.
 - Today, two-thirds of the world's population reside in nations or regions where the lifetime fertility rate is lower than 2.1 children per woman.

What are the finding Related to India?

- In 1972, **India's growth rate** was 2.3 percent, but it is currently less than 1 percent.
 - Over this time, **fertility Rate**, the average number of children an Indian woman has in her lifetime has decreased from around 5.4 to under 2.1.
 - The **Replacement Fertility Rate**, at which a population precisely replaces itself from one

generation to the next, has been reached by India.

- With improved access to healthcare and medical developments, both fertility rates and mortality rates have been dropping.
 - In the following decades, the **population of 0-14 years, 15-24 years**, will continue to decrease while **25-64 years, 65+** will continue to rise for the coming decades.
- **Population expansion in India** has been fueled by this decline in early mortality for succeeding generations, which is reflected in higher levels of life expectancy at birth.

What will be the implication of India overtaking China?

Overcrowding:

- Earlier, there was a concern over overcrowding due to the fast growing global population.
- However, scientists today point out that there are now 8 billion people on the planet and that numerous nations, including India, have reached fertility replacement rates.
- Thus, there is no issue with overcrowding. The quality of life for such a large population is the actual worry.

Rising need for skills in India:

- Experts predict that the cohorts of 0-14 years and 15-24 years will continue to drop based on statistics from India.
- Those aged 25 to 64 and 65 and older, however, will continue to increase over the next few decades.
- The only way to guarantee that people in the 25-64 age range are more productive and have a better quality of life with increased income is to acquire new skills.

Challenges associated with increasing numbers of old people:

- The 65+ category is going to grow quite fast and it faces several challenges. Provisioning of social security is obviously a big challenge.
- This will stretch the resources of the future governments.

HOW ARE EARTHQUAKES MEASURED?

Priority: Medium



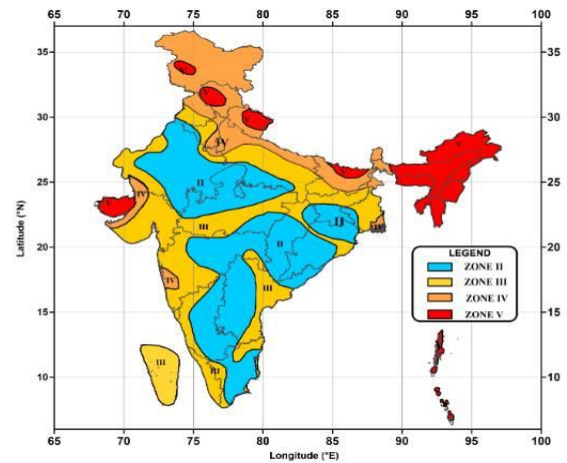
Primary Source: The Indian Express

Prepp Prelims Booster: What is an Earth Quake?; What are Seismic waves?; What is Richter Scale?; Earthquake zones.

Prepp Mains Booster: How seismic waves work?; How earthquakes are measured?

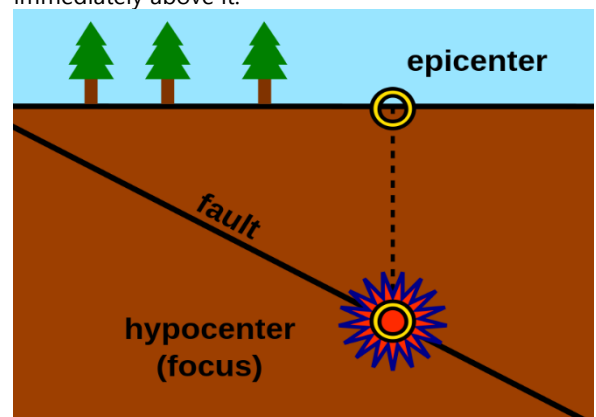
Context:

- A remote Afghan village recently had a violent earthquake with a **value of 5.9 on the Richter scale**, which killed over a thousand people and injured many more.
- A **5.9 on the Richter scale is roughly equivalent to 37 times the energy unleashed by the Hiroshima atomic bomb**, according to the U.S. Federal Emergency Management Agency.



What causes earthquakes?

- The Earth's crust and upper mantle are made up of sizable solid plates that can move in relation to one another, according to the theory of plate tectonics. Earthquakes can happen when faults near plate borders slip.
- The **focus or hypocentre** of an earthquake is the location on Earth where the **rupture first occurs**.
- The **epicentre** is the location on Earth's surface that is immediately above it.

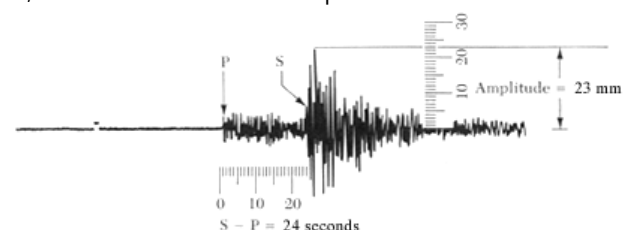


How do seismic waves work?

- When under stress, any elastic material stretches proportionately until the elastic limit is achieved. It snaps when the elastic limit is crossed.
- Similar to this, the elastic limit of the Earth also causes it to shatter when the stress reaches a certain level.
- After that, heat is produced and energy is liberated.
- The energy is released as **elastic waves because the material is elastic**. These spread over a range that is dictated by the impact's size.
- These waves are called Seismic waves

How are earthquakes Measured ?

- **Seismographic networks**, which are made up of seismic stations that each measure the **ground shaking beneath** them, are used to measure earthquakes.



- The **National Seismological Network in India** carries out this task.

- With a 120-year history, its sensors can now spot an earthquake in five to 10 minutes.
- Not the entire amount of energy emitted, but the wave properties, are measured. He argues that the **wave amplitude and the quantum of energy** released are **related**.
- The **wave's time period** affects the **amplitude of the wave**.
- The **energy** released by that earthquake can be **calculated** from the measured **wave amplitude**. Seismologists refer to this as the earthquake's magnitude.

What is the Richter magnitude scale ?

- **Charles F. Richter** of the California Institute of Technology in the United States initially coined this term to describe the **magnitude of an earthquake in 1935**.
- The **logarithm of the wave amplitude** as measured by seismographs determines an earthquake's magnitude.
- **A whole integer and a decimal place** are used to express Richter scale magnitudes, such as 6.3 or 5.2.
- Given that the scale is logarithmic, **an increase of one unit in the whole number** corresponds to a **tenfold increase** in the wave's amplitude and a **31-fold increase in the energy released**.

AZORES HIGH

Priority: High



Primary Source: Down To Earth

Prepp Prelims Booster: What is Azores high?

Prepp Mains Booster: Reason behind Azores high expansion

Context:

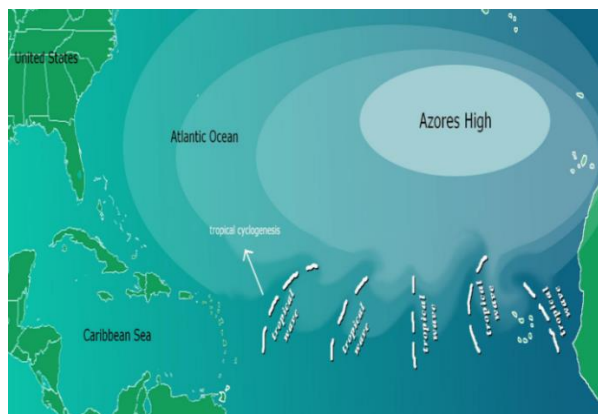
- A recent study found that the Iberian Peninsula, which is predominantly occupied by Spain and Portugal, has experienced abnormally dry conditions as a result of an extremely massive "Azores High," a subtropical weather phenomena.

What is meant by Azores High?

- According to the researchers, the Azores High is a **subtropical high pressure** system that spans the eastern **subtropical North Atlantic and western Europe** in the **winter**.
- In the subtropical North Atlantic, it is connected to **anticyclonic winds**.
- It is created **when dry air ascends** from the subtropics and it occurs along the **Hadley Circulation's** downstream branch.

What are the consequences of Azore high ?

- According to data published in the journal Nature Geoscience, the Iberian Peninsula saw yearly drying of 5-10 millimetres per decade throughout the second half of the 20th century.
- By the end of the twenty-first century, it was noted, another **10–20 percent decrease in winter precipitation** is anticipated.
- The Iberian region's agriculture is among the **most susceptible in Europe** as a result of these anticipated changes.
- By 2100, productivity in southern Spain's **olive-growing regions** would **decrease by 30%**.
- **By 2050**, the area under cultivation in **grape-growing regions** throughout the Iberian Peninsula will have **decreased by 25 to 99 percent** as a result of severe water shortages that will make the land unfit for viticulture.

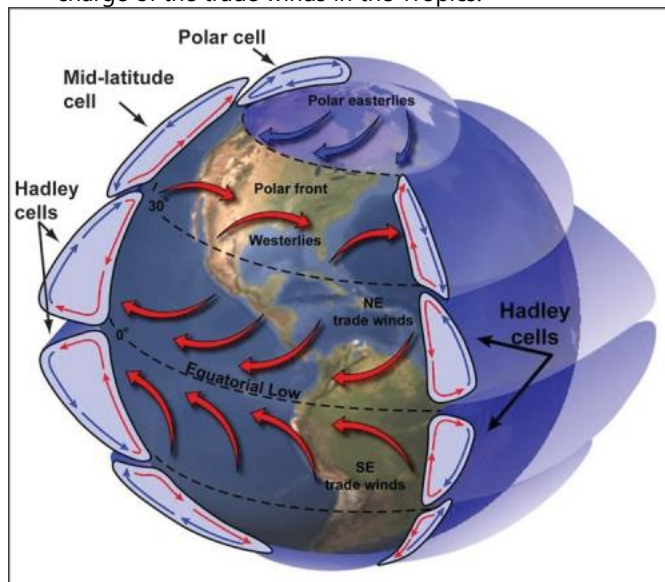


What is the reason behind Azores High expansion?

- The researchers demonstrated that the **Azores High expansion** is caused by **external climate forces** and that **atmospheric greenhouse gas concentrations** are the sole external forcing responsible for this signal during the industrial era.
- Winters with a very large Azores High were substantially more **frequent** in the **industrial age after 1850** than in pre-industrial eras, according to observations and climate model predictions.
- Since 1850, simulations of the previous millennium have shown that the industrial era extension of the Azores High is unprecedented, **which is "compatible with precipitation proxy evidence from Portugal."**
- According to the study, the Azores High expansion began after 1850 and intensified in the 20th century, which is compatible with warming caused by human activity.

What are Hadley cells?

- The low-latitude overturning circulations known as Hadley Cells are characterised by air rising near the equator and air sinking at about 30° latitude.
- They regulate low-latitude weather patterns and are in charge of the trade winds in the Tropics.



DERECHO: A STORM THAT TURNED THE SKY GREEN IN THE US

Priority: High



Primary Source: The Indian Express

Prepp Prelims Booster: What is Derecho; Types of Derecho

Context:

- Recently, storm system known as a derecho struck the US states of Nebraska, Minnesota, and Illinois.

- Wind gusts of about 140 km/hr damaged power lines as the storm approached and felled trees. Even seasoned storm chasers claimed they had never seen such atmospheric optics when the storm hit, turning the skies green.

What is a Derecho?

- A derecho is defined as "**a widespread, long-lived, straight-line windstorm**" that is "associated with a **band of quickly moving showers or thunderstorms**" by the US National Weather Service.
- The phrase "**la derecha**," which means "**straight**" in **Spanish**, is where the name originates.
- **Straight-line storms** are thunderstorms **without rotating winds**, unlike tornadoes.
- These storms cover a **huge area and traverse hundreds of miles**.
- A derecho, a **warm-weather phenomena**, usually strikes in **June and July** but can happen at any time of year starting in May.
- In contrast to other storm systems like tornadoes or hurricanes, they are **uncommon**.
- A storm must have wind gusts of at least **93 km/h and a 400 km+ wind damage swath** in order to be categorised as a derecho.
- The University of Oklahoma School of Meteorology recommends a **maximum three-hour window** between consecutive wind damage incidents.



Why was the sky green during the recent Derecho?

- Because of the **interaction between light and the enormous** amount of water that severe thunderstorms contain, the sky appears "green."
- According to a story in the Washington Post, it is thought that **large raindrops and hail scatter all light except for blue wavelengths**, which allows blue light to enter the storm cloud predominantly.
- The **red-yellow of the afternoon** or evening sun then **interacts** with this blue to create green, according to the paper.

Where do Derechos occur?

- In the **eastern and central sections of the country (USA)**, they are most common.
- One of the "most violent and unusual derechos ever documented" in the US, the "Super Derecho" of May 8, 2009, stormed from Kansas to Kentucky with wind speeds of up to 170 km/hr.

- Derechos have been observed in other parts of the world as well. The country of **Russia** had its first derecho in 2010.
- Additionally, they recently stormed through **Bulgaria and Poland**. They also swept through **Germany and Finland**.

What are different kinds of Derecho?

- There are **three types** of them: **progressive, serial, and hybrid**.

Progressive Derecho

- A brief line of thunderstorms that may extend hundreds of kilometres along a relatively limited route are linked to a progressive derecho.
- It is a summertime phenomenon.

A serial Derecho

- On the other hand, a serial derecho features a long and wide squall line that covers a considerable area.
- Typically, it takes place in the spring or fall.

Hybrid Derecho

- Progressive and serial derecho characteristics are both present in hybrid ones.

Role of women and women's Organisation, Salient features of Indian Society, Diversity of India, Social Empowerment

HOW GENDER EQUAL IS INDIA AS PER THE 2022 GLOBAL GENDER GAP INDEX?

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Global Gender Gap Index

Prepp Mains Booster: - Salient features of Indian Society; Role of women; Important International institutions, agencies, and fora- their structure, mandate.

Context:

India ranked 135th out of 146 nations in the World Economic Forum's (WEF) Global Gender Gap Index for 2022. India placed 140th out of 156 nations in 2021.

INDIA'S REPORT CARD

Index/sub-index	2022 (146 countries)		2021 (156 countries)	
	Rank	Score	Rank	Score
Global Gender Gap Index	135	0.629	140	0.625
Political empowerment	48	0.267	51	0.276
Economic participation & opportunity	143	0.350	151	0.326
Educational attainment	107	0.961	114	0.962
Health and survival	146	0.937	155	0.937

Source: World Economic Forum

What is the Global Gender Gap Index?

- With regard to four important dimensions—**economic participation and opportunity, educational attainment, health and survival, and political empowerment**—the Global Gender Gap Index "benchmarks the current level and evolution of gender parity."
- It is the longest-running index that, since its creation in 2006, has tracked progress toward closing these gaps over time, according to the WEF.
- The GGG index assigns scores between 0 and 1 to each of the four sub-indices as well as the overall index, **where 1 indicates full gender parity and 0 indicates total imparity**.

- According to the report, "the cross-country comparisons aim to enable the identification of the most successful measures to close gender inequalities."

How does India stand on different indices?

Political empowerment

- This covers statistics like the proportion of women in parliament and government positions, among other things.
- India is ranked **highest in this sub-index** out of all the sub-indices (48th out of 146).
- For instance, Bangladesh is ranked 9th and Iceland is ranked 1st, both with scores of 0.546.
- Additionally, since last year, India's score on this indicator has declined from 0.276 to 0.267. Despite the decline, **India's score in this category is still higher than the average globally.**

Economic Participation and Opportunity

- This includes indicators like the proportion of women in the labor force, salary parity for comparable jobs, earned income, etc.
- Even though India's score has increased from 0.326 to 0.350 since 2021, it still scores poorly in this category, coming in the 143rd out of 146 competing nations. India was ranked 151st out of 156 nations in the previous year's rankings.
- Only Iran, Pakistan, and Afghanistan are behind India on this criterion, and India's score is significantly lower than the average for the world.

Educational Attainment

- Metrics including the literacy rate and the enrollment rates in elementary, secondary, and postsecondary education are included in this sub-index. India is ranked 107th out of 146 in this category, and its score has somewhat declined from the previous year. India placed 114th out of 156 countries in 2021.

Health and Survival

- These two measurements are the healthy life expectancy (in years) and the sex ratio at birth (in %). India is placed 146th out of all the nations in this criteria. Its ranking has remained the same since 2021 when it was ranked 155th out of 156 nations.

POLITICAL INCLUSION OF TRIBES

Priority: Medium



Primary Source: Down To Earth

Prepp Mains Booster: Issues faced by Tribals in India

Context:

- Presidential candidate Draupadi Murmu, got elected as, **India's first tribal President** and the country's second female President in July Month, which brought into light upon the political inclusion of tribals in country.

Who are Tribals?

- The tribe is a social group of a simple kind, the members of which speak a common dialect, have a single government, act together for common purposes and have a common name and contiguous territory. Relatively of common descent. Here the tribe is considered as a social group with a common dialect, purpose, name and culture.
- The tribals account for about **7% of India's population**. The tribes reside in forests, steep hills, mountainous locations, and deep valleys.

- They go by several names, including primitives, animists, jungle people, and aborigines.
- Thus, when we speak about tribes, we are referring to the **Scheduled Tribes**, which are social groups recognised or mentioned in the Schedule to the Indian Constitution.
- As a result, Scheduled Tribes are defined as "such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under **Article 342** to be Scheduled Tribes for the purposes of this constitution".

Issues faced by Tribals in India

Land Alienation

- Land acquisition by the State** results in **development-induced displacement**.
- Due to **environmental degradation and damage** to the land in the region around projects.
- Improper interpretation of legislation**, manipulation of records, and approval granted to alienate land.
- The majority of **State tenancy laws** only recognise privately held registered property, whereas community land of tribal communities is documented as government land.
- Land alienation and displacement** have been the results of state activity in purchasing tribal lands for the settlement of refugees.

Poverty and Indebtedness

- The majority of tribes are impoverished. The tribes engage in a variety of rudimentary professions based on primitive technology.
- The majority of the vocations are fundamental occupations such as hunting, collecting, and agriculture. The technology they employ for these reasons is the most primitive.

Health and Nutrition

- Many tribal populations in India suffer from chronic illnesses and ailments, the most dangerous of which are water-borne diseases.
- They are also afflicted with deficient disorders. Due to a shortage of iodine, the Himalayan tribes suffer from goitre.
 - They are also prone to leprosy and TB. Infant mortality was found to be quite high in some tribes.
 - Malnutrition is frequent and has harmed tribal children's overall health because it reduces their capacity to resist infection, causes chronic sickness, and sometimes causes mental disability.

Education

There are several causes for tribal people's low level of education:

- Formal education is not regarded as required for fulfilling their social duties.
- Superstitions and myths have a significant part in the rejection of education.
- The majority of tribes are impoverished. It is difficult for them to send their children to school since they are seen as additional helping hands.

Constitutional Safeguards for STs

Educational & Cultural Safeguards

- Art. 15(4) : Special provisions for advancement of other backward classes(which includes STs);
- Art. 29 : Protection of Interests of Minorities (which includes STs);

3. Art. 46 : The State shall promote, with special care, the educational and economic interests of the weaker sections of the people, and in particular, of the Scheduled Castes, and the Scheduled Tribes, and shall protect them from social injustice and all forms of exploitation,
4. Art. 350 : Right to conserve distinct Language, Script or Culture;
5. Art. 350 : Instruction in Mother Tongue.

Economic Safeguards

6. Art. 244 : Clause(1) Provisions of Fifth Schedule shall apply to the administration & control of the Scheduled Areas and Scheduled Tribes in any State other than the states of Assam, Meghalaya, Mizoram and Tripura which are covered under Sixth Schedule, under Clause (2) of this Article.
7. Art. 275 : Grants in-Aid to specified States (STs&SAs) covered under Fifth and Sixth Schedules of the Constitution.

Political Safeguards

8. Art. 164(1) : Provides for Tribal Affairs Ministers in Bihar, MP and Orissa;
9. Art. 330 : Reservation of seats for STs in Lok Sabha;
10. Art. 337 : Reservation of seats for STs in State Legislatures;
11. Art. 334 : 10 years period for reservation (Amended several times to extend the period.);
12. Art. 243 : Reservation of seats in Panchayats.
13. Art. 371 : Special provisions in respect of NE States and Sikkim

Inclusive Policies and the Tribes

- The Indian Constitution grants various specific privileges to our country's tribals. The rights provided to tribals can, in reality, differ among areas, as in the Fifth and Sixth Schedule Areas.
- The issues that Tribals encounter have not entered the mainstream debate. To solve challenges of tribal justice, **Jawaharlal Nehru advocated 'Panchsheel'** for tribal development.
- These principles, which serve as the framework for developing tribal policy, are as follows:
 1. **Non-imposition:** Panchsheel promotes non-imposition through promoting self-government.
 2. It states that tribal **forest and land rights** must be safeguarded.
 3. It also supports tribal **participation in governance** and development.
 4. It also requires that programmes and administrative rules aimed towards Tribal beneficiaries be **as simple as possible**.
 5. Finally, it necessitates that Tribal development standards be based on life-quality measures, with the goal of striking a balance between **isolationism and integration**. This is based on a dual approach of integration and development.
- **Part-10 of the Indian Constitution** includes provisions for the administration and supervision of Scheduled Areas and Scheduled Tribes (STs). Tribal advisory councils are needed to be formed in order to instill local self-governance, which is the foundation of democracy.

- **Articles 330 and 332** of the Constitution reserve seats for STs in Scheduled areas, ensuring their rights and interests are protected. This is true at both the national and grassroots levels.
- In addition, welfare agencies have been established in states with sizable Tribal populations to advocate for the advancement of their rights.
- **The 89th Amendment** established the **National Commission for Scheduled Tribes**, whose power is drawn from Article 338A and is managed by Tribal community panels.
- The Panchayats (Extension of Scheduled Areas) Act of 1995, or **PESA**, grants rural Gram Sabhas development and conflict resolution rights (as per traditional practises), as well as ownership and management of natural resources under local tribal groups.
- Small Industries Development Bank of India (SIDBI) has unveiled the updated **Stand Up India scheme, 2021**, which aims to give STs loans ranging from Rs. 10 lakh to Rs. 1 crore to start businesses. It creates growth chances while respecting their privacy and freedom. The margin-money requirement for loans was cut from 25% to 15% in the Union Budget for 2021-22, and credit was made available for operations related to agriculture.
- Another example of a dual-approach programme is the current proposal to construct **750 Eklavya Model Residential Schools** in tribally predominate areas in order to instil heritage-based education while simultaneously dispensing practical skill training.

PASMANDAS

Priority: Low



Primary Source: The Hindu

Prepp Prelims Booster: About Pasmandas

Prepp Mains Booster: Pasmanda Movement; Sachar committee report

Context:

Recently, numerous political parties have taken note of the Pasmanda Community due to its commitment to inclusive growth and the abolition of intra-caste prejudice.

Who are Pasmanda Muslims?

- The Persian word Pasmanda, which means "left behind," is the source of the English word.
- Dalits and Backward Muslims who are engaged in a separate socioeconomic conflict inside society make up the Pasmanda community.
- It was adopted by the Pasmanda Muslim Mahaz, a group that mostly operated in Bihar, in 1998 as a counter-identity to that of the dominant ashraf Muslims (advanced castes).
- The majority of the nation's Muslim population, known as pasmandas, are people who are socially, educationally, and economically backward.
- In Uttar Pradesh, Bihar, and other regions of India, Muslim organisations frequently refer to themselves as "Pasmanda," or "caste-oppressed," Muslim communities.
- Muslim tribes, Dalits, and backward populations are increasingly banding together under the name Pasmanda. This list of communities also contains the following: Kunjre (Raeen), Julahe (Ansari), Dhunia (Mansuri), Kasai (Qureishi), Fakir (Alvi), Hajjam (Salmani), Mehtar (Halalkhor), Gwala (Ghosi), Dhobi (Hawari), Lohar-Badhai (Saifi), Manihar (Siddi)

- In Uttar Pradesh, where the Pasmandas make up around 75% of all Muslims, this community is most prevalent.
- In actuality, the Pasmanda ethnic group makes up 85% of all Muslims in the nation.
- The so-called untouchable Hindu converts are thought to fall within the Pasmanda category.

What is the Pasmanda movement?

- In the post-Mandal era, the effort to establish social justice for Pasmandas and the frequent use of the phrase gained momentum.
- Before independence, its most well-known flag bearers were two weavers from the julaha community: Abdul Qayyum Ansari and Maulana Ali Hussain Asim Bihari.
- Both of these men contested the Muslim League's assertion that it spoke for all Muslims and rejected the communal politics that were being promoted at the time.
- In reality, the movement started in 1910 and on. Although these had a reformist bent, they also behaved like pressure organisations headed by upwardly mobile lower caste members.

Are Muslims divided along caste lines in India?

- The Ashrafs (the 'noble' elite or the 'honourable ones'), The Ajlafs (backward Muslims), and The Arzals are the three main status groupings or biradaris in Muslim culture in India (Dalit Muslims).

What is Rajinder Sachar Committee Report?

- It was established in 2005 with the goal of examining the socioeconomic and educational status of Indian Muslims.
- According to his research, there are three distinct classes of Muslims: the Ashrafs, who lack any social impairments; the Ajlafs, who are comparable to Hindu OBCs; and the Arzals, who are comparable to Hindu SCs.
- Muslim OBCs are a group that combines Ajlafs and Arzals.

Constitutional Status

- Dalits of other religions were excluded from Scheduled Caste (SC) status by the Constitution (Scheduled Caste) Order, 1950, which only granted it to Hindus.
- Later, in 1956 and 1990, the order was modified to include Sikhs and Buddhists.
- The non-Ashrafs, the Ajlafs, and the Arzals, were included in the OBC group when the Mandal Commission's findings was put into practice.
- All religious minorities in India, including Muslims, were damaged by the caste system, according to the Justice Ranganath Mishra Commission's report, which was delivered by the National Commission for Religious and Linguistic Minorities in May 2007.

Minorities notified by the Government of India

- Currently, the only communities considered to be minorities are those that have received central government notification pursuant to section 2(c) of the NCM Act, 1992.
- Five religious communities—Muslims, Christians, Sikhs, Buddhists, and Zoroastrians (Parsis)—were identified as minority communities in 1993 when the first Statutory National Commission was established.
- Jains received notice that they were a minority community in 2014.

YOUTH IN INDIA 2022 REPORT

Priority: Medium

Primary Source: Indian Express

Prepp Prelims Booster: Youth in India 2022 report

Prepp Mains Booster: Challenges of demographic dividend; Youth related initiatives

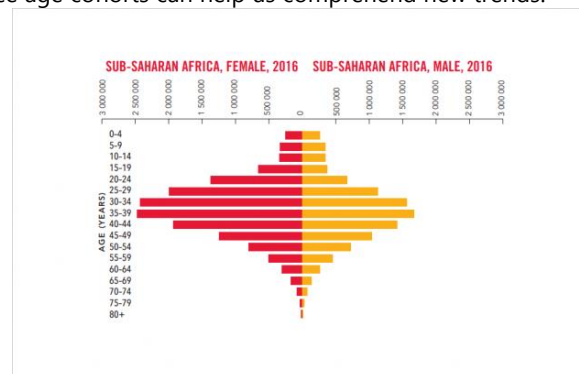
Context:

- The "Youth in India 2022" Report was recently published by the Ministry of Statistics and Programme Implementation (MoSPI).
- The report demonstrates that the proportion of young people in the population is beginning to fall, while the proportion of elderly people is anticipated to rise between 2021 and 2036.
- Increased concentration of the population between the ages of 25 and 64 has been caused by a continuous decline in fertility.
- The "Demographic Dividend"—a window of opportunity for rapid economic growth—is created by this shift in age distribution.

"Youth Bulge"

The term "youth bulge" describes a demographic trend in which a large portion of the population consists of children and young adults.

It is a crucial option to consider when imagining the future since age cohorts can help us comprehend new trends.



(An Example of Youth Bulge in Sub-Saharan Africa in the Year 2016)

Findings of Youth in India 2022 Report

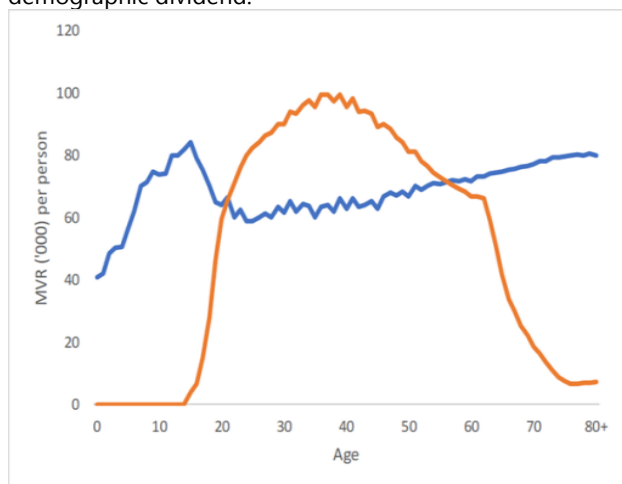
- **The Decline in Youth Population:** The young population is predicted to grow initially before beginning to fall in the second half of the 2011–2036 decade.
- The number of young people worldwide increased from 222.7 million in 1991 to 333.4 million in 2011, and it is predicted that this number would rise to 371.4 million by 2021 before falling to 345.5 million by 2036.
- **The Proportion of Youth and Elderly Population:** Youth as a percentage of the total population climbed from 26.6 % in 1991 to 27.9 % in 2016, with a projected decreasing trend beginning and a target of 22.7 % by 2036.
- On the other hand, compared to the total population, the proportion of elderly people has climbed from 6.8 % in 1991 to 9.2 % in 2016 and is expected to reach 14.9 percent in 2036.
- **The Scenario in the States:** By 2036, it is anticipated that states like Kerala, Tamil Nadu, and Himachal Pradesh will have a larger elderly population than youths.
- Up until 2021, Bihar and Uttar Pradesh had an increase in the proportion of youth to the overall population; after that, it is anticipated to begin to decline.
- Over half (52%) of the nation's youth are expected to reside in these two states, as well as Maharashtra, Madhya Pradesh, and Rajasthan.

Implications of the Current Scenario

- India is going through a "**youth bulge**," which is a demographic window of opportunity.
- However, young people face a number of development obstacles, including those related to adolescent pregnancy, access to education, finding gainful employment, gender inequality, and child marriage.
- Future population proportions of the elderly will increase if there are more young people today.
- This will increase the need for better healthcare facilities and the creation of aged welfare plans and programs.
- In order to accelerate the development of productive jobs, it is important to make the most of the next four to five years as the proportion of the old will put a strain on social security and public welfare systems.
- People who work in informal jobs sometimes lack social security, which puts additional stress on the state.

What is a Demographic Dividend?

- When the percentage of the workforce in the population is high, there is a demographic dividend since more individuals are potentially productive and able to boost the economy.
- It is the possibility of economic advantages when a higher percentage of people (15–64 years old) are working than are not.
- Many claim that there is significant potential for economic gains because of the demographic gift, often known as the dividend between young and old.
- The younger population must have access to quality education, proper nutrition, and health care, including sexual and reproductive health, in order for the economy to grow.
- A demographic shift from a rural, agrarian economy with high fertility rates to an urban, industrialized economy with low fertility and death rates results in the demographic dividend.



(Demographic Dividend)

Can India gain from a Demographic Dividend?

- Depending on how a country uses the potential, a growing population can be both a boon or bane for that nation.
- An economy is said to be in a boom when there are more people working in a nation than there are people who are getting older.
- China, for example, had effectively utilized its working population.
- The Chinese economy saw tremendous growth with an average annual growth rate of 10.2 percent during the

first half of the demographic dividend, which occurred between 1980 and 1995.

- The demographic dividend of China occurred at the same time as its economic boom, greatly enhancing its already dynamic and quickly expanding economy.
- India must study how to profit from the demographic dividend and learn from China's experience.
- India's demographic dividend is currently at a turning point; from this point forward, the population percentage of youth is anticipated to decline and the share of seniors to increase until 2036.
- Up until 2021, the youth population's share of the total population increased in Bihar and Uttar Pradesh, both of which have large populations.

Challenges

- **Need for Greater Resources:** With a larger population comes a greater need for resources, both for housing and for feeding people.
- **More Stress on Nature:** This means that nature will be under even more stress as a result of the lack of replenishment.
- **Hunger Index:** Also taken into consideration must be the UN population report. India, one of the world's most fertile countries, is still ranked highly on the global hunger index.
- **Rapid Depletion of Ground Water Resources:** The groundwater resources are rapidly running out, which has recently put a tremendous amount of stress on the residents of villages in Rajasthan and Madhya Pradesh. The National Capital Region's most affluent communities were not exempt from the water issue.
- **Climate Change:** Another alarming occurrence is the threat posed by climate change.
- **More Elderly People in the Future:** The fact that there will likely be a greater proportion of elderly people than young people in certain Indian states is another something that must be ignored.
- By 2036, it is predicted that states like Kerala, Tamil Nadu, and Himachal Pradesh will have a higher elderly population.
- **Better Healthcare Facilities And Schemes:** This will result in a rise in the need for better healthcare facilities as well as the creation of future elderly welfare plans and programs.
- **Onus of the Government:** The government must consider how to help the dependent population in the southern states, where the proportion of the dependent population is expected to rise, by offering social security, pensions, and elderly healthcare.

Recommendations for the Current Scenario

- There is a need to create manufacturing employment because when the current workforce retires and the elderly population begins to rise in areas with high populations, it will be like a ticking time bomb (a situation that is likely to become difficult to deal with or control).
- Active labour market policies must be implemented during the next 4–5 years to hasten the creation of productive jobs.
- It is necessary to take action to adjust public programs to the rising share of senior citizens.
- This can particularly be done by strengthening the viability of the social security and pension systems and by

building universal health care and long-term care systems.

Youth Related Initiatives

- **Pradhan Mantri Kaushal Vikas Yojana:** The Government of India's Vikas Yojana is a skill development initiative program for the recognition and standardization of skills.
- The PMKVY scheme aims to boost the working efficiency of potential and current daily wage earners by encouraging aptitude toward useful skills, providing them with quality training, and financial incentives.
- **YUVA: Prime Minister's Scheme For Mentoring Young Authors:** The PM Yuva Yojana is an initiative by the Indian government to develop young, aspiring writers into accomplished authors who would reflect India's rich cultural legacy.
- The program will enable aspiring authors to participate and develop their craft through a mentorship program.
- **Integrated Child Development Services (ICDS) Scheme:** A central government program called Integrated Child Development Services (ICDS) offers mothers and young children under the age of six nutritious meals, preschool instruction, basic medical care, immunizations, health check-ups, and referral services.
- The program was introduced in 1975, stopped by the Morarji Desai government in 1978, and then restarted under the Tenth Five Year Plan.
- **National Youth Policy-2014:** The goal of NYP-2014 is to assist youngsters to realize their full potential and, through them, help India reclaim its proper place in the international world. The Policy provides five clearly defined objectives and 11 priority areas for accomplishing this vision and offers policy responses in each priority area.
- The top priority areas include youth engagement, inclusiveness, social justice, entrepreneurship, health, a healthy lifestyle, sports, the promotion of social values, community engagement, and skill development and employment.
- **Rashtriya Yuva Sashaktikaran Karyakram Scheme:** Since the 12th Five Year Plan, the Rashtriya Yuva Sashaktikaran Karyakram Scheme has been a Central Sector Program of the Ministry of Youth Affairs & Sports.
- The Scheme intends to engage young people in activities that promote nation-building while also fostering their leadership and personality development.

GENERAL STUDIES2

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

GORKHALAND TERRITORIAL ADMINISTRATION (GTA)

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Qualifications of President;

Prepp Mains Booster: What are the reforms needed in the Higher Judiciary

Context:

- After a ten-year gap, elections to the GTA, the regional autonomous body of the Darjeeling Hills that includes the districts of Darjeeling and Kalimpong, were conducted in July month.

Who are Gorkhas?

- Historically, the designations "**Gurkha**" and "**Gorkhali**" were interchangeable with "**Nepali**," which comes from the hill principality **Gorkha Kingdom**, from which Prithivi Narayan Shah expanded the Kingdom of Nepal.
- The name is derived from **Guru Gorakhnath**, a medieval Hindu warrior-saint who has a historic shrine at Gorkha.

History of Gorkhas

- Prior to the 1780s the area was ruled by **Chogyals of Sikkim**.
- The Gorkhas conquered **Sikkim** and the majority of the North Eastern states in 1780, including Darjeeling, Siliguri, Simla, Nainital, the Garhwal Hills, Kumaon, and Sulej, or the entire territory from Teesta to Sulej.
 - After losing the **Anglo-Nepal war**, the Gorkhas relinquished the province to the British at the Treaty of Sagauli in 1816, after 35 years of control.
- Despite the fact that the British gave Darjeeling over to Sikkim, it was seized back in 1835 for political reasons.
 - **Darjeeling was a part of the Rajshahi division**, which is today in Bangladesh, before Viceroy of India Lord Curzon oversaw the partition of Bengal in 1905.
 - It was even a part of the Bhagalpur division for a short time from 1905 to 1912.

MAP DEPICTING THE REGIONS IN THE PROPOSED GORKHALAND STATE



The issue of Gorkhaland

- Gorkhaland is composed of **Nepali-speaking population** from Darjeeling, Kalimpong, Kurseong, and other West Bengal highland areas. People from these regions have ethnic, cultural, and linguistic distinctions with West Bengal's Bengali group.
- The Gorkhaland Movement, based mostly in **West Bengal's Darjeeling Hills**, calls for the formation of a breakaway state of Gorkhaland.
 - Darjeeling's aspiration for its own administrative region goes back to **1907**.
 - However, **Subhash Ghising**, the founder of the **Gorkha National Liberation Front (GNLF)**, coined the phrase "Gorkhaland" in the 1980s.
- The area includes **West Bengal's Dooars and Terai regions**. And is well-known for its tea and scenic beauty, which are its primary sources of revenue.

Why is Gorkhaland being demanded as an independent state?

- The major cause for the **separate Gorkhaland** is due to ethnic, cultural, and linguistic disparities.
- In the northern region of West Bengal, people of Nepali-Indian Gorkha ethnic background desire a state based on

their **cultural identity**, which is quite different from Bengali culture.

- There is also a problem of poverty, underdevelopment, and politicisation of the subject, in addition to an **identity crisis**. The Gorkhaland issue arose from a combination of governance failure and politicisation.

Importance of the Gorkhaland Movement

- It is one of India's oldest movements (began in 1907)
- What happens in Gorkhaland will have ramifications for **India-Nepal ties**.
- How India handles the difficulties of Nepali hill people in Darjeeling will have an impact on how Nepal handles people of Indian descent in Nepal, i.e. Madhesi in Terai.
- Gorkhaland is **strategically located near the chicken neck**, which connects the rest of India to the North East.
- Its stability is essential for the country's **strategic and economic interests**.
 - Darjeeling is a tea-growing and tourism destination with a high poverty rate.
 - It requires and has the ability to become the East's economic engine through a long-term economic plan. However, such things will only be achievable if the region is stable.

Arguments in favour of a new State

- It has the potential to establish a stable and accountable government in Darjeeling.
- It will result in development of the region and end poverty.
- It would bring an end to one of India's longest-running movements for the formation of a separate state.

Arguments against a new State

- It has the potential to lead to India's "**Balkanization**."
- It may legitimise the use of violence to achieve demands.
- The increase of agitation in tandem with the emergence of new outfits demonstrates that politics is crucial.
 - The divide would be a drastic action for an issue that can be handled via political consensus, as it was in 1988 and 2011.
- The state should be divided according to the criteria established by the State Reorganization Commission. Any diversion would just exacerbate the problem rather than solve it.

What is Gorkhaland Territorial Administration?

- The goal of **Memorandum of Agreement** signed by the **Government of India**, the Government of **West Bengal**, and the **Gorkha Janmukti Morcha, Gorkha Territorial Act XX of 2011** was to establish an **independent self-governing organisation** to oversee the territory so that socioeconomic, **infrastructural, educational, cultural, and linguistic growth** may be accelerated and Gorkha ethnic identity formed, resulting in overall development of the people of the region.
- As a result, the **GTA Sabha was formed on August 2, 2012**, with forty-five elected members and **five nominated by the Governor**.
- The **Hill Affairs Branch** of the Home and Hill Affairs Department of the Government of West Bengal is the nodal branch for Gorkhaland Territorial Administration.

GUIDELINES TO CURB UNFAIR ADVERTISEMENTS

Priority: Medium

Primary Source: PIB

Prepp Prelims Booster: About Central Consumer Protection Authority (CCPA)

Prepp Mains Booster: Issue of misleading advertisement

Context:

Recently, guidelines were released by the **Central Consumer Protection Authority (CCPA)** to stop deceptive or false or misleading advertising.



What is Misleading Advertisement?

- "Misleading Advertisements" are already defined under the Consumer Protection Act, 2019, as, "an advertisement, which is:
 1. falsely describes such product or service;
 2. gives a false guarantee to, or is likely to mislead the consumers as to the nature, substance, quantity or quality of such product or service; or
 3. conveys an express or implied representation which, if made by the manufacturer or seller or service provider thereof, would constitute an unfair trade practice;

What are the Guidelines?

Non-misleading and valid Advertisements:

- If a product is accurately and honestly represented in an advertisement and its accuracy, scientific validity, or practical utility or capability is not exaggerated, the advertisement is not considered misleading.
- If a mistake was made unintentionally, the advertisement might still be regarded as true if the advertiser informed the consumer right away.

Surrogate Advertisements:

- The term "surrogate advertisement" describes the promotion of products behind the scenes of other products.
 - As an illustration, consider tobacco advertising dressed as pan masala.
- For products or services whose advertising is otherwise forbidden or restricted by law, no substitute or indirect advertising may be used.
- It is not permitted to evade a restriction or prohibition by using it to promote other products or services.

Advertisements Targeting Children:

- Advertisements that support, encourage, model, or unreasonably exploit behaviour that might be risky for kids, or that prey on their naiveté, credulity, or sense of loyalty, etc., have been outlawed.
- It goes without saying that commercials frequently have an impact on children's purchasing decisions, urge them to consume harmful products, or cause them to feel unfavourably about healthy products.

Disclaimers in Advertisements:

- The rules have also established the requirement for "disclaimers in advertisements" to define, qualify, or resolve ambiguities in claims made in advertisements in order to further explain such claims.

- Furthermore, the advertiser is forbidden from "attempting to hide material facts with respect to any claim made in such advertisement, the omission or lack of which is likely to render the advertisement misleading or conceal its commercial motive."

Duties:

- The rules also place obligations on advertisers, service providers, and manufacturers to refrain from making claims and comparisons in their advertisements that are based on verifiable facts.
- Additionally, the advertisement must be constructed so that it earns the trust of the target audience rather than "abusing the faith of customers or exploiting their lack of experience or expertise."

What is the Significance of the Guidelines?

- The regulations are ground breaking because they specifically define advertisement obligations while addressing key gaps in consumer protection.
- The recommendations make an effort to counteract the promotion of child-targeted irrational consumption.
- It has been much too long since there has been any real resolution to the issue of deceptive, bait, surrogacy, and child-targeted advertising.
- The recommendations play a crucial role in harmonising the Indian regulatory system with global standards and norms.
- The standards play a crucial role in arming consumers against sneaky marketing.
- Instead of specifying what constitutes a misleading or invalid advertisement, the rules list the requirements for what constitutes a "non-misleading and valid" commercial. This lessens the opportunity for gaps to be exploited.
- The rules have also addressed the difficulties in enforcing the current advertisement regulations by imposing harsh fines.

What is the Central Consumer Protection Authority?

About:

- A regulatory agency known as the CCPA was founded in 2020 in accordance with the stipulations of the Consumer Protection Act of 2019.
- The Ministry of Consumer Affairs has administrative jurisdiction for the CCPA.

Objective:

- To advance, defend, and uphold the rights of consumers as a group.
- To investigate consumer rights violations and file complaints or bring legal action.
- To mandate the recall of dangerous products and services, the end of unfair business practises, and the removal of deceptive advertising.
- To impose sanctions on anyone who create, support, or disseminate deceptive advertising.

What are the various Initiatives taken for Consumer Protection?

Consumer Welfare Fund:

Central Consumer Protection Council

Consumer Protection Rules, 2021

Consumer Protection (E-Commerce) Rules, 2020

National Consumer Day

National Consumer Day:

- Every year, on December 24, India celebrates National Consumer Day with a particular theme.
- The Consumer Protection Act of 1986 obtained the president's approval on this day. This Act's passage is seen as a significant turning point in the nation's consumer movement.
- This day offers the chance for people to emphasise the significance of the consumer movement and the necessity of raising everyone's awareness of their rights and obligations as consumers.

DEVELOPMENT OF ENTERPRISE AND SERVICE HUBS BILL

Priority: Medium



Primary Source: The Mint

Prepp Prelims Booster: Development of Enterprise and Service Hubs (DESH) Bill

Prepp Mains Booster: Significance of the DESH legislation

Context:

- The Development of Enterprise and Service Hubs (DESH) Bill will be introduced by the government during the monsoon session of Parliament. The present Special Economic Zones (SEZ) Act, 2005, will be replaced by this law.
- The government is making an effort to change the **special economic zone (SEZ)** policy by **enlarging the scope** of these exclusive zones so they comply with WTO regulations and serve purposes other than export-oriented ones.



Why should the SEZ Act be replaced?

- The WTO's dispute resolution panel decided in 2019 that India's export subsidy schemes, particularly the provision for special economic zones, breached fundamental standards of international commerce.
- The gross national product (GNP) per person in India exceeded \$1,000 annually. It is noteworthy that all developing nations with a gross per capita income of **\$1,000 for three consecutive years** are expected to **stop all export incentives** under Article 3.1 of the WTO's SCM agreement.
- The **World Trade Organization's dispute settlement panel** determined that the **SEZ Scheme** and **other export-related programmes** in India **violated WTO** regulations since they **directly connected tax benefits** to exports like

Direct export subsidies

- Direct export subsidies** are prohibited because they can skew market pricing.

Income tax exemption

- SEZ units** used to receive a 100% **income tax exemption** on export income for the first five years, a

50% exemption for the next five years, and a 50% exemption on the profit on reinvested exports for an additional five years.

What is the significance of the DESH legislation?

Broader goal

- It has a considerably **broader goal** of fostering domestic industry and job creation through "**development hubs**," going **beyond** simply **encouraging exports**.
- The SEZ regime's requirement that these hubs be **net foreign exchange positive** cumulatively over five years (i.e., export more than they import) **will no longer apply**, and they will have **easier access** to the **domestic** market.

WTO regulations

- The hubs will adhere to WTO regulations.
- While there won't be any direct tax incentives like those offered to SEZs that had issues with WTO standards, there will be some indirect tax benefits.

A single-window online platform

- The DESH law also establishes a **single-window online platform** for the granting of time-limited approvals for setting up and running the hubs.

Offer additional incentives

- It's still unclear on taxation.
- The draft Bill does, however, stipulate that states and the central government would be able to **offer additional incentives** in the form of tax breaks, rewards, exemptions, and duty disadvantages.
- At these centres, **subsidies** may be provided for goods and services.
- States and the Center may implement **new methods** to hasten clearances and make **compliance easier**.

Domestic market

- Businesses **may sell goods on the domestic market** while only paying taxes on **imported inputs and raw materials**, not the finished goods.
- When a product is sold in the domestic market under the existing SEZ framework, duty is paid on the finished goods.
- Furthermore, unlike in the case of SEZs, there is **no necessity** for an obligatory payment in **foreign currency**.
- To make taxes equal to those provided by units outside, the government may apply an **equalization levy** on goods or services supplied to the domestic market.

Role of states

- The Center's **commerce department** made the **majority** of the decisions during the **SEZ regime**. **States** will now be able to take part and **can even suggest** development hubs **directly to a central board for approval**.
- Additionally, state boards would be established to control how the hubs were run.
- They would be able to **oversee the use of goods or services**, warehousing, and trade in the development hub as well as the approval of imports or the procurement of items.

CENTRE'S PUSH FOR LABOUR CODES

Priority: Medium

Primary Source: The Indian Express

Prepp Prelims Booster: About Labour Codes

Prepp Mains Booster: Challenges faced by Labour Codes.

Context:

- In order to replace 29 sets of labour laws, the central government is pushing for the implementation of four labour codes that were introduced in 2020 (Code of Wage Act in 2019).

► Four labour codes subsumed 29 central labour laws

► The code on wages was passed by Parliament in August 2019

► The other three were passed in September 2020

► The code on wages envisages uniform applicability of the provisions of timely payment of wages and minimum wages to all employees irrespective of the wage ceiling and sector

- The four labour codes which subsumed the 29 laws include: The Code of Wages Act 2019, Industrial Relations Code Bill, 2020, Social Security Code Bill, 2020, Occupational Safety, Health and Working Conditions Code Bill, 2020.

What is the need for new Labour Codes?

- An empowered, affluent, and Aatmanirbhar India requires the empowerment of its workforce.
- Even after 73 years of independence, around 90% of workers are employed in the unorganised sector, where they are not eligible for all social security benefits.
- Over 50 crores of people are employed in both the formal and unorganised sectors combined.
- For the first time, a government is taking care of workers and their families in both the organised and unorganised sectors.
- The working class used to be caught in a web of various labour laws. To give people actual freedom, the Central Government has made a revolutionary move on the correct path.
- The Central Government has made the historic decision to codify 29 laws into 4 Codes in order to make it easier for workers to get security, respect, health, and other welfare measures.

What are the 4 Labour Codes?

1. Code of Wage Act 2019
2. Industrial Relations Code Bill, 2020
3. Social Security Code Bill, 2020
4. Occupational Safety, Health and Working Conditions Code Bill, 2020

Benefits of Labour Codes

1. Consolidation and Simplification of the Complex Laws:
2. Single Licensing Mechanism
3. Easier Dispute Resolution
4. Ease of Doing Business

5. Gender Parity

Reforms Delayed

Govt no longer pursuing rules under labour codes

Not pushing states to hasten the process in their domain

Focus, both at Centre and states, now on handling Covid crisis

Employers lobbying to defer implementation

Says rollout will mean additional cost burden

WHAT WILL THIS MEAN?

Workers to be deprived of national floor-level minimum wage

Social security cover for gig workers may not come now

Rationalisation of wage structure may not happen

(Limitations of Labour Codes)

Challenges faced by Labour Codes

- **Constitutional Challenges:** Since labour is an ongoing subject, both the central government and the states must create laws and regulations. While the four labour codes were approved by Parliament in 2020 and the Center pre-published the draught rules for each code, certain state governments have not yet finished the procedure.
- **The Concern of Exclusion:** According to the proposed regulations, all employees must register on the Shram Suvidha Portal and have Aadhaar cards in order to be eligible for any social security benefits. Due to a lack of information, workers would likely be unable to register on their own, which would result in Aadhaar-driven exclusion.
- **Urban Centric:** The codes do not provide any type of social protection to the great majority of the informal sector employees, who are primarily found in rural areas and include migrant workers, self-employed individuals, those who work from home, and other disadvantaged groups.
- **Not a Right Based Framework:** The Constitution's requirements for social security are not emphasised in the Code, nor is it mentioned as a right.
- **Industrial Relations Code Bill:** It will allow businesses to impose arbitrary service requirements on employees as well as weaken the labour rights of those employed in small establishments with fewer than 300 people.
- **Code of Wages Act:** According to some, the new wage code will increase the purchasing power and income potential of informal employees, pushing starvation wages even lower.

Recommended Steps to Enhance Labour Laws

- **Looking After Migrant Workforce:** The draft rules must specify precisely how the migrant informal workforce would be affected by their application. The government's initiative of "one India, one ration card" is a positive development in this regard.
- **Skilling Under CSR Expenditure:** Large business entities should also be responsible for CSR spending on training individuals in the unorganised sectors.
- **Understanding Invisible Labour:** The earliest possible implementation of a national strategy for domestic workers is required to uphold their rights and encourage better working conditions.

Parliament and State Legislatures – structure, functioning, the conduct of business, powers & privileges and issues arising out of these.

DISPUTE OVER ELECTORAL SYMBOL

Priority: Low

Primary Source: Indian Express

Prepp Prelims Booster: Indian Polity and Governance

Prepp Mains Booster: Salient Features of the Representation of People's Act.

Context

Recently, a political party has contacted the Election Commission of India (ECI) to claim the Party Symbol (Shivsena in Maharashtra).



What is an Election Symbol?

- A political party is given a defined emblem known as an election or electoral symbol.
- They are displayed on Electronic Voting Machines (EVMs), when voters select the symbol they want to vote for and cast their ballots for that party. They are utilised by the parties during their campaigning.
- They were created to make voting easier for those who are illiterate and cannot read the names of the parties.
- The regulation, reserve, and allocation of electoral symbols should be handled through a statute of Parliament, known as the Symbol Order, it was suggested in the 1960s.
- The Elections Commission of India (ECI) responded to this idea by stating that the regulations of the Election Symbols (Reservation and Allotment) Order, 1968 shall regulate both the recognition and the allotment of symbols of political parties.

Election Symbol Dispute:

- Disputes related to the election symbols among the divided factions of the political party or among the political party comes under the Quasi-Judicial Powers assigned to the Election commission of India (ECI).

What are the EC's powers in case of Election symbol disputes?

- The Elections Commission (EC) is authorised to identify political parties and assign symbols by the Election Symbols (Reservation and Allotment) Order, 1968.
- It can resolve disagreements between competing organisations or factions of a recognised political party asserting claim to its name and emblem under Paragraph 15 of the Order.
- According to the Symbols Order, the EC is authorised to decide whether one rival faction or group—or none of these rival sections or groups—is that recognised political party after taking into account all the relevant facts and circumstances.
- All of these competing groups must abide by the Commission's decision.
- This also holds true for conflicts between recognised national and state parties.

- The EC typically encourages the fighting factions to resolve their disputes internally or to approach the court for splits in registered but unrecognised parties.

How does the EC decide?

- The ECI primarily determines the level of support a claimant receives from a political party's legislative and organisational wings.
- The Commission looks into the party's bylaws and the list of office holders that were presented when the party was united for the Organizational Wing.
- ECI locates the organization's top committee(s) and determines how many officers, members, or delegates support the competing claimants.
- The party measures its success in the Legislative Wing by the proportion of MPs (Members of Parliament) and MLAs (Members of Legislative Assembly) in the opposing camps. To determine where these members stand, ECI may take into account the affidavits they have submitted.
- The ECI may rule in favour of one faction by concluding that it has enough support among its legislative and organisational wings to be granted the right to use the name and emblem of the officially recognised party.
- It might allow the opposing faction to register itself as a new and separate political party.

What happens when there is no certainty?

- The EC may freeze a party's symbol when it is either vertically divided or impossible to determine with certainty which group has a majority. In these cases, the groupings are then free to register under new names or modify the party's existing names.

What are the other quasi-judicial powers of ECI?

- Concerning the recognition given to political parties and candidates, the Election Commission has the authority to resolve disagreements.
- It has the authority to serve as a court in cases involving disagreements over the distribution of electoral symbols to political parties and candidates. Even amongst regions, there are variations in election emblems.
- It is important to keep in mind that the State Election Commission is in charge of overseeing the elections for Panchayats and Municipalities. The ECI in turn counsels and is responsible to the State Election Commissions.

What are the other powers of ECI?

The powers of the Election Commission can be divided under three categories:

- Administrative Powers
- Advisory Powers
- Quasi-Judicial Powers

Administrative Powers:

- The Delimitation Body Act has given the commission the authority to set the geographic limits of electoral seats for various elections.
- Any political party or organisation may be registered or deregistered through its use.
- It has the authority to ensure that the "Model Code of Conduct" for election campaigns is followed.
- It has the authority to monitor the political parties' election spending. This guarantees a level playing field for all political parties, regardless of their size and consequent spending power.

- It has the authority to choose officers from several Civil Services departments to serve as election and expenditure observers.

Advisory Powers:

- The Commission has the authority to advise the President of India on the circumstances behind the disqualification of members of Parliament.
- The Commission also provides guidance to the Governors about the exclusion of State Legislature members.
- In cases involving post-election disagreements between candidates and political parties, it provides advice to the High Courts and Supreme Court.

IMPORTANT ROLE OF VIGILANT OPPOSITION IN DEMOCRACY

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Indian Polity and Governance – Constitution, Political System, Panchayati Raj, Public Policy, Rights Issues, etc.

Prepp Mains Booster: Parliament and State Legislatures—Structure, Functioning, Conduct of Business

Context:

- Madhya Pradesh, Karnataka, and Maharashtra's governments have recently fallen. Further, there were instances of leaders of the opposition being selectively detained.
- This reveals significant problems with the functioning of Indian democracy and particularly with opposition in India. In this background scholars have analysed the role of Opposition in Indian democracy

What is Opposition?

- Particularly in a parliamentary system based on Westminster, opposition is a type of political resistance against a chosen government.
- The largest non-government party or coalition that is not a part of the treasury benches and that is elected to represent the people plays a significant role in challenging the government's choices and actions as well as bringing up issues of public concern in a functioning parliamentary democracy.

What is the role of the opposition in democracy?

- The opposition responds, probes, and scrutinizes the government in the legislature, in its committees, outside the legislature, in the media, and among the populace.
- Making sure that any government abides by the constitutional restraints.
- Additionally, the opposition in parliament goes beyond merely supporting the government and raises, demands, and appeals utilizing a variety of legislative procedures for the particular needs of their constituents, changes, and assurances.
- Opposition provides constructive criticism of government policies, plans, bills, laws, and programs and makes the government work in accordance with social welfare and the public good.
- Main role of the opposition is to question the ruling government and hold them accountable to the people.
- Opposition carries the suggestions of civil society to the parliament/ ruling Government.
- Opposition should not criticize each and every decision of the ruling government. Rather, sometimes its support is necessary for the decisions that are in the public interest.

- Effective opposition exposes the weaknesses of the ruling government.
- Opposition is the guardian of the public interest and reminds the ruling government of its duty towards the people who elected them to power.
- Opposition provides checks and balances on the executives in the functioning of vibrant democracy. For example, the participation of members of the opposition in various parliamentary committees.

Why is there a need for a strong opposition in democracy?

- The present Indian government has received harsh criticism from a variety of sources.
- A decline in India's standing in international rankings for democracy, human rights, and press freedom, an uptick in sedition charges, and escalating UAPA cases characterize the current period.
- Furthermore, a lot of the laws established by Parliament are coming under increased scrutiny.
- These incidents unmistakably show a weaker and less effective opposition as well.

What are the issues with the opposition in India?

- The opposition is currently **experiencing a crisis** that is related mostly to these parties' **electoral representation and effectiveness**.
- Additionally, there is a **lack of leadership and trust** in the political parties.
- The opposition parties are **unable to expand** this umbrella beyond a small number of identities and are confined to clustered forms of representativeness that are limited to a few distinct social groups.
- However, the opposition's inability to achieve meaningful representation across all societal sectors was a factor in the opposition's space becoming more constrained.
- Setting the political agenda and converting sceptics to their cause have both been major failures for the opposition in recent years.

What are the measures needed to make opposition effective in India?

- **Reviving Opposition:** Rather than imposing policies from the top, it is necessary to resurrect and reorganise parties in villages, blocks, and districts.
- The opposition parties must abandon their acquired identities and adopt new ones that are deeper and more expansive in thought and action.
- Enhancing the Role of the Opposition: In India, the institution known as the "**Shadow Cabinet**" might be established **to enhance the role of the opposition**.
- **Intrinsic Elements that Boost Opposition:**
- Reorganizing the party structure is necessary, as is mobilising the public and educating them about the various party platforms. Mechanisms for timely review of internal party democracy must also be adopted.
- **Responsibility of Representation:** At this point, the Opposition has a significant obligation to coordinate on shared problems, plan for parliamentary procedures, and, above all, work to represent the voices that have been silenced.
- **Lessons from Legacy:** The Indian parliamentary opposition may learn a lot from its own history. It may use the lessons it has learned to establish itself as the voice of democratic and egalitarian ideals.
- It may also be a good time to consider fresh approaches to maintaining dissent and opposition in a public culture

influenced by new media that invariably encourage compliant behaviour.

INCREASING TENURE OF HOUSE COMMITTEES

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Parliamentary Committees

Prepp Mains Booster: Parliament and State Legislatures – structure, functioning, the conduct of business, powers & privileges and issues arising out of these.

Context:

- A maiden report, which studied the working of the Rajya Sabha secretariat and other procedural issues, and made 130 recommendations was submitted to the Chairman of Rajya Sabha.

Key recommendations of the panel

- **Increasing the tenure:** Committee suggested that the tenure of the Parliamentary committees should be increased from present one year to two years.
- **Increasing Field visit:** Their field visits should also be increased from present two visits for a maximum of ten days in a year to three visits and fifteen days.
- **Merging existing committees:** Committees on Industry and Commerce should be merged into one and setting up a new committee on tourism and culture
- **A Committee Hour:** It has been recommended to discuss major reports in the Parliament for wider amplification of the content of the reports.
- **Accessibility:** The panel said that these reports should be made more accessible to the stakeholders and general public.
- **Streamline secretarial work:** It has suggested streamlining of the Rajya Sabha secretarial work, including disposing of 75% of the issues by lower and middle level in a ten-layer hierarchy that exists in the secretariat at present.
- **Virtual meetings:** It suggested examining in detail the issue of enabling virtual meetings of DRSCs.
- **Fill the vacancies:** It recommended that all vacancies in the RS secretariat's committee section be filled up.
 - At present, The eight Department Related Standing Committees (DRSCS) of Rajya Sabha are functioning with a shortage of staff ranging from 27% to over 40%.

Parliamentary Committees

- A committee can be called a Parliamentary committee if it is appointed or elected by the house or nominated by the Speaker or the Chairman and has a secretariat provided by the Lok Sabha/Rajya Sabha secretariat.
- Parliamentary Committees were constituted to examine proposed legislation, government policies and expenditure in detail.
- They also examine petitions from the public, check whether rules framed by the government are in consonance with Acts of Parliament, and help manage the administration of Parliament.
- Parliamentary committees draw their authority from Article 105 (on privileges of Parliament members) and Article 118 (on Parliament's authority to make rules for regulating its procedure and conduct of business).
- Parliament is not bound by the advice of the Parliamentary Committees

Types of Parliamentary Committees

- The Parliamentary committees are of two kinds:
 - Standing or permanent committees and
 - Ad hoc committees
- Standing Committees:** They are permanent and regular committees which are constituted from time to time in pursuance of the provisions of an Act of Parliament or Rules of Procedure and Conduct of Business in Lok Sabha or Rajya Sabha.
 - The work of these Committees is of continuous nature.
 - It is formed every year.
 - Standing committees are of the following kinds: Financial standing committees (FSC), Department related standing committees (DRSC), Other standing committees (OSC)
- Ad hoc committees:** These are the committees that are appointed for a limited time and cease to exist after accomplishing the goal for which they were formed.
 - They submit a report to the respective authority before getting dissolved.
 - They are appointed by either House or the presiding officers from time-to-time for a specific purpose.
 - Some Ad Hoc Committees include:** the Railway Convention Committee, and Select Committees formed to examine specific Bills.

Rajya Sabha Secretariat

- The Secretariat of Rajya Sabha was set up pursuant to the provisions contained in Article 98 of the Constitution.
 - It provides for a separate secretarial staff for each House of Parliament.
- The Rajya Sabha Secretariat functions under the overall guidance and control of the Chairman of the Rajya Sabha.

Main functions:

- Providing secretarial assistance and support to the effective functioning of the Rajya Sabha
- Payment of salary and providing amenities and other allowances to the Members of Rajya Sabha;
- Servicing the various Parliamentary Committees
- Preparing research and reference material and bringing out various publications
- Recruitment of manpower in the Rajya Sabha Secretariat and attending to personnel matters; and Preparing and publishing a record of the day-to-day proceedings of the Rajya Sabha

SC UPHOLDS POWERS OF ARREST, RAID UNDER PMLA

Priority: Medium

Primary Source: PIB

Prepp Mains Booster: Money Laundering and its prevention; Structure, organization and functioning of the Executive and the Judiciary.

Context:

- The Prevention of Money Laundering Act (PMLA), which grants the government and the Enforcement Directorate (ED)** virtually unrestricted powers of summons, arrest, and raids, makes bail virtually impossible, and shifts the burden of proof of innocence

from the prosecution to the accused, was **upheld by the Supreme Court on July 27.**

On ED's power under PMLA

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

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

What did the Judgment say?

- The Supreme Court described the **PMLA as a statute** against the "scourge of money laundering" and **not a tool used to smear dissenters** and rival politicians.
- The three-judge bench stated that a **larger bench of the supreme court** would **separately review** the process of **introducing the amendments through money bills.**

Self incrimination

- The court ruled that statements were taken as part of a "inquiry" into the pertinent details relating to the proceeds of crime. It **cannot be** compared to an **investigation leading to charges.**
- "A person cannot assert protection under Article 20(3) of the Constitution's basic right against self-incrimination.

Safeguard against detention

- The petitioners had contended that the ED might detain someone even if they were not aware of the charges against them. The right to **"due process"** guaranteed by **Article 21** of the Constitution was violated by this power. In addition, they had argued that **Article 22** required that no one be arrested **without first telling them of the reason for the arrest.**
- The court disproved the claim that the ED has been given **general authority** to make arrests, search people and property, and seize things.
- The **Act has "in-built safeguards,"** according to the court, including the requirement that the reasons for the arrest be recorded in writing.
- The Bench further pointed out that the **Special Court** could decide on its own whether or not the accused needs to remain imprisoned.

Enforcement Case Investigation Report (ECIR)

- The court ruled that it was against the accused's constitutional rights to withhold the Enforcement Case Investigation Report (ECIR) or not provide him with a copy of it.
- The requirement of **Article 22(1) of the Constitution is sufficiently** met as long as the individual has been **notified of the reasons for his arrest.**
- The ECIR's status as a **"internal, departmental document"** was justified by the court. Its contents being revealed before the investigation into the proceeds of the crime is finished would have a **"deleterious impact"** on how the case turns out.

Bail

- The petitioners had stated that the accused had no chance of being released due to the **"dual requirements" of bail under the PMLA**. There must be "reasonable reasons for thinking that he is **not guilty of such offence**" and the defendant "is not **likely to commit any offence while on bail**," according to the two requirements.
- The court did rule that **undertrial defendants** who had already **served one-half of the sentence for the statutory offence** might apply for bail under Section 436A of the Code of Criminal Procedure. Again, though, this is not a "absolute right" and would vary from circumstance to circumstance.

Burden of Proof on the accused:

- Justice Khanwilkar stated that the provision did not suffer from the **"fault of arbitrariness or unreasonableness"** with regard to the issue of the burden of proof falling largely on the shoulders of the accused. "Once the question of the admissibility of **evidence supporting the factum of serious suspicion** regarding the person's involvement in criminal activity under the 2002 Act is **accepted in law**, the **burden must shift to the individual in question** to dispel that suspicion."

Seizure of property:

- The court overruled challenges to the ED's authority to seize property as the proceeds of crime. Petitioner had argued that the agency could seize even items that weren't the profits of crime.
- The court ruled that the agency cannot employ **Section 5 of the PMLA "mechanically"**, which deals with the provisional attachment of property.
- "Authorities **under the 2002 Act cannot resort to action against any person for money-laundering** on the assumption that the property recovered by them must be proceeds of crime and that a scheduled offence has been committed, **unless the same is registered with the jurisdictional police** or pending inquiry by way of complaint before the competent forum.
- The clause, according to the court, offered a "balanced solution" between the interests of the State and the accused. In addition, no further action could be taken against the attached property in the event that the accused was ultimately cleared of the crime.

LAW PANEL TO EXAMINE SIMULTANEOUS ELECTIONS

Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: Indian Polity and Governance

Prepp Mains Booster: Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.

Context:

The government informed Parliament on 23rd July that the question of holding simultaneous parliamentary and Assembly elections has been referred to the Law Commission so that a workable roadmap and framework may be developed.

What needs to be done for Simultaneous elections?

- In the **first two decades** following Independence, up until 1967, the country held **simultaneous elections**.
- By amending the Constitution, the **Representation of the People Act of 1951, and the Rules of Procedure** of the Lok Sabha and Assemblies, simultaneous elections may once again be held throughout the country.

- Major barriers to holding simultaneous elections include **no-confidence motions** and **early House dissolution**.
- In order to avoid a deadlock in the Lok Sabha or Assemblies in the event of a hung Parliament or Assembly, the "rigours" of the **anti-defection provision** in the Tenth Schedule **should be relaxed**.
- According to the panel, in the event of **midterm elections**, the newly elected Lok Sabha or Assembly **would simply serve out the balance** of the previous body's **five-year mandate**, not a new one.
- Other changes are necessary to make it sustainable, such as to the anti-defection law and the party whips' tight reins, in order to prevent hung assemblies.

Arguments for holding simultaneous elections:

- The **Model Code of Conduct** is in effect for a significant portion of the time due to frequent elections, which **inhibits the government** from starting **new initiatives** and eventually slows down development activities.
- **Security forces** are typically deployed throughout elections, which depletes a percentage of the armed police force that may otherwise be better used for other internal security initiatives.
- Elections are contentious events that have **reinforced casteism, communalism, and corruption**. As a result, frequent elections promote caste, religion, and **communal conflicts** throughout the country.
- Holding frequent elections **"disrupt" daily life** in society and have an adverse effect on the delivery of essential services.
- The simultaneous elections would **save taxpayers the enormous costs** associated with holding separate elections each year.

Arguments against holding simultaneous elections:

- Given the two distinct governments they would be electing by using their right to vote, voters are better positioned to express their preferences. When voters are required to choose between two different forms of governance at once, **this line between the two becomes somewhat muddled**.
- Simultaneous elections would be in opposition to **India's political diversity**, which is necessary for addressing the country's social diversity.
- If India were a **unitary state**, the phrase **"one nation, one election"** would make sense. However, we are a union of states, which is fundamentally different from the Indian nation-state in terms of philosophy and politics.

HOW ARE THE PRESIDENT AND VICE PRESIDENT OF INDIA ELECTED?

Priority: Medium

Primary Source: Indian Express

Prepp Prelims Booster: Election of President and Vice-President

Prepp Mains Booster: Parliament and State Legislatures – structure, functioning, the conduct of business, powers & privileges, and issues arising out of these ; Appointment to various Constitutional posts

Context:

Recently Droupadi Murmu became the first tribal woman to be elected as President of India succeeding a man from a Dalit community. She administered the oath to Former West Bengal governor Jagdeep Dhankhar as the 14th Vice President of India.

Office of President

- The Constitution under **Article 53**, vests the **executive power of the union in the President** and shall be exercised by him either directly or through officers subordinate to him in accordance with the constitution
- He is the **Supreme Commander of the Armed Forces**.
- He is the **first citizen of India** and occupies the **first position under the warrant of precedence**
- Qualification for election as a President**
- He must be a citizen of India.
- He must have **completed the age of 35 years**.
- He must not hold office of profit under the Government of India or the Government of any States or under any local or other authority subject to control of any of the said Governments.
- He must be **qualified for election as a member of House of the People** i.e., Lok Sabha.

Term of Office of President

- The President shall **hold office for a term of 5 years** from the date on which he enters upon his office.
- Even after the expiry of his term, he shall continue in the office until his successor enters upon his office.
- He is also **eligible for re-election any** number of times.
- The President may however resign his office before the expiry of his normal term of 5 years by writing to the Vice-President.
- Further he **may be removed from office for violation of the Constitution by the process of impeachment**.

Provisions for Election of President

- According to Article 62(1) of the Constitution, an election to fill a vacancy caused by the expiration of the term of office of President shall be completed before the expiration of the term
- President is elected by an electoral college comprising **MPs of both Houses of Parliament and MLAs of the states as well as Delhi and Puducherry**
- Nominated members** of Rajya Sabha, Lok Sabha and the Assemblies, and **members of state Legislative Councils**, are **not** part of the electoral college
- According to Article 55 (3) of the Constitution, the election is held in accordance with the system of proportional representation by means of the single transferable vote and the voting is done using secret ballot.
- Votes are weighted and their value is determined by the population of each state** according to Census 1971.
- Value of each MLA's vote varies from 208 in Uttar Pradesh to just 7 in Sikkim

House	Members	Value	Total	House	Members	Value	Total
Andhra	175	159	27825	Odisha	147	149	21903
Arunachal	60	8	480	Punjab	117	116	13572
Assam	126	116	14616	Rajasthan	200	129	25800
Bihar	243	173	42039	Sikkim	32	7	224
Chhattisgarh	90	129	11610	Tamil Nadu	234	176	41184
Goa	40	20	800	Telangana	119	132	15708
Gujarat	182	147	26754	Tripura	60	26	1560
Haryana	90	112	10080	Uttarakhand	70	64	4480
Himachal	68	51	3468	UP	403	208	83824
Jharkhand	81	176	14256	West Bengal	294	151	44394
Karnataka	224	131	29344	Delhi	70	58	4060
Kerala	140	152	21280	Puducherry	30	16	480
MP	230	131	30130	Assembly total	4033		5,43,231
Maharashtra	288	175	50400	Lok Sabha	543	700	3,80,100
Manipur	60	18	1080	Rajya Sabha	233	700	1,63,100
Meghalaya	60	17	1020	Parliament total	776		5,43,200
Mizoram	40	8	320	Grand total	4809		10,86,431
Nagaland	60	9	540				

- Uttar Pradesh's 403 MLAs contribute $208 \times 403 = 83,824$ votes to the electoral pool, while Sikkim's 32 MLAs contribute $32 \times 7 = 224$ votes.

- The **weighted votes from all the Assemblies make up 5.43 lakhs**
- The process requires that the **776 MPs** (543 in Lok Sabha, 233 in Rajya Sabha) should **contribute the same total of votes as the MLAs**. Thus, the value of each MP's vote is 5.43 lakhs divided by 776, rounded off to 700. The **total electoral pool from the Assemblies and Parliament adds up to 10.86 lakhs**.

Under Article 324 of the Constitution of India, the authority to conduct elections to the Office of President and Vice President is vested in the Election Commission of India.

Office of Vice-President

- Article 63 of the Constitution states that "there shall be a Vice-President of India". Under Article 64, the Vice-President "shall be ex officio Chairman of the Council of the States (Rajya Sabha)".
- Article 65 states that Vice-President shall act as President in the vacancy of office of the President until the new President is elected.
- Under the Constitution, the Vice-President "shall not be a member of either House of Parliament or of a House of the Legislature of any State".

Qualification for election as a Vice President

- He should be a citizen of India.
- He should be minimum 35 years of age.
- He should have qualified for the election as a member of the Rajya Sabha.
- He should not hold any office of profit under the Union government or any state government or any local authority or any other public authority.

Term of Office of President

- The Vice President holds office for five years from the date of his inauguration.
- The Vice President can resign at any time by sending a letter of resignation to the President.
- He can hold office beyond his terms of five years until his successor takes office.
- He can be re-elected to this position for any number of terms.

Provisions for Election of Vice President

- According to Article 66 of the Constitution Vice-President shall be elected by the members of an electoral college consisting of the members of both Houses of Parliament.
- The election shall be held in accordance with the system of proportional representation by means of the single transferable vote and the voting at such election shall be by secret ballot.
- For the Vice-Presidential Election 2022, the Electoral College consisted of 233 elected and 12 nominated members of Rajya Sabha, and 543 elected members of Lok Sabha, adding up to 788 members.

Local Self Governance

THE SCALE OF MUNICIPAL FINANCES IS INADEQUATE

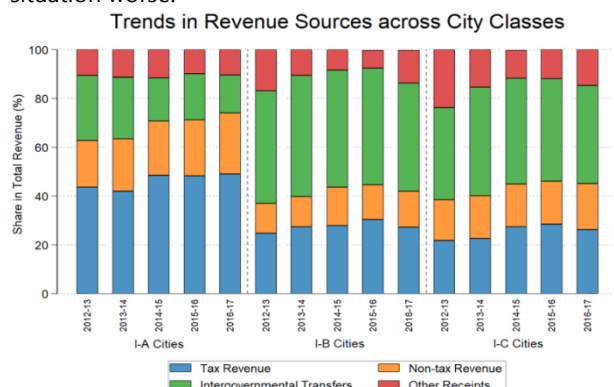
Priority: **Medium**

Primary Source: **The Hindu**

Prepp Prelims Booster: Indian Polity and Governance – Constitution, Panchayati Raj, Public Policy, Rights Issues, etc.
Prepp Mains Booster: Devolution of powers and finances up to local levels and challenges therein; Important aspects of governance, transparency and accountability

Context:

- In order to understand ULB finance and spending, the Indian Institute for Human Settlements (IIHS) recently analysed data from 80 **Urban Local Bodies (ULB)** across 24 States between 2012–13 and 2016–17.
- Growing fiscal deficits**, restrictions on the **growth of the tax base**, and weakened **institutional systems** that allow for resource mobilisation continue to be problems three decades later.
- The pandemic and revenue losses following the **Goods and Services Tax (GST)** introduction have made the situation worse.

**Background**

- In 1992, the 74th Constitution Amendment Act, which established **urban local bodies (ULBs)** as the lowest level of government in cities and towns, was passed.
- For the financial empowerment of ULBs, constitutional provisions were developed.

What are sources of revenue for Urban Local Bodies (ULB's)?

- ULBs' own sources of income made up **less than half of their total income**, leaving a lot of unrealized potential.
- Taxes, fees, penalties, and charges**, as well as **intergovernmental transfers** from the Central and state governments, are the main revenue sources for ULBs.
- An important measure of the **financial health** and autonomy of ULBs is the proportion of **own revenue** (which includes revenue from taxes on property and advertisements, as well as non-tax revenue from user charges and fees from construction licences and trade licensures) to overall revenue.
- This ratio indicates the **ULBs' dependence on intergovernmental transfers** as well as their ability to use the sources they are allowed to access. Cities that generate a larger portion of their own income are better able to support themselves.

What is the share of different sources of revenue?**ULBs' own revenue:**

- According to a survey, the **ULBs' own revenue accounted for 47%** of their overall revenue.
- Tax income made up the majority of this, accounting for about 29% of the total.
- Own revenue increased by 7% between 2012–13 and 2016–17, but ULBs still **lacked revenue buoyancy** because their percentage of GDP from their own revenue during that time period was only 0.5%.

Property tax:

- Property tax was the **single biggest source of income** for ULBs, yet it only made up **0.15 percent of the GDP**. This is not being utilised to its full potential in India, as evidenced by the fact that the corresponding figures for emerging and developed countries were substantially higher (approximately 0.6 percent and 1 percent, respectively).
- According to estimates, Indian ULBs are capable of achieving these levels.

Intergovernmental transfers:

- A lot of ULBs had a strong reliance on IGTs. Transfers from the central government are made according to the **Central Finance Commissions'** regulations and through grants for specific reforms, whilst transfers from the state governments take the form of grants-in-aid and the delegation of the state's local tax collection.
- The majority of ULBs were heavily reliant on outside grants; between 2012–13 and 2016–17, **IGTs made up about 40% of all ULB revenue**.
- Since ULBs' own revenue collection is insufficient, **stable and dependable IGTs are especially crucial**.
- The scale of IGTs in India stayed at roughly **0.5 percent of GDP**, which is far lower than the **international norm of 2 to 5 percent of GDP**, even if dependency on IGTs decreased over time due to a minor increase in own revenue.

Disparity

- For larger cities, taxes are the main source of income, whereas grants are more important for smaller ones. Cities of various sizes vary significantly in the distribution of their revenue sources.
- While Class I-B cities and Class I-C cities (populations of 10 lakh–50 lakh and 1 lakh–10 lakh, respectively) rely mainly on intergovernmental transfers, Class I-A cities (populations exceeding 50 lakh) predominantly depend on their own tax collection.
- In Class I-A cities, their own revenue mobilisation significantly rose. Increases in **non-tax revenue** were the main cause of it.
- Class I-A cities' tax revenue increased by around 11% during the course of the study's five years, while non-tax revenue increased by nearly 30%. These larger cities' reliance on outside revenue decreased over time, falling from around 27% in 2012–13 to about 15% in 2016–17.
- On the other hand, even though these cities rose in size, their own revenues remained unchanged in Class I-B and Class I-C cities.

Operations and maintenance (O&M):

- Operations and maintenance (O&M) costs are **rising** but remain **insufficient**.
- For instance, **O&M costs incurred in 2016–17** only roughly covered a **fifth** of what the High-Powered Expert Committee predicted was needed to estimate the investment requirements for urban infrastructure services.
- O&M costs are essential for **sustaining the infrastructure** and the calibre of service delivery.
- The proportion of O&M costs in the overall revenue spending of ULBs increased from around 30% in 2012–13 to about 35% in 2016–17.
- User fees should ideally pay for O&M costs, however overall **non-tax earnings**, which include user fees, are **not enough** to cover existing O&M costs.

- It is therefore obvious that **cost recovery is insufficient** for services like wastewater management, transportation, solid waste management, and water delivery.
- Around 20% less money came **in from non-tax sources** than was spent on O&M, which added to ULBs' growing income gap.
- In addition to improving services, enhanced user charge regimes would raise cost recovery levels and support the financial health of ULBs.

Way Forward

- In order for ULBs to be **financially stable, empowered**, and to have superior facilities and service delivery standards, they must make the most of their **own capacity for raising revenue**.
- This can be enhanced by **increasing the State government funding** allotted to ULBs and by giving ULBs a portion of the GST revenue received by the State and the Center.
- This will protect the balance sheets of ULBs while they generate their own income and investigate instruments based on the market.
- IGTs can encourage ULBs to provide **higher-quality services** and uphold financial restraint.

Provisions of Urban Local Bodies under 74th Constitutional Amendment Act

- **Article 243Q** mentions about the Constitution of Municipalities i.e. Nagar Panchayat, Municipal Council and Municipal Corporation.
- **Article 243R** mentions the Composition of Municipalities, it states that all of its members are directly elected by the people of the Municipal area which is divided into territorial constituencies known as wards..
- **Article 243 S** mentions about constitution and composition of ward committees consisting of wards and member of wards who represent that ward in Municipality
- **Article 243 T** deals with the reservation of the seats in every Municipalities.
- **Article 243W** deals with the powers, authorities and responsibilities of municipalities that includes urban planning, financial and social development, and so on.
- **Article 243X** states that the constitution has left it open to the Legislature of a State to specify by law matters relating to imposition of taxes.
- **Article 243 ZE** says that there will be a Metropolitan Planning Committee in every Metropolitan region to set up a draft improvement plan for the Metropolitan region overall.

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

AMENDMENT TO RULES OF FOREIGN CONTRIBUTION REGULATION ACT, 2010

Priority: Medium



Primary Source: PIB

Prepp Prelims Booster: FCRA

Prepp Mains Booster: Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention

Context:

Recently, the ministry of Home Affairs has amended FCRA rules to give certain relaxations and reduce compliance burden on citizens.

The FCRA Amendment Rules 2022

- It has increased the amount of money that Indian citizens (except those barred under Section 3 of the Act) can receive from relatives residing abroad, without informing the Central government from Rs 1 lakh to Rs 10 lakhs.
- The time period within which the Central government is to be informed, in case the amount is over Rs 10 lakhs, has been increased from thirty days to three months.
- Rule 9 has been changed to give individuals and organizations 45 days to inform MHA about bank accounts that are to be used for utilization of such funds. Rule 9 deals with application of obtaining registration or prior permission under FCRA to receive funds.
- The number of compoundable offences under the Act have been increased from 7 to 12.
- Political parties, legislature members, election candidates, judges, government servants, journalists and media houses among others – all barred from receiving foreign contribution – will no longer be prosecuted if they receive foreign contribution from relatives abroad and fail to intimate the government within 90 days. However, the recipient will be required to pay 5% of the foreign contribution received.

What is FCRA?

- In India, Foreign funding of persons is governed by the Foreign Contribution Regulation (Amendment) Act, which is implemented by the Ministry of Home Affairs.
- The FCRA was enacted during the Emergency in 1976 amid apprehensions that foreign powers were interfering in India's affairs by pumping money into the country through independent organizations.
- These concerns were, in fact, even older — they had been expressed in Parliament as early as in 1969.
- The law sought to regulate foreign donations to individuals and associations so that they functioned "in a manner consistent with the values of a sovereign democratic republic".

Major provisions of the Act

- The Act ensures that recipients of foreign contributions follow the stated purpose for which they were obtained.
- Prior Permission to receive foreign funds though registration with mandatory Aadhaar submission of every office bearer of the NGOs.
- Designated FCRA Account in such branches of the State Bank of India, New Delhi to receive funds.
- No funds other than the foreign contribution can be received or deposited in it and it can't be transferred to any other person or NGO.
- Validity of FCRA registration is five years and NGOs are expected to apply for renewal within six months of the date of expiry of registration.
- Use of funds is limited to the purpose for which it was received with a maximum limit of 20% (earlier 50%) to meet administrative expenses.
- Compulsory filing of annual returns and in case of contraventions, the government can restrict usage of unutilized foreign contribution after an inquiry.

How is FCRA registration granted?

- NGOs must apply online in a prescribed format with the required documentation.
- The registrations are granted to individuals or associations that have definite cultural, economic, educational, religious, and social programmes.
- MHA makes inquiries through the Intelligence Bureau into the antecedents of the applicant, and accordingly processes the application.
- The applicant should not be fictitious or benami; and should not have been prosecuted or convicted for indulging in activities aimed at conversion through inducement or force, either directly or indirectly, from one religious faith to another.
- The applicant should also not have been prosecuted for or convicted of creating communal tension or disharmony; should not have been found guilty of diversion or misutilisation of funds; and should not be engaged or likely to be engaged in the propagation of sedition.
- The MHA is required to approve or reject the application within 90 days.
- In case of failure to process the application in the given time, the MHA is expected to inform the NGO of the reasons for the same.

THE INDIAN ANTARCTIC BILL, 2022

Priority: Medium



Primary Source: The Indian Express

Prepp Prelims Booster: Indian Antarctic bill

Prepp Mains Booster: Conservation, environmental pollution, and degradation, environmental impact assessment.

Context:

Parliament has passed the Indian Antarctic Bill, 2022, that extends the jurisdiction of Indian courts to the continent. It aims at having India's own national measures for protecting the Antarctic environment.

About the Indian Antarctic Bill

- It gives effect to the Antarctic Treaty, the Convention on the Conservation of Antarctic Marine Living Resources, and the Protocol on Environmental Protection to the Antarctic Treaty.
- It also seeks to protect the Antarctic environment and regulate activities in the region.
- It provides a uniform policy and regulatory framework for India's Antarctic activities through well-established legal mechanisms.
- It prohibits following activities in Antarctica:
 - nuclear explosion or disposal of radioactive wastes
 - introduction of non-sterile soil
 - discharge of garbage, plastic or other substance into the sea which is harmful to the marine environment
- It extends the jurisdiction of Indian courts to Antarctica for probe and also trial for crimes committed on the Arctic continent.
- It establishes regulations to ensure that scientific missions or commercial expeditions do not damage the ecology of Antarctica

Impact of the Bill

- The Indian Antarctic Program will be able to operate more effectively.
- It will facilitate India's interest and pro-active involvement in the management of increasing Antarctic tourism as

well as sustainable development of fisheries resources in Antarctic waters.

- It will increase international visibility and credibility of India in Polar governance leading to better collaboration and cooperation in scientific and logistics fields on global level.

Applicability of the Bill

- The provisions are applicable to any person, vessel or aircraft that is a part of an Indian expedition to Antarctica under a permit issued to them.
- It applies to the continent of Antarctica, including its ice-shelves, and all areas of the continental shelf adjacent to it, and all islands including their ice-shelves, seas, and air space south of 60°S latitude.

Offences and penalties

- Conduct of nuclear explosion will lead to an imprisonment of 20 years which may extend to life imprisonment and a fine of at least Rs 50 crores.
- It is illegal to drill for mineral resources or introduce non-native animals or plants in Antarctica without a permit. It will be punishable with imprisonment up to seven years and a fine between Rs 10 lakhs and Rs 50 lakhs.

Committee on Antarctic Governance and Environmental Protection

- The Central Government will establish the Committee as per the provisions of the Bill.
- It will be chaired by the Secretary of the Ministry of Earth Sciences. There will be 10 members, not below the rank of joint secretary, nominated from various Ministries and organizations such as defence, external affairs, National Centre for Polar and Ocean Research, and National Security Council Secretariat.
- Also, two experts from the Antarctic environment and geo-political fields will be nominated by the Centre.

The Committee will perform following functions:

- granting permits for various activities
- implementing and ensuring compliance of relevant international laws for protection of Antarctic environment
- obtaining and reviewing relevant information provided by parties to the Treaty, Convention, and Protocol
- negotiating fees/charges with other parties for activities in Antarctica.

Indian Antarctic Expedition

- India began its Antarctic expeditions in 1981 with a team comprising 21 scientists and support staff.
- Presently, the country has two operational research stations in Antarctica named Maitri (Commissioned in 1989) and Bharati (Commissioned in 2012).

Note- India also has Himadri station in Ny-Alesund, Svalbard, Arctic, and belongs to the club of nations having multiple research stations within the Polar Regions.

- Till date, 40 annual scientific expeditions to Antarctica have been launched by India with success.

The Antarctic Treaty

- It was signed in Washington on 1 December 1959 and applies to the area south of 60° South latitude. India has been a signatory since 1983.
- It is a short but effective treaty containing fourteen articles. It ensures the following:

- Antarctica should be used exclusively for peaceful purposes; military activities, such as the establishment of military bases or weapons testing are prohibited.
- Freedom to conduct scientific research
- Promotion of international scientific cooperation including the exchange of research plans and personnel
- It eliminates the possibility of sovereignty conflicts between Treaty parties by stipulating that no actions will strengthen or weaken previously declared positions regarding territorial claims, prohibiting the issuance of new or enlarged claims, and establishing norms for jurisdiction.
- nuclear explosions and radioactive waste disposal are prohibited
- Provision for inspection by observers, designated by any party, of ships, stations and equipment in Antarctica to ensure the observance of, and compliance
- There is a dispute settlement procedure and a mechanism by which the Treaty can be modified.

REGISTRATION OF PRESS AND PERIODICALS BILL

Priority: Medium 

Primary Source: PIB

Prepp Prelims Booster: Registration of press and periodicals bill

Prepp Mains Booster: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

Context:

Recently, Centre has envisaged the Press and Registration of Periodicals Bill, 2022 to replace the 155-year-old 'Press and Registration of Books Act' with a simplified version. It seeks to decriminalize various provisions and brings digital media under its ambit.

Features of the Draft Bill

- It aims to bring digital media under the scanner of the Ministry of Information and Broadcasting and overcome the colonial overhang of the previous law.
- Once the Bill is passed the Digital News media Publication will have to register with the Press Registrar General within 90 days.
- The government Entity will have the power to act against digital Publications for violations and can suspend or cancel a registration and impose penalties.
- It lays down a "Simple System" of registration of E-papers and aims to remove certain existing provisions concerning the registration of books and connected matters.
- The Bill enables the Central government and the State government to frame appropriate rules/regulations to regulate the criteria/conditions for issuing Government advertisements in newspapers, accreditation of newspapers, and such other facilities for newspapers.
- Press and Registration Appellate Board to be set up. It will consist of the Chairman, Press Council of India and one member to be nominated by the Press Council of India, from amongst its members. After fulfilling the conditions laid down in the proposed act. The board can make a decision that will be binding and final.

Issues with the Draft Bill

- The reference "news on Digital Media" may remain vague and unclear.

- It prohibits people from bringing out publications if they have been convicted under the Unlawful Activities (Prevention) Act, 1967.
- Requiring the mandatory registration of all news on digital mediums undermines the ability of the internet to democratize information and can be seen as a hindrance to the freedom of publication.
- Can be perceived as an attempt to exert control over digital news media entities.

Press Freedom in India

- In **Romesh Thappar v. the State of Madras**, the Supreme Court stated that the freedom of the press is at the foundation of all democratic organizations.
- **Article 19** of the Constitution of India guarantees the freedom of speech and expression which deals with the "Protection of certain rights regarding the freedom of speech, etc."
- **Implicit Right:** Although freedom of the press is not expressly protected by the Indian legal system, it is impliedly protected by article 19(1)(a) of the constitution.

- Freedom of the press, on the other hand, is not absolute.
- A law could only impose those restrictions on the exercise of this right under Article 19(2) which are as follows:

- Sovereignty and Integrity of India
- Security of State
- Friendly relations with foreign states
- Public order, decency, morality, or
- Contempt of court,
- Defamation and
- Incitement to an offense

FLAG CODE OF INDIA: TRICOLOUR CAN NOW STAY HOISTED DAY & NIGHT

Priority: Medium 

Primary Source: Indian Express

Prepp Prelims Booster: Indian Polity and Governance

Prepp Mains Booster: Indian Constitution, Government policies and interventions

Context:

Recently, the Flag Code of India 2002 has been amended by the Ministry of Home Affairs as the Union Government launches the Har Ghar Tiranga campaign on August 13. The national flag may now be flown throughout the night if it is flown in the open and by a member of the public, according to a government announcement.

What was the amendment to the Flag Code?

- The ministry stated that clause XI of paragraph 2.2 of the Flag Code has been replaced by the following phrase: "where the flag is displayed in the open or displayed on the house of a member of the public, it may be flown day and night."
- This information was included in a recent publication of frequently asked questions on the flag code.

What is Flag Code?

- The Flag Code of India, which went into force in 2002, permits the display of the Tricolor without restriction so long as the flag's honour and dignity are upheld.
- The flag code was an attempt to bring together all the prior laws, traditions, and practices regarding the proper display of the flag; it did not, however, completely replace those restrictions.

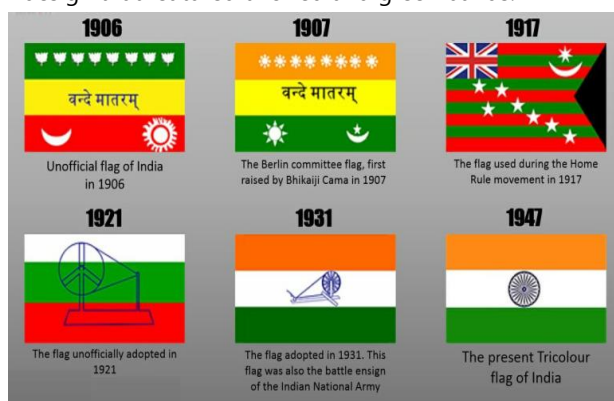
- The 2002 Flag Code is broken into three parts:
 - An explanation of the tricolour in general.
 - Rules for flag display by public, private, and educational organisations.
 - Regulations on flag display by governments and government entities.
- It states that the tricolour cannot be utilised for profit-making endeavours or to pay homage to anyone or anything.
- The flag should also not be used as a festoon or for any sort of decoration.
- Only flags that meet the requirements established by the Bureau of Indian Standards and bear their mark may be used for official display.

What is the Har Ghar Tiranga Campaign?

- The Azadi Ka Amrit Mahotsav is promoting the "Har Ghar Tiranga" campaign, which aims to get people to bring the Tiranga home and hoist it to commemorate India's 75th anniversary of independence.
- We've always had a more official, institutionalised relationship with the flag than a personal one.
- Bringing the flag home as a nation in our 75th year of independence symbolises both our dedication to establishing a better country and our act of personal connection to the Tiranga.
- Invoking a sense of patriotism in people's hearts and raising awareness of the Indian National Flag are the goals of the programme.

What is the history of the National Flag?

- 1906: On August 7, 1906, at Parsee Bagan Square, close to Lower Circular Road in Calcutta, it is reported that the first national flag, consisting of three horizontal stripes of red, yellow, and green, was raised (now Kolkata).
- 1921: Freedom fighter Pingali Venkayya later met Mahatma Gandhi in 1921 and suggested a basic flag design that featured two red and green bands.



- 1931: At a Congress Committee meeting in Karachi in 1931, the Tricolor was finally chosen as our country's flag after going through a number of modifications.
- 1947: On July 22, 1947, the Constituent Assembly met and adopted the Indian flag in its current design.

What are the laws governing the national flag and its use?

The Emblems and Names (Prevention of Improper Use) Act, 1950:

The Prevention of Insults to National Honour Act, 1971:

Constitutional Provisions:

Fundamental Duties (Part IV-A):

- The Constitution's Part IV-A, which has just one Article 51-A, lists the eleven Fundamental Duties.
- Every Indian citizen has a responsibility to uphold the Constitution, its principles and institutions, the National Flag, and the National Anthem, as stated in Article 51A (a).

How Sarvepalli Radhakrishnan narrated the significance of the National flag?

- The colour saffron symbolises giving up apathy.
- The white in the middle represents light, the road to truth that should direct our actions.
- The green depicts our relationship to the earth and to the local plant life, which is the basis for all other life.
- The wheel of dharma is known as the "Ashoka Chakra". Chakra's goal is to demonstrate that stasis leads to DEATH while movement leads to LIFE.

DRUGS, MEDICAL DEVICES AND COSMETICS BILL 2022

Priority: Low

Primary Source: The Hindu

Prepp Mains Booster: Government policies and interventions for development in various sectors and issues arising out of their design and implementation

Context:

Recently, A draft of the proposed Drugs, Medical Devices and Cosmetics Bill, 2022, which would replace the current Drugs and Cosmetics Act, 1940 and associated provisions, was made public by the Union Health Ministry.

What are the major provisions of the Bill?

New definitions:

- The draft bill includes a number of new definitions or provisions for greater clarity, easier implementation, and smoother operation, including bioequivalence study, bioavailability study, clinical trial, clinical investigation, controlling authority, manufacturer, medical device, new drugs, over-the-counter (OTC) drugs, adulterated cosmetics, etc.

Replacing the Drug and Cosmetic Act 1940:

- The draft new Drugs, Medical Devices and Cosmetics Bill, 2022 aims to replace the current Drugs and Cosmetics Act of 1940.

Regulation:

- It aims to regulate medical devices and e-pharmacies, and it includes jail time as a penalty for failure to compensate victims of injury or fatality during clinical studies for both pharmaceuticals and medical equipment.
- It has introduced regulations for the first time for the conduct of clinical trials for new drugs and medical devices.

AYUSH medications:

- The draft bill has a distinct chapter on AYUSH medications that initially proposes to regulate Sowa Rigpa and homeopathy.
- The current law controls Ayurvedic, Unani, and Siddha medicines and cosmetics.

Constitution of Drugs Technical Advisory Board (DTAB) and Medical Devices Technical Advisory Board (MDTAB):

- A separate Drugs Technical Advisory Board (DTAB) and Medical Devices Technical Advisory Board (MDTAB), made up of experts from different associations, is

suggested in order to provide technical advice to the national government.

Central Licensing Authority:

- The central government is empowered to make provisions for the Central Licensing Authority to waive the requirement of conducting clinical trials for the manufacture or import of new drugs or investigational new drugs in the country in the interest of public health or extreme urgency of drugs.

Compensation:

- Provision has been made to offer compensation and medical management to participants who suffer harm or death during a clinical trial as a result of their involvement in the inquiry.

E-pharmacy:

- In order to run an e-pharmacy, permission is required.
- No one is allowed to sell, stock, show, offer for sale, or distribute any drugs via online mode (e-pharmacy) unless they are doing so in accordance with a licence or permission that has been granted in the method that may be prescribed.

Medical device testing facilities:

- The central government has included provisions for the designation or establishment of medical device testing facilities for the purpose of testing and evaluating medical devices for regulators and industry.

Penalties:

- Appropriately increased penalties are now in place for offences involving the import of pharmaceuticals and cosmetics.
- It states that any person who has been given permission under sub-section (1) of section 72 but fails to provide the necessary medical management or compensation under section 73 will be subject to a fine that cannot be less than twice the amount of compensation or to a term of imprisonment that may extend to a year.

Why is there a need for the bill?

Issues related to e-Pharmacy:

- In the 1940 law, there are virtually no provisions for the regulation of online pharmacies.
- Even though the majority of these e-pharmacies have licenses for physical stores or storage facilities, they are currently all operating illegally.
 - Drugs are delivered without a prescription.
 - Regulatory authorities are unsure of which legal provision to bring a lawsuit against these corporations under in the event of a violation.
 - These businesses occasionally operate in other states with licenses from other jurisdictions.

Issues related to Medical devices:

- Currently, the majority of medical gadgets devices in the nation—particularly expensive ones—are imported.
 - Indian competitors in the market have traditionally concentrated on low-priced and low-tech goods, such as consumables and disposables, which has resulted in a bigger value share going to foreign firms.
- Draft Bill aspires to make India one of the top five global manufacturing centres for medical devices by 2047 and reduce its dependence on imports from 80% to about 30% in the following ten years.
- The draft is also aimed at increasing India's per capita spend on medical devices which is one of the lowest per

capita spending at USD 3 on medical devices, compared to the global average of per capita consumption of USD 47.

What is the present status of medical devices in India?

- The medical device industry in India is currently worth an estimated USD 11 billion, and it is a burgeoning area of the country's economy.
- Large global corporations and Small and Medium Enterprises (SMEs), which are expanding at an unprecedented rate, make up India's medical device industry.
- Over the previous three years, the medical device industry has been expanding consistently at a CAGR of 15%.
- The market for medical equipment in India is predicted to increase significantly over the next several years, reaching \$50 billion by 2025.
- The automatic route permits 100 percent FDI in both brownfield and greenfield setups. Strong FDI inflows are a sign of the confidence that foreign businesses have in the Indian market.

What are the initiatives taken by India to boost the medical device industry?

- Production Linked Incentive Scheme for Domestic Manufacturing of Medical Devices**
- Promotion of Medical Device Parks**
- Make in India**

INDIA NEEDS TO SCALE UP DIRECT NUTRITION INTERVENTIONS

Priority: Medium



Primary Source: The Hindu

Prepp Mains Booster: Hunger and Nutrition; POSHAN 2.0

Context:

Even after seven decades of Independence, India is afflicted by public health issues such as child malnutrition (35.5% stunted, 67.1% anemic) attributing to 68.2% of under-five child mortality..

What do the key findings OF NFHS(2019-21) say?

Indicators of women's empowerment in India have significantly improved according to the NFHS-5 2019–21 compared to the NFHS-4 2015–16.

- Attendance at **antenatal services** has **increased** significantly (58.6- 70.0 percent)
- Women having their own **savings accounts** in a bank (63.0 to 78.6 percent)
- Women who own and utilise **personal mobile devices** (49.9 percent to 54.0 percent)
- Women who get **married before turning 18** (26.8 percent to 23.3 percent)
- Women with at **least ten years of education** (35.7 percent to 41.0 percent)
- Access to **clean cooking fuel** (43.8 percent to 68.6 percent).

What is meant by Malnutrition?

- Malnutrition refers to deficiencies, excesses, or imbalances in a person's consumption of energy and/or nutrients.
- Three** major categories of conditions are covered by the term malnutrition:

Undernutrition

- undernutrition, which includes stunting (low height for age), underweight (low weight for age), and wasting;
- Micronutrient-related malnutrition**
- It includes excess or deficiency of certain vitamins and minerals;
- Overweight**
- Overweight, obesity, and noncommunicable diseases linked to diet (such as heart disease, stroke, diabetes and some cancers).

Concerns:

- **Direct dietary initiatives** have not made much success in the nation.
- It is still important to adequately manage **preconception nutrition, maternal nutrition, and appropriate newborn and toddler feeding**.
- Even in the first six months of life, when **exclusive breastfeeding** is the only sustenance needed, India has a 20–30% undernutrition rate.
- Both **maternal nutrition care interventions and newborn and early child feeding** practices have not improved to the extent that was hoped.
- India suffers from public health problems such as child malnutrition, which accounts for 68.2 percent of under-five child mortality (35.5% stunted, 67.1 percent anaemic).

What is a negative influence on health?

- Having a **negative influence on health and survival**, inadequate nutrition also lowers learning ability and results in subpar academic performance.
- Additionally, it **results in lower adult wages** and an elevated chance of developing **chronic illnesses** like diabetes, hypertension, and obesity.

What is POSHAN Abhiyaan and what is its significance?

- **POSHAN Abhiyaan** (now known as POSHAN 2.0) appropriately places a special **emphasis on selected high impact essential nutrition** interventions, combined with nutrition-sensitive interventions, which indirectly impact mother, infant, and young child nutrition.
- Examples of these interventions include improving coverage of maternal-child health services, enhancing women's empowerment, availability, and access to improved water, sanitation, and hygiene, and enhancing homestead food production for a diversified diet.
- The **National Nutrition Mission (NNM)**, which the government has aggressively pushed to become the **Prime Minister's Overarching Scheme for Holistic Nutrition (POSHAN)**, looks to be the government's attempt to **remedy the problem**.
- With a mission to bring together many ministries to cooperate together on the **"window of opportunity" of the first 1,000 days of life**, the Ministry of Women and Child (MWCD) continues to serve as the nodal Ministry implementing the NNM (270 days of pregnancy and 730 days; 0-24 months).

Way forward

- The **Integrated Child Development Scheme (ICDS)**, which serves as the nodal **system for the nutrition programme**, should be **reviewed** by the government.
- The **Take-Home Ration packets** offered by the PDS can also be used to **augment the nourishment** provided by the ICDS.
- In order to deliver services within the first 1000 days of life, the government should **unite the human resources**

of the ICDS and the health sector at all levels, from village to district to state.

- The government needs to **spread knowledge about Exclusive Breastfeeding**.

RIGHT TO HEALTH

Priority: Medium



Primary Source: Indian Express

Prepp Mains Booster: Issues Relating to Development and Management of Social Sector/Services relating to Health

Context:

The Right to Health Bill, a Private Member's Bill, has recently been the subject of heated debate in the Rajya Sabha.

What is the Right to health bill?

- The Bill aims to guarantee fair access to health care and the preservation of a level of physical and mental well-being that is appropriate for leading a life of dignity. Health care is to be made a basic right for all citizens. However, some members spoke on political issues.
- The objective is to achieve the highest degree of health and well-being for all people at all ages by integrating preventative and promotional health care into all developmental programmes.

What is Right to health?

- According to WHO, "the right to health for all means that every person should have access to the health services they need, when and where they need them, without suffering financial hardship. No one should get sick and die just because they are poor, or because they cannot access the health services they needed".
- It is an entitlement conferred on every individual to have open and free access to all types of healthcare needs.
- The Universal Declaration of Human Rights, the International Covenant on Economic, Social, and Cultural Rights, and the Convention on the Rights of Persons with Disabilities all include references to the concept of a right to health.

What will be the provisions for the right to health?

- **Fundamental Rights:** The right to life and personal liberty is protected by Article 21 of the Indian Constitution. A life of dignity is inextricably linked to the right to health.
- **Directive Principles:** Articles 38, 39, 42, 43, and 47 of the Directive Principles of State Policy (DPSP) require the state to make sure that the right to health is effectively realized.

Judicial Decisions:

- In the Paschim Bengal Khet Mazdoor Samity case (1996), the Supreme Court ruled that the government's primary responsibility in a welfare state is to ensure the welfare of the populace. It also held that the government is responsible for ensuring that its citizens have access to adequate medical care.
- Additionally, the Supreme Court had decided in the seminal case of Parmanand Katara v. Union of India (1989) that every doctor, whether practicing in a government hospital or elsewhere, has a professional duty to offer his services with the necessary knowledge for preserving life.

What is the need of Right of health?

- **Constitutional obligation:** Liberal and wider interpretation of the Article 21- 'Right to life and personal liberty', entitles every citizen of India to have the right to health as fundamental right. Right to Equality(Article 14-

18) also empowers the every citizen to have equal access to public healthcare facility

- **Rise in out of pocket expenditure:** In the recent time, healthcare services from the private sector have become costly, which are leading to the rise in out of pocket and financial burden on the people. This is resulting into pushing the people into poverty.
- **Low public health expenditure:** Healthcare in India has never seen more than 2% of GDP in the form of public spending. National Health Policy encourages increased public spending to improve human development indicators. Additionally, there are disparities in the effectiveness and sufficiency of healthcare institutions across the nation.
- **International commitment:** India has been signatories to the many international treaties like International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights and the Universal Declaration of Human Rights. These conventions put an obligation on India to provide affordable and accessible healthcare facilities to citizens.

What will be the challenges?

Lack of Primary Healthcare Services:

- The country's current public primary health care model has a small geographic reach.
- Only services linked to prenatal care, restricted childcare, and specific services related to national health programmes are offered, even in areas with well-functioning public primary health centres.

Inadequate Funding:

- India has continuously spent little on public health (approximately 1.3 percent of GDP).
- India's whole out-of-pocket spending amounts to about 2.3 percent of GDP, according to the OECD.

Shortcomings of Public Health System:

- Due to the subpar public health system, it is difficult to combat non-communicable diseases, which are all about early detection and prevention.
- It reduces readiness and efficient management for new and emerging dangers like the Covid-19 pandemic.

Way Ahead:

- **More Funds:** As stated in the National Health Policy of 2017, public health spending should be increased to at least 2.5 percent of GDP.
- **Creating a Nodal Health Agency:** In order to perform the tasks of disease surveillance, information gathering on the health effects of policies of important non-health departments, maintenance of national health statistics, enforcement of public health regulations, and public information dissemination, it is necessary to establish a designated and autonomous agency.
- The health should be moved on the Constitution's seventh schedule's Concurrent List. 'Health' is currently listed under the State List.
- Addressing the human resource shortage in the healthcare sector.
- Addressing the Infrastructural deficiencies, plugging the regulatory loopholes as well as encouraging the private sector to provide supportive roles is necessary.

WEAPONS OF MASS DESTRUCTION AND THEIR DELIVERY SYSTEMS AMENDMENT BILL, 2022

Priority: Low

Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: Government policies and interventions for development in various sectors and issues arising out of their design and implementation; Security

Context:

- Recently, the Rajya Sabha moved the **Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022.**
- The Weapons of Mass Destruction and Their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005, is being modified by the proposed legislation.
- The 2005 Act forbids illegal actions such the production, transfer, or transportation of weapons of mass destruction and their delivery systems.
- **Nuclear, biological, and chemical weapons** all fall under the category of **mass destruction.**

Objects and Reasons of the Bill

Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill will align India with global requirements

Bill seeks to Insert a new Section 12A in the existing law which states that 'no person shall finance any activity which is prohibited under this Act, or under the United Nations (Security Council) Act, 1947, or any other relevant Act for the time being in force, or by an order issued under any such Act, in relation to weapons of mass destruction and their delivery systems'

The original Act, passed in 2005, only banned manufacture of weapons of mass destruction

"In recent times, regulations relating to proliferation of weapons of mass destruction and their delivery systems by international organisations have expanded... There is a need to amend the said Act to provide against the financing of proliferation of weapons of mass destruction and their delivery systems so as to fulfil our international obligations"

S. Jaishankar
External Affairs Minister



- The bill prohibits anyone from funding any illegal action involving WMDs and their delivery systems.

What are Weapons of Mass Destruction?

- According to **UNGA Weapons of Mass Destruction** can be defined as **atomic explosive weapons, radioactive material weapons, lethal chemical and biological weapons, and any weapons developed in the future** which might have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above

What is the significance of the bill?

- It was necessary to include **additional measures to satisfy India's international responsibilities** because the current law, the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005, does not address the **financial side of WMD delivery systems.**
- No one shall **finance any activity** that is prohibited by this Act, the **United Nations (Security Council Act)**, or any other applicable Act currently in effect, or by an order issued under any such Act, with regard to weapons of mass destruction and their delivery systems, according to the **proposed amendment** to **Section 12 of the current Act.**
- Additionally, **the bill aims to grant the government the authority to "freeze, seize, or attach funds or other financial assets or economic resources owned or controlled,** wholly or jointly, directly or indirectly, by such person; or held by or on behalf of, or at the direction of, such person; or derived or generated from the funds or other assets owned or controlled, directly or indirectly, by such person."

- The **current legal framework covers illegal activities involving biological, chemical, and nuclear weapons** and their delivery systems and offers comprehensive legal measures to exert control over the export of materials, gear, and technologies related to weapons of mass destruction and their delivery systems and **to prevent their transfer to terrorists or non-state actors.**

What is WMD and their Delivery Systems (Prohibition of Unlawful Activities) Act 2005?

- In July 2005, **the WMD and their Delivery Systems (Prohibition of Unlawful Activities) Act** was created.
- Its main goal was to produce **comprehensive and integrated laws** that would forbid illegal activity related to **all three types of WMD, their delivery mechanisms, and any associated materials, tools, or technologies.**
- It established fines and imprisonment for a duration of not less than five years (extendable for life) as penalties for violating these requirements.
- The **UN Security Council Resolution (UNSCR) 1540 of 2004** imposed an international responsibility, which was fulfilled by the passage of the Act.

What is the UNSCR 1540?

- In order to address the growing danger of **non-state actors** obtaining WMD material, equipment, or technology to commit terrorist actions, the UN Security Council approved resolution **1540** in April 2004.
- UNSCR 1540 created **legally binding responsibilities** for all UN member states under Chapter VII of the UN Charter to combat this threat to global peace and security. Nations were required to implement and take action against the spread of WMD, their delivery systems, and related materials to non-state actors.

Three main obligations were imposed on nation states by UNSCR 1540:

- not to aid non-state actors in their pursuit of WMD, related materials, or their means of delivery;
- to adopt and enforce laws making it illegal for non-state actors to possess or acquire such items;
- and to adopt and enforce domestic controls over relevant materials to prevent their proliferation.
- Enacting and enforcing laws to penalise the illegal and unauthorised manufacturing, purchase, possession, development, and transport of WMD became vital in order to fulfill these duties.

What are some important conventions on weapons of mass destruction (WMD)?

The Biological Weapons Convention

- The **creation, production, acquisition, transfer, stockpiling, and use of biological and toxin weapons** are all expressly prohibited by the Biological Weapons Convention (BWC).
- It was the **first international disarmament** agreement to outlaw a specific class of WMDs (WMD).

Organisation for the Prohibition of Chemical Weapons (OPCW)

- The Organization for the Prohibition of Chemical Weapons (OPCW) was officially founded on April 29, 1997, when the Chemical Weapons Convention (CWC) entered into force.
- The **Hague, Netherlands**, is home to the OPCW Technical Secretariat.

The CWC now has members from 119 countries, or about 98 percent of the world's population.

RIGHT TO REPAIR

Priority: Medium



Primary Source: Indian Express

Prepp Mains Booster: Government Policies & Interventions, Environmental Pollution & Degradation

Context:

The Department of Consumer Affairs recently declared that a group headed by Additional Secretary Nidhi Khare has been established to create a thorough framework for the "Right to Repair."

What is Right to Repair?

- It is a right giving consumers and outside businesses access to a product's necessary tools, components, and manuals.
- This right would enable them to fix a product themselves rather than relying on the producers.
- The right to repair has its origin in a movement that dates back to the 1950s, at the very beginning of the computer era.

Rationale:

- The idea behind the movement is that the person who buys a product must fully own it. This implies that buyers must have the ability to fix and change the product however they see fit in addition to being able to utilise it.

What are the reasons to provide right to repair?

- Pricing:** Because there are no repair instruction manuals, manufacturers have a monopoly over repair facilities and can charge customers exorbitant charges.
- Planned obsolescence strategy by manufacturer:** A policy of developing consumer items that become obsolete after a predetermined amount of time is known as planned obsolescence.
 - Customers must then purchase the new product once the old one has become useless. It is accomplished by making frequent design modifications, stopping the supply of spare parts, and using cheap materials.
 - In this situation, obtaining a replacement is frequently more convenient and less expensive than repairing them. However, businesses would be encouraged to create robust and long-lasting products if they had the right to repair.
- Right to Choose:** According to the Consumer Protection Act of 2019, monopolies on repair techniques violate customers' "right to choose."
- Increasing Local Economy:** The right to repair permits the establishment of small repair shops in the neighbourhood, which increases local tax income and adds to local employment.
- Environmental protection:** It will discourage the hasty disposal of electronic equipment in landfills and promote the wise use of resources. Additionally, the process of making an electronic item is very polluting. It uses environmentally harmful energy sources like fossil fuels, which have a negative effect on the environment. The environmental impact will be lessened by increasing the longevity of electrical equipment.

What is the global status of right to repair?

- United States: Under the Massachusetts Motor Vehicle Owners' Right to Repair Act of 2012, automakers must offer buyers and even independent third-party mechanics access to spare parts and diagnostics.

- A presidential executive order was signed on July 9, 2021. Manufacturer imposed limitations on consumers' right to repair their product or technology on their own terms have been eliminated.
- U.K.: In 2021, it adopted the ground-breaking "right to repair," which made it mandatory for manufacturers to offer spare parts.
- European Union: Manufacturers must make sure that electronic devices may be fixed for up to ten years in the European Union in order to comply with its right to repair legislation.

What are the challenges in right to repair?

- **Security and Privacy:** Tech companies argue that if products based on their proprietary technology are made available to third parties, security and privacy issues may arise.
- **Lobbying by Big Companies:** Large tech businesses have been campaigning against the right to repair, including Apple, Microsoft, Amazon, and Tesla. They frequently assert that they are attempting to become more durable themselves.
- **Additional defences against independent repairs:** Large corporations frequently use tactics that essentially prevent other businesses from fixing their products. For instance, Digital warranty cards make sure that a consumer loses the ability to make a warranty claim if they purchase a device from a "non-recognised" company.

Way Forward

- India should first pass a law specifically addressing repairs in order to improve consumer welfare. The Competition Commission of India (CCI) found in *Shamsher Kataria v. Honda Sael Cars India Ltd.* (2017) that it was anti-competitive to limit the availability of spare parts to independent vehicle repair shops through an end-user licence agreement. According to the CCI, the practise was bad for consumers' welfare.
- Second, nations could take note of successful policies and procedures from other nations, such as the widespread use of Repair cafés in Australia.

WELFARE SCHEMES FOR VULNERABLE SECTIONS OF SOCIETY, LAWS INSTITUTIONS AND BODIES CONSTITUTED FOR VULNERABLE SECTION

GOAL 2.0

Priority: Low



Primary Source: PIB

Prepp Prelims Booster: Government Schemes

Prepp Mains Booster: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes;

Context:

- The GOAL Program's second phase (GOAL 2.0) was introduced on June 28, 2022, with the goal of enhancing the **digital literacy of tribal youth**.
- A **joint project between the Ministry of Tribal Affairs and Meta (previously Facebook)**, GOAL (Going Online as Leaders) aims to digitally empower tribal women and youth through the **mentor-mentee relationship**.

Background

- The GOAL program's initial phase began as a **pilot project in May 2020** and **was finished in December 2021**.



- First-phase mentees received more than 40 hours of instruction spread over **three course pillars**:
 1. Leadership & entrepreneurship;
 2. Communication & life skills; and
 3. Enabling digital presence.
- **Meta provides full funding** for the programme (Facebook India).
- **176 tribal adolescents from 23 States** in India were chosen for the GOAL program's phase 1 through an online application process.
- **Facebook** also provided a **smart phone and Internet** connectivity to the mentees.

What is the significance of GOAL 2.0?

- Goal 2 will **accept applications from any tribal community member** who wants to **participate in the programme** as a mentee, as opposed to only inviting certain applicants.
- Through Facebook live sessions and the **online learning platform** Meta Business Coach, the programme seeks to **upskill and digitally empower tribal children**.
- More than 10 lakh members of the 50000 **Vandhan Self Help Groups** would receive special attention.
- They will **receive digital training in terms** of consumer demand, product packaging, branding, and marketing.
- With the use of a **chatbot and need-based online sessions** from industry experts in many disciplines, the GOAL 2 will enable maximal participation and percolation of training advantages among tribal young.
- In each of the 175 EMRS schools chosen for the programme, the Ministry of Tribal Affairs will offer six digital classes in collaboration with the Ministry of IT and Electronics.
- **ERNET, an independent entity operating under MeITY**, is carrying out the project with the help of STC money provided by MeITY, and NESTS is funding 10% of it.

What are some of the Skill development initiatives?

- **Pradhan Mantri Kaushal Vikas Yojana, the Ministry of Skill Development and Entrepreneurship (MSDE) flagship programme**, is being implemented as part of the **Skill India Mission (PMKVY)**.
- Focus has also been placed on **digital technologies** and Industry 4.0 skill development under PMKVY 3.0.
- **Sector Skill Councils (SSCs)** have also developed employment opportunities for industry 4.0 skills like artificial intelligence (AI) and the internet of things (IoT) and new and developing digital technologies (IoT).
- **The Schedule Tribe Component (STC) of the MSDE** has allocated Rs. 203 crore for a number of projects aimed at enhancing tribals' skill sets between 2022 and 2023.
- Additionally, through the **eSkill India portal**, the **National Skill Development Corporation (NSDC)**,

operating under the auspices of the **MSDE**, has started online skilling.

- In addition to professional skills like design thinking, project management, and digital marketing, the platform provides learning opportunities on cutting-edge technologies like **cybersecurity, blockchain, artificial intelligence**, and machine learning, predictive modelling, statistical business analytics, cloud, and the Internet of Things.
- Under the **PMKVY scheme**, **no specific funds** are allocated for training in digital skills.
- The **Centrally Sponsored State Managed (CSSM)** component of the PMKVY system allows for the **distribution of money on a State- or UT-by-State basis**.
- Additionally, the **Centrally Sponsored Scheme of "Samagra Shiksha"** is the framework under which the Department of School Education and Literacy, Ministry of Education, is implementing the initiative of vocationalization of school education.
- In the schools included in the programme, tribal students in classes 9 through 12 are offered NSQF-compliant vocational courses under the Vocational Education component of "Samagra Shiksha."
- It consists of **green skills, entrepreneurship skills, information and communication technology skills, self-management skills, and communication skills**.

GUIDELINES RELEASED BY THE CENTER FOR MISSION VATSALYA

Priority: Medium

Primary Source: The Indian Express

Prepp Prelims Booster: Mission Vatsalya

Prepp Mains Booster: Goals of Mission Vatsalya

Context:

- Recently, the **Ministry of Women and Child Development** has released comprehensive **Mission Vatsalya Scheme guidelines**, and State Governments and UT Administrations are required to develop their financial proposals and **plans for the fiscal years 2022–2023** as part of the Mission Vatsalya Scheme based on the financial standards of the Guidelines.
- Since 2009–10, "Mission Vatsalya," formerly known as the Child Protection **Services (CPS) Scheme**, has been implemented by the **Ministry of Women and Child Development** for the **welfare and rehabilitation of children**.



What is Mission Vatsalya?

Goal:

- The goal of Mission Vatsalya is to **guarantee a healthy and happy childhood for every child in India**,
- Provide opportunities for them to realise their full potential and
- Support their sustained flourishing in all spheres, foster a sensitive, supportive, and
- Coordinated ecosystem for children's development,
- Assist States/UTs in carrying out the **Juvenile Justice Act 2015's** mandate, and help them achieve the **Sustainable Development Goals (SDGs)**.

Components

- Based on the idea that institutionalising children should only be used as a last resort, Mission Vatsalya advocates **family-based non-institutional care of children** in challenging situations.
- Improve the **efficiency** of statutory authorities
- strengthen **service delivery** mechanisms;
- Upscale **institutional care** and services;
- Promote **non-institutional community-based** care;
- Provide **emergency outreach services**; and
- **train and create capacity**.

Role of States:

- The Memorandum of Understanding (MoU) for the implementation of the Scheme has been signed by all States and UTs with the Ministry.
- According to the established **cost-sharing ratio between the Center and State/UT Governments**, Mission Vatsalya will be undertaken as a **centrally sponsored initiative**.
- The Ministry has released **comprehensive Mission Vatsalya Scheme** guidelines, and State Governments and UT Administrations are required to develop their **financial proposals and plans** for the fiscal years 2022–2023 as part of the Mission Vatsalya Scheme based on the financial standards of the Guidelines. Beginning on April 1, 2022, the Mission Vatsalya scheme's rules will be in effect.

Who will review the scheme?

- The **Mission Vatsalya Project Approval Board (PAB)**, which will be presided over by the **WCD Secretary**, will review and approve the annual plans and financial proposals submitted by the states and UTs in order to **distribute money**.
- A committee led by the **chief secretary** will be in charge of overseeing, **reviewing, and promoting convergence** in the scheme's implementation at the state level.
- A **committee at the district level** will also exist.

What are the Guidelines for mission Vatsalya?

- **Must maintain the official name**
- **Aiding State Adoption Resource Agencies (SARA)**
- **Establish cradle baby reception centres**
- **24-hour helpline for kids**
- **Focus on special needs children**
- **Financial Support to Vulnerable children**
- **Grading child care Institutions (CCI)**

NATIONAL CHILD LABOUR PROJECT (NCLP)

Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: National Child Labour Project (NCLP)

Prepp Mains Booster: Objectives of NCLP

Context:

- The Centre does not have any statistics on child labour in the country.
- It is due to a lack of funding resources for the **National Child Labour Project (NCLP)** plan.
- Rehabilitating and enabling mainstream education for rescued child labourers has encountered a block, with the Central government announcing in March this year that the **National Child Labour Project (NCLP)** will be "subsumed/merged" with the Ministry of Education's **Samagra Shiksha Scheme**.

What is NCLP?

- It is a **Central Government Scheme** designed to address the issue of child labour in a more effective manner by focusing on specific target ideas, identifying victims, removing them from hazardous situations, focusing on their rehabilitation, and spreading awareness to the families of child labourers about the functions of NCLP and other agencies on child labour.
- **District Project Societies (DPS)** are established at the district level under the Chairmanship of the Collector/District Magistrate to monitor project execution.
- Children aged 9 to 14 are removed from labour and placed in **NCLP Special Training Centres** under this Scheme.
- Before being integrated into the official school system, they get bridging education, vocational training, a mid-day meal, a stipend, health care, and other benefits.
- Through strong collaboration with the **Sarva Shiksha Abhiyan**, children aged 5-8 years are directly linked to the formal school system.
- For improved monitoring and execution, a dedicated web site called **PENCIL (Platform for Effective Enforcement of No Child Labor)** is being established.

What do you mean by Child Labour?

- **Child labour** is defined as the exploitation of children for any type of job that denies them equal access to education and a normal childhood.
- As a result, the abused youngster is mostly utilised for physically, socially, and cognitively **hazardous tasks**.
- Despite the different legislations and efforts made by the Indian government, India today has more than 10 million child labourers.
- The abolition of child labour is critical to meeting the government's established development goals by **2030**.

What are the objectives of NCLP?

- It attempts to eliminate all types of child labour through a sequential process that begins with: identifying children who are involved in child labour in the project area.
- Preparation of withdrawn youngsters for inclusion in normal education through vocational training.
- Assuring that people benefit from the numerous services given by various governments and agencies.
- Its goal is to **remove teenage children** from dangerous settings or vocations by identifying and removing all adolescents from the project area.

- Facilitating training programmes for such teenagers through presently established skill development initiatives.
- It seeks to raise awareness about the functionality of **NCLP** among the target communities and other stakeholders concerned with child labour.
- To keep track of the problem, a **Child Labor Monitoring, Tracking, and Reporting System** should be developed.

Target Group of NCLP

- The **scheme focuses** on all child workers under the age of 14 in the target areas, adolescent workers under the age of 18 engaged in hazardous occupations, and the families of child workers in those areas.
- After appropriate bridging programmes, the students would be eased into local schools.
- Adolescent youth engaged in hazardous labour would get skill development training and be transferred to non-hazardous jobs.
- The **government will guarantee** that families of child employees receive income/stipends, employment, or social security. The **rescued kid** employees will be tracked in order to evaluate their impact.
- Child labour regulations will be strengthened in accordance with the requirements in the appropriate region.

What are the features of NCLP?

- The government helps in the **identification, categorization, eradication**, and removal of children and adolescents from dangerous jobs.
- Successfully integrating rescued children into appropriate local schools and affiliating them with the **Sarva Shiksha Abhiyan (SSA)**.
- Other skill enhancement training will be offered to the teenagers before they are placed in allowed employment.
- With the assistance of expanded talents, better awareness initiatives for the education of communities and the Indian public as a whole.
- **Compensation for families** that release their children from employment and allow them to attend training or education.
- Mothers of such traumatised children frequently form self-help groups (SHGs).

What are the Government Initiatives against Child Labour?

- The government has established several policies regarding the enforcement of child labour and is actively working to eliminate this practice.
- In 1979, the **Central Government of India** established the Gurupadswamy Committee, which discovered that the inextricable cause of child labour in India was poverty.
- The findings and analyses of the committee were subsequently used by the union government to pass the **Child Labour (Prohibition & Regulation) Act, 1986**.
- The **Child Labour (Prohibition & Regulation) Amendment Act of 2016 amends the Child Labour (Prohibition & Regulation) Act of 1986**, which prohibits the employment of underage minors, particularly in dangerous conditions or vocations.
- It has also linked the restriction on work with the right to free education under the **Right to Education Act of 2009**.
- India became the **ILO's 170th member** to sign Convention No. 138.

- This convention compels member parties to establish a minimum age for employment.
- India also committed to **Convention No. 182**, which mandates state parties to abolish and ban all types of severe child labour, including trafficking, the employment of minors in armed conflict, prostitution, other illegal activities.
- **INDUS Project:** The Government of India and the United States Department of Labour joined to develop the **INDUS Project**, which intended to prevent and eliminate child labourers, particularly in dangerous jobs. It was created under the auspices of **ILO-IPEC** (International Labour Organization- International Programme on the Elimination of Child Labour).

Various provisions against Child Labour in Indian Constitution

- **Article 23** of the Indian Constitution prohibits any kind of forced labour.
- **Article 24** stipulates that no kid under the age of 14 may be engaged to conduct dangerous employment.
- According to **Article 39**, "the health and strength of employees, men and women, as well as the young age of children, are not mistreated."
- The **Child Labour Act (Prohibition and Regulation) of 1986** makes it illegal for children under the age of 14 to work in hazardous industries or procedures.

RISE IN UNVACCINATED CHILDREN IN INDIA

Priority: Medium

Primary Source: The Hindu

Prepp Mains Booster: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources, Issues relating to poverty and hunger.

Context:

- According to official data released by the WHO and UNICEF, the number of children in India who were **either unvaccinated or missed their first dose** of the diphtheria-tetanus-pertussis (DTP) combined vaccine **doubled as a result of the pandemic**.
- This occurred as the world experienced the largest sustained decline in **childhood vaccinations in roughly 30 years**.
- The rise in zero dose, or those who missed their first dose of diphtheria-tetanus-pertussis, between 2019 and 2021 is the "first time ever there has been a fall in evaluated coverage in immunisation for India as a whole."



What is the status of immunisation in India?

- India was able to halt the global fall in immunisation coverage between 2020 and 2021, despite the fact that this trend is continuing worldwide.
- Children receiving zero dosage increased significantly, reaching three million in 2020.
- The WHO-UNICEF study states that catchup programmes like the third **Intensified Mission Indradhanush (IMI)** avoided a further backsliding and the number fell to 2.7 million in 2021.
- **Before the pandemic**, India's **immunisation coverage increased gradually**, rising from 43% in the National Family Health Survey (NFHS)-3 (2005-2006) to 62% in the NFHS-4 between 2015 and 2016 and the NFHS-5 between 2019 and 2021.
- India began its fourth round of IMI in February, which is anticipated to substantially lower the number of unvaccinated children in the upcoming WHO and UNICEF estimates of national immunisation coverage (WUENIC) in 2023.
- Through its **universal immunisation programme**, India annually immunized 27 million children and over 30 million expectant mothers.

What is the status of immunisation globally?

- A measure of immunisation coverage within and within nations, the percentage of children who received three doses of the diphtheria, tetanus, and pertussis vaccine (DTP3) **declined five percentage points to 81 percent globally** between 2019 and 2021.
- This highlights the growing number of youngsters at risk from deadly but **preventable diseases**.
- Because of a **decline in income levels** during the pandemic, the loss in immunisation coverage is particularly concerning because it is being accompanied by a fast rising rate of severe **acute malnutrition**.
- A malnourished youngster already has low immunity, and because they may have missed their vaccines, **common childhood infections** may become fatal to them very fast.
- The confluence of a hunger crisis and a widening immunisation gap poses a threat to set the stage for a child survival crisis, according to a joint statement from WHO and UNICEF.

FOUR STATES ALIGN THEMSELVES WITH MODEL TENANCY ACT 2021

Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: Model Tenancy act

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

Context:

Recently, Four states, Andhra Pradesh, Tamil Nadu, Uttar Pradesh and Assam have revised tenancy acts on the lines of the Model Tenancy Act (MTA) 2021.

Model Tenancy Act 2021

- It was approved by the Ministry of Housing and Urban Affairs to streamline the process of renting property in all State and Union Territory (UTs) and aid the rent economy in the estate sector.
- Jammu and Kashmir became the first Union Territory to adopt the MTA in 2021.

- Model Act is only a suggestive framework and not binding for states since housing is a part of the State List under the 7th Schedule of the Constitution.

Provisions of the Act

- A written agreement is mandatory between the property owner and the tenant.
- Establishes an independent authority in every state and UT for registration of tenancy agreements and even a separate court to take up tenancy related disputes.
- Limit the tenant's advance security deposit to a maximum of two months' rent for residential purposes and to a maximum of six months for non-residential purposes.
- The landlord will be responsible for activities like structural repairs except those necessitated by damage caused by the tenant, whitewashing of walls and painting of doors and windows, etc. The tenant will be responsible for drain cleaning, switches and socket repairs, kitchen fixtures repairs, replacement of glass panels in windows, doors and maintenance of gardens and open spaces, among others.
- A landowner will have to give 24-hour prior notice before entering the rented premises to carry out repairs or replacement.
- If a landlord has fulfilled all the conditions stated in the rent agreement - giving notice etc.- and the tenant fails to vacate the premises on the expiration of the period of tenancy or termination of tenancy, the landlord is entitled to double the monthly rent for two months and four times after that.

Significance of the Act

- The authority will provide a speedy mechanism in resolving disputes and other related matters.
- It will help overhaul the legal framework with respect to rental housing across the country.
- It will enable creation of adequate rental housing stock for all the income groups thereby addressing the issue of homelessness.
- It will enable institutionalization of rental housing by gradually shifting it towards the formal market.
- It is expected to give a fillip to private participation in rental housing as a business model for addressing the huge housing shortage.

Key Issues with the model Act

- The Act may not resolve key issues in the rental housing sector that it seeks to address such as availability, affordability, and the need to formalize the rental housing market.
- The Model Act specifies minute details of what should be included in a rent agreement such as assigning responsibility for structural repairs and routine maintenance, and the maximum security deposit. Such details can be mutually agreed upon by contracting parties when signing an agreement.
- Registration of the rent agreements requires Aadhaar number to be submitted. Mandating submission of Aadhaar number to register a rent agreement may violate a Supreme Court judgement.
- The timeline for resolution of some disputes by adjudicatory bodies has not been specified in the Model Act. These include disputes on withholding essential services, revision of rent and contraventions by property managers.

- It fails to protect tenants from rental discrimination, commonly experienced by various groups including bachelors, unmarried couples, non-vegetarians, Dalits, religious minorities, transgender persons and sexual minorities.

16TH MEETING OF NATIONAL ASSOCIATION OF STREET VENDORS OF INDIA (NASVI)

Priority: Medium



Primary Source: PIB

Prepp Prelims Booster: National Association of Street Vendors of India

Prepp Mains Booster: Government Policies & Interventions; Inclusive Growth

Context:

Recently, the sixteenth conference of the National Association of Street Vendors of India (NASVI), with the theme "From Encroachers to Self-Employed," was addressed by the minister of housing and urban affairs.

What is the National Association of Street Vendors of India (NASVI)?

- NASVI is an organization working for the protection of the livelihood rights of thousands of street vendors across the country.
- Beginning as a Network in 1998, NASVI was registered in 2003 under the Societies registration Act of 1860.
- The main objective behind establishing NASVI was to bring together the street vendor organizations in India so as to collectively struggle for macro-level changes which had become imminent to support the livelihood of around 10 million vendors which stand severely threatened due to outdated laws and changing policies, practices and attitudes of the powers that be.
- NASVI is a national federation of street vendor organizations. It is a coalition of Trade Unions, Community Based Organizations (CBOs), Non Government Organizations (NGOs) and professionals.

Who are Street Vendors?

- Street Vendor is a profession where the person sells the goods to the public at large without having a permanent shop or a built-up structure to sell the goods.
- Street vendors may be mobile in the sense that they travel from place to place while pushing carts or carrying baskets on their heads, or they may be fixed in the sense that they take up space on sidewalks or other public or private locations.
- Street vendors are becoming more prevalent in large cities all over the world, particularly in developing countries of Asia, Latin America, and Africa.
- In India, an estimated 49.48 lakh street sellers have been located. With 8.49 lakh, Uttar Pradesh has the most, followed by Madhya Pradesh with 7.04 lakh.
- There are just 72,457 street sellers in Delhi. However, in Sikkim, no known street vendors have been found.

What are the constitutional provisions?

Fundamental Rights:

- Article 19:** Right to profession granted under Article 19(1)(g) of the Indian Constitution provides for every Indian citizen the basic right to engage in any profession, or to carry on any occupation, trade or business.

- **Article 14:** Equal Protection Under the Law granted according to Article 14 of the Indian Constitution, no person shall be denied equality before the law or equal protection under the law on Indian territory.

Directive principle:

- According to **Article 38(1)**, the state must secure a social order in which social, economic, and political justice guide all facets of societal institutions in order to further the welfare of the people.
- To "minimize the inequities in income status, facilities, and opportunities," according to **Article 38(2)**.
- According to **Article 39(a)**, the government must create policies to guarantee that all citizens, men and women alike, have the right to appropriate means of subsistence.
- Within the confines of the state's economic competence, **Article 41** expressly guarantees the "freedom to employment."

What are the challenges faced by the street vendors?

- **Lack of Space:** Because planners mindlessly emulate the western model of marketing while ignoring Indian customs, master plans created for our cities do not allow space to vendors/hawkers.
- **Frequent Eviction:** Regular evictions carried out by the municipal or district government are referred to as frequent evictions. They are terrified of the eviction team, which goes by many names locally.
- **Extortion Racket:** Rangdari tax and hafta cases are frequent. In many places, it costs a lot of money for vendors to operate their businesses.
- **Harassment by multiple authorities:** The vendors have to deal with a variety of authorities, including the local panchayats, municipal authority, the district government, and the police (thana and traffic) to sell their goods. This many times leads to harassment, exploitation and extortion from this .
- The good actions of one authority are frequently undone by the others.
- Municipal corporations instead of facilitating the street vending; rather, they treat them as a nuisance and an inconvenience to public space. Police also treat them as a traffic congestion problem.
- Their actions and policies are more focused on getting rid of or harassing street vendors rather than on enforcing the available regulations.

What are the Initiatives taken by the Government for Street Vendors?

Acts and Policy initiatives:

- The Government of India has enacted the **Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014** to regulate street vendors in public areas and protect their rights.
- Other than that, the Union government has also enacted the **National Policy on Urban Street Vendors-2009** to protect the interest of street vendors in urban areas.
- Apart from that, the respective state governments have also taken various measures for the protection of street vendors.

PM SVANidhi scheme:

- Over 50 lakh street vendors, including those from neighbouring peri-urban and rural areas, were to receive

assistance through the SVANidhi Scheme, which was established to help them.

- Additionally, it wants to encourage digital transactions by offering cash-back incentives up to Rs. 1,200 annually.

Pradhan Mantri Shram Yogi Maan-Dhan:

- Through PMSYM, the Government of India has provided for social security benefits in the form of the pension scheme to street vendors. PMSYM is a central sector scheme that is introduced for old age protection and social security benefits to unorganized sector workers .

Way ahead

- Despite the existence of numerous programmes for street sellers, there are still a number of implementation, identification, awareness, and accessibility issues that need to be resolved right away.
- They should be given benefits like maternity allowances, accident relief, natural death compensation, education support for kids to go to college, and pension during any crisis.
- As street vendors are only requesting a right to a living, states should be urged to prevent harassment of them by the police.

FIRST EDITION OF THE STATE RANKING INDEX FOR NATIONAL FOOD SECURITY ACT (NFSA), 2013

Priority: Medium



Primary Source: The PIB, Indian Express

Prepp Prelims Booster: NFSA

Prepp Mains Booster: Significance of the Index

Context:

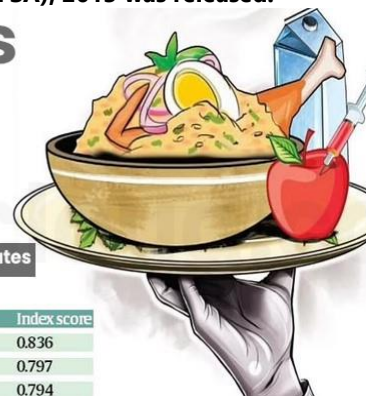
Recently, the **first edition** of the **State Ranking Index for National Food Security Act (NFSA), 2013** was released.

odisha **Tops**
First National
Food
Security Ranking

Tripura best among smaller states

TOP THREE

Rank	State	Index score
1	Odisha	0.836
2	Uttar Pradesh	0.797
3	Andhra Pradesh	0.794



What is the State Ranking Index of NFSA?

- After consulting with the states, the index aims to track the status and advancement of the NFSA's implementation nationwide as well as different reform measures.
- By highlighting the reforms carried out by the States and Union Territories, it fosters cross-learning and helps all the States and Union Territories scale up their reform efforts.
- The PMKAY (Pradhan Mantri Garib Kalyan Anna Yojana) payouts and potential buyouts will be included in the index that is currently mostly focused on NFSA distribution.

What is the basis of the assessment?

- Three major pillars serve as the foundation for the index used to rank States and UTs, and they cover the full implementation of the NFSA through the Targeted Public Distribution System (TPDS). These pillars include:
 - Nutrition Efforts,
 - Delivery Systems,
 - NFSA coverage, targeting, and Act provisions.

In what ways did the states Perform?

IMPLEMENTING FOOD SECURITY

How the 20 'general category' states ranked in terms of NFSA implementation

TOP THREE

Rank	State	Index score
1	Odisha	0.836
2	Uttar Pradesh	0.797
3	Andhra Pradesh	0.794

BOTTOM THREE

18	Delhi	0.658
19	Chhattisgarh	0.654
20	Goa	0.631

General Category States:

- Odisha is ranked first** followed by Uttar Pradesh and Andhra Pradesh in second and third position.

Special Category States:

- Tripura ranks top among the special category states** (the North-eastern States, Himalayan States, and Island States).
- Himachal Pradesh and Sikkim are in second and third place, respectively.

Worst Performers:

- Punjab, Haryana and Delhi are among the states at the bottom five.

What is the significance of the Index?

- The exercise's results showed that the majority of the states and union territories had done well in terms of digitization, Aadhaar seeding, and ePoS installation, which emphasizes the scope and strength of the reforms.
 - However, there are a few areas where states and union territories can perform better. Exercises like meticulously completing and documenting social audits and operationalizing state food commission functions across states and union territories would support the Act's genuine purpose even more.
- Healthy competition between States will result, allowing them to perform even better.

What are the Issues Related to the Index?

- It does not include initiatives and plans run by other NFSA ministries and divisions.
- The Index does not represent the degree of hunger, malnutrition, or both in a specific state or union territory; it only measures the effectiveness of TPDS operations.

Why Does Odisha's Ranking Matter?

- Odisha has implemented a robust **end-to-end computerization of the Targeted Public Distribution**

System (TPDS) operations since the state's adoption of the NFSA in 2015.

- 378 Ration Card Management System (RCMS) Centres**, one in each of 314 blocks and 64 urban local bodies, dynamically update a 3.25 billion beneficiary database that has been hosted in the public domain (ULBs).
- Additionally, all 152 food storage facilities owned by the Food Supplies and Consumer Welfare Department are fully automated, and 1.87 lakh MT of foodgrains are distributed to 12,133 fair pricing retailers throughout the State in real-time.
- The One Nation, One Ration Card (ONORC) programme was implemented statewide beginning in July 2021.
 - Following its introduction, PDS users can now choose any merchant with fair prices that is convenient for them in order to get their monthly benefits.
 - The intra-state programme provides rations to about 1.10 lakh people each month, while the inter-state programme serves 533 families.

What is NFSA?

- Notified on:** September 10, 2013.
- Objective:** To ensure that people have access to enough good food in sufficient quantities at costs that allow them to live respectably throughout their whole life cycle.
- Coverage:** 75 percent of the rural population and up to 50 percent of the urban population are covered by the Targeted Public Distribution System, which provides subsidised foodgrains (TPDS).
- NFSA serves 67 percent of the entire population as a whole.

Eligibility:

- Priority TPDS coverage for households is required, per State government regulations.
- Households protected by the current Antyodaya Anna Yojana

Provisions:

- A person is entitled to get 5 kg of food each month at a cost of Rs. 3/2/1 per kg of rice, wheat, or coarse grains.
- 35 Kg of foodgrains will continue to be given to each existing Antyodaya Anna Yojana home each month.
- Meals and maternity benefits for Pregnant women and lactating mothers that total at least Rs. 6,000 during pregnancy and the first six months following childbirth.
- meals for young people up to age 14.
- Beneficiaries receive a food security stipend if their meals or food grains are not provided as required.
- creating state and district-level channels for handling complaints.

NAMASTE SCHEME

Priority: Medium

Primary Source: PIB

Prepp Prelims Booster: Important Government schemes

Prepp Mains Booster: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

Context:

- The government has developed the NAMASTE scheme—National Action Plan for Mechanized Sanitation Ecosystem—to **clean septic tanks and sewers**.

- The scheme is a joint venture of the **Department of Drinking Water and Sanitation, Ministry of Social Justice and Empowerment and the Ministry of Housing and Urban Affairs.**
- **What is the significance of the scheme?**
- It aspires to achieve results, including achieving **zero sanitation-related deaths** in India, **preventing sanitation workers** from coming into direct touch with human waste, and providing alternative employment opportunities for all sewer and septic tank sanitation workers.
- The Ministry has **shortlisted types of machineries and core equipment** required for maintenance works, **safety gear for Safai Mitras.**
- The same is also available on the **Government e-Marketplace (GeM)** portal for ease of their procurement by States and Urban Local Bodies.
- The **Skill Development and training of Safai Mitras** is being taken up with the support of the Ministry of Social Justice and Empowerment through the National Safai Karamchari Finance Development Corporation.
- The scheme will be implemented **from 2022 to 2026** across **500 cities and townships notified under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Scheme.**

What are steps taken by the government to prevent manual scavenging?

- **District magistrates** are in charge of monitoring there are no manual scavengers operating in their jurisdiction.
- **The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act**, passed in 1993, makes it illegal to employ scavengers or build dry (non-flush) latrines, and it carries a maximum one-year sentence as well as a 2,000 rupee fine.
- To aid in the transition to new professions, the Self Employment Scheme for Rehabilitation of Manual Scavengers, 2007 was passed.
- The **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013.**
- The **"Swachhta Abhiyan App"** has been created to locate and geotag the information of unsanitary latrines and manual scavengers so that they may be changed to sanitary latrines and all manual scavengers can be rehabilitated to provide them a dignified livelihood.
- **According to a Supreme Court ruling from 2014**, the government was required to identify every person who died while working on sewage systems since 1993 and pay their families Rs. 10 lakh each in compensation.

INTERNATIONAL RELATIONS

I2U2 SUMMIT

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: I2U2 Summit

Prepp Mains Booster: Bilateral, Regional, and Global Groupings and Agreements involving India and/or affecting India's interests

Context:

- Recently, the first Leaders' Summit of I2U2 (India-Israel-UAE-USA) was held virtually on 14 July 2022. PM Modi, along with the PM of Israel, the President of the USA and the President of the UAE, attended the I2U2 Summit.

What is I2U2?

- I2U2 stands for 'India-Israel-UAE-USA', is a diplomatic grouping between the US, Israel, the UAE, and India.
- The four-nation grouping has been referred to as I2-U2 by US Secretary of State Antony Blinken.



- The grouping was established in October 2021, when the foreign ministers of India, Israel, the US, and the UAE convened virtually for the first time.
- The new grouping is characterized as a global forum for economic cooperation.
- This cluster is already referred to as the "Middle-Eastern Quad" or the "New Quad," on the model of Quad
- The grouping's main objective is to create synergies that transcend intergovernmental cooperation.
- **What are the areas of cooperation in I2U2?**
- The grouping's main objectives will be to **increase commerce**, collaboration in the **energy sector**, coordination of **key common interests**, and **climate change mitigation** in Asia and the Middle East.
- The foreign ministers of India, Israel, the United Arab Emirates, and the United States committed to assure **closer cooperation on boosting commerce**, improving **cooperation in maritime security and global public health**, and working together on **transportation and technological infrastructure** projects.
- Increased cooperative investment in **six crucial areas**—water, energy, transport, space, health, and food security—was decided during the first Leaders' Summit of I2U2.
- The association **only focuses on collaboration in maritime security** and without any military overtones.

What are the highlights of the first summit of the I2U2?

Goal of the Summit

- The conference aimed to encourage cooperation investments in six mutually identified areas such as water, energy, transportation, space, health, and food security.
- The Grouping intends to mobilize capital and skill to help modernize the infrastructure, our industries' low-carbon development routes, the public's health, and the advancement of vital emerging and green technologies.

Meeting focused on the food security crisis and clean energy

- The leaders discussed innovative ways to ensure longer-term, more diversified food production and food delivery systems that can better manage global food shocks.

Summit included the topics- sustainable energy and the challenge of food security

- The leaders talked about creative strategies for long-term, more diversified food production and food delivery networks that are better able to handle global food shocks.

Agriculture Innovation Mission for Climate" (AIM for Climate):

- It is a joint initiative of the USA and UAE launched on the eve of CoP26 in November 2021.
- By bringing participants together to dramatically expand investment in climate-smart agricultural and food system innovation over five years, it aims to address both global hunger and climate change (2021 – 2025).

What are the initiatives announced in the summit?

Food Security:

- For the purpose of creating a number of Integrated Food Parks around India, the UAE will invest \$2 billion USD.
- **India** will provide the project with the necessary acreage and would make it easier for farmers to participate in the food parks.
- Private businesses from the **USA and Israel** will be requested to contribute **their knowledge and provide creative ideas** that improve the project's overall sustainability.
- Modern climate-smart technologies will be used in these parks to decrease food waste and spoilage, conserve fresh water, and use renewable energy sources.
- By increasing crop yields, these investments will aid in reducing food insecurity in South Asia and the Middle East.

Clean Energy:

- In Gujarat State, India, the I2U2 Group will progress a hybrid renewable energy project.
- The project includes a battery energy storage technology in addition to 300 MW of wind and solar power.
- The \$330 million USD project's feasibility study was supported by the U.S. Trade and Development Agency.

How is I2U2 in comparison with the Quadrilateral Security Dialogue (QSD)?

- The Quad is a strategic discussion between the United States, India, Japan, and Australia, sometimes referred to as the 'Quad.'
- The discussion began in 2007 in reaction to growing Chinese assertiveness in the South China Sea, and was accompanied by the Malabar Exercise, one of the largest combined military exercises in modern history.
- Despite Australia's withdrawal from the discussion as its own economic relations with China strengthened over the decade, the group met again in 2017.

What are the advantages of I2U2 for India?

- **More flexibility to India in West Asia:** West Asia is regarded as India's extended neighbourhood, and India has traditionally supported peace and stability there.
- India will have more freedom to interact with Israel and its Gulf partners because of the new "Quad."
- The changes in West Asian geopolitics are also strongly reflected in this grouping.
- **Diplomacy shifts from bilateral to regional mechanism:** This platform supports India's strategic goal to move beyond bilateralism and pursue a regional foreign policy strategy toward West Asia.

- The Sunni Gulf monarchies, Israel, and Iran were the three cornerstones of India's West Asia policy in the past.
- The Abraham Accord, however, is helping to close the gap between Israel and the Sunni nations.
- India hence encounters less difficulties in West Asia in future.
- **Strategic Interest:** The UAE is one of India's top oil exporters, whilst Israel is a dependable ally in the defense sector.
- This involvement is quite important given that India is overhauling its defense system and the globe is currently experiencing a severe energy situation.

What factor led to the emergence of the I2U2 initiative?

- **Abraham Accord:** Under the Abraham Accords pushed by the Trump Administration, the UAE, Bahrain, Sudan, and Morocco established formal links with Israel in 2020. This new grouping was only made feasible with the reopening of regular diplomatic relations between Israel and the UAE.
- **Combating Turkey's Regional Dominance:** The new Quad is a result of India, the UAE, and Israel's convergent interests in response to Turkey's forceful claims to be the leader of the Islamic world.
- **US Pivot to Asia:** The summit will take place at a time when the US is attempting to reduce its presence in the Middle East as part of its pivot to East Asia in order to counter China's ascent.

SECOND UN OCEAN CONFERENCE

Priority: Medium



Primary Source: PIB

Prepp Prelims Booster: UNOC

Prepp Mains Booster: Important International institutions, agencies and fora- their structure, mandate.

Context:

Recently, All 198 members of the United Nations unanimously adopted the Lisbon Declaration on ocean conservation on the last day of the UN Ocean Conference 2022.

About the Conference

- It was held to ensure global cooperation towards protection and sustenance of the Ocean ecosystem of the world.
- It was co-hosted by the Governments of Kenya and Portugal. Earlier, the first UNOC was held at UN Headquarters in New York in 2017, co-hosted by the Governments of Fiji and Sweden.
- The Lisbon declaration entitled "Our ocean, our future: call for action" has been adopted by the high-level United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Highlights of the Conference

- Emphasized the particular importance of implementing the Paris Agreement (2015) and Glasgow Climate Pact to help ensure the health, productivity, sustainable use, and resilience of the ocean.
- States made voluntary commitments to conserve or protect at least 30% of the global ocean within Marine Protected Areas, and other effective area based conservation measures, by 2030.
- The Minister of Earth Sciences led the Indian delegation at the UN Ocean Conference.

- India promised to provide science and innovation-based solutions for the implementation of Goal 14 through partnerships and environmentally friendly.
- India committed to a Coastal Clean Seas Campaign and will work toward a ban on single use plastics.

INDIA- JAPAN TIES UNDER SHINZO ABE

Priority: High



Primary Source: The Hindu

Prepp Mains Booster: Indo-Japanese Cooperation

Context:

- Mr. Shinzo Abe, the former Prime Minister of Japan was shot dead by an attacker during his campaign for a parliamentary election on July 8th, 2022.
- Mr. Shinzo Abe was the one who redefined Japanese politics and diplomacy in the nation's post-war history and the longest-serving Prime Minister of Japan.
- Abe had a close friendship with India during his term in power, one that he personally engaged in.
- Additionally, he had a special connection with PM Modi that he repeatedly showed.

India- Japan Relations

- Japan and India are partners in peace, sharing responsibility for achieving international peace and equitable development as well as a shared interest in strengthening the security, stability, and prosperity of Asia.
- Japan and India decided to advance their bilateral relationship to a qualitatively new level at the start of the twenty-first century.
- The groundwork for this was created when Mr. Yoshiro Mori, Prime Minister of Japan, and Shri Atal Behari Vajpayee, Prime Minister of India, decided to establish the "Global Partnership in the 21st Century" during Mr. Mori's historic visit to India in August 2000.
- India and Japan now have a similar global outlook on sustainable development-based peace, stability, and prosperity for all.
- Therefore, the foundation of the two nations' international alliance is their shared dedication to democracy, human rights, pluralism, open societies, and the rule of law.

Transformation in India-Japan Ties After Shinzo Abe's Coming

Personal Visits

- Abe visited India and addressed the parliament during his first term, which was in 2006–2007.
- In January 2014, December 2015, and September 2017, he made three trips to India.
- No other Japanese prime minister has traveled to India as frequently.
- In 2014, he was the first Japanese prime minister to serve as chief guest at the Republic Day parade.

Key Initiation of Quad

- Abe was the first initiator of the Quad regional alliance in the 2000s and continued to serve as its staunchest supporter throughout its recent resurgence.
- When the Quad was founded in 2007, Abe gave a speech in which he described his idea of the
- Confluence of the Two Seas.
- The "arc of freedom and prosperity"—now known as the "free and open Indo-Pacific"—which is essential to the

strategic approach known as the "spirit of the Quad"—was championed by Japanese diplomacy under Abe.

Nuclear Deal

- Indian Prime Minister Modi and Mr. Abe decided to raise their bilateral partnership to a "Special Strategic and Global Partnership" in September 2014.
- The partnership evolved and covered topics like Act East Policy, maritime security, bullet trains, quality infrastructure, and Indo-Pacific strategy.
- The Indo-Japan nuclear agreement was still in limbo when Modi visited Japan in 2014 because Tokyo was wary of a deal with a non-NPT member.
- Abe persuaded Japan's nuclear hawks to sign the accord in 2016.

Indo-Pacific Narrative

- India and Japan's relationship in the Indo-Pacific architecture improved under Abe's leadership.
- When the Quad was founded in 2007, Abe gave a speech in which he described his idea of the Confluence of the Two Seas.
- It quickly fell apart, but Abe's Japan was the one that truly floated the notion of restarting the Quad in October 2017, as Chinese aggressiveness increased in the Pacific, Indian Ocean, and along India's frontiers in Doklam.

Defense Cooperation

- Although the security agreement had been in effect since 2008, it was declared by Abe that a meeting of the foreign and defense ministers (2+2) would be held.
- A sort of agreement for military logistical assistance, the Acquisition and Cross-Servicing Agreement was the subject of initial talks.
- The inaugural 2+2 event took place in New Delhi in November 2019.
- In 2015, a rare deal for post-War Japan was also made on the transfer of defense technology and equipment.

Development Cooperation

- In 2015, India made the decision to launch the Shinkansen System (bullet train) during Abe's visit.
- India and Japan also established the Act East Forum under Abe's leadership, and they are currently working on projects in the Northeast that China is keenly monitoring.
- To offset Beijing's influence, the two nations also planned collaborative ventures in the Maldives and Sri Lanka, among other places.

Stand against China

- Four border standoffs between Indian and Chinese soldiers have been made public since 2013: the ones in April 2013, September 2014, June–August 2017, and the one that is still going on as of May 2020.
- Japan under Abe has supported India during each of them.
- Japan has criticized China for upsetting the status quo during the Doklam crisis and the ongoing standoff.

Bilateral Talks

- The "Global Partnership between Japan and India" was established in 2001, and yearly summits between the two countries were agreed upon in 2005. Abe has since 2012 intensified the pace of ties.
- Abe gave the now-famous "Confluence of the Two Seas" speech in August 2007, on his first visit to India as prime minister, setting the groundwork for his concept of the Indo-Pacific.

- One of the basic tenets of India-Japan relations, this idea is now widely accepted.

High points of India-Japan ties under Shinzo Abe



2007: Quad comes into existence under the aegis of Abe and others
2007: Delivers 'Confluence of the Two Seas' address in Indian Parliament
2014: Relations upgraded to special "strategic and global partnership"
2015: Chief guest at 26th Jan Republic Day parade
2017: Lays foundation of Mumbai-Ahmedabad bullet train project

Conclusion

India and Abe had a strong relationship that he personally invested in. They also got along very well. In addition to strengthening bilateral ties with India, he has long been "enthusiastic" about uniting democratic nations to create a global strategic framework. It was very appropriate that the Indian government announced Abe will receive the Padma Vibhushan, the nation's second-highest civilian honor, in January 2021.

OTHER COUNTRIES CAN JOIN CPEC FOR MUTUAL BENEFITS: CHINA, PAKISTAN

Priority: Medium



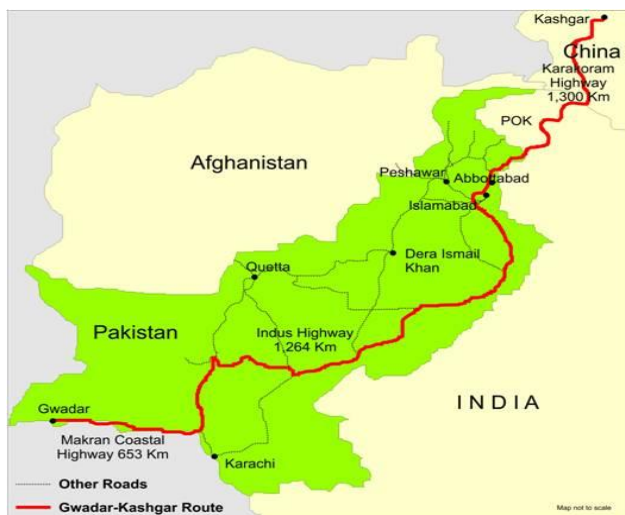
Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: India and its Neighbourhood relations, Bilateral Agreements involving India and/or affecting India's interests.

Context:

In the recently held third meeting of the China-Pakistan Economic Corridor (CPEC) Joint Working Group (JWG), Pakistan and China have decided to welcome any third country willing to join the multi-billion dollar China-Pakistan Economic Corridor (CPEC).



What is CPEC?

- The multibillion-dollar Belt and Road Initiative (BRI), a pet project of Chinese President Xi Jinping, aims to increase

Beijing's influence throughout the world by funding infrastructure projects. The CPEC, which was launched in 2015, is the initiative's flagship project.

- The China-Pakistan Economic Corridor (CPEC), which spans 3,000 km, is made up of pipeline, railroad, and road networks.
- Through a large network of roads and railroads, CPEC eventually hopes to connect the city of Gwadar in South Western Pakistan to Xinjiang in North Western China.
- The proposed project will be paid for with significantly subsidized loans that Chinese banks will give to the Pakistani government.
- China will be able to access the Indian Ocean through Gwadar Port, opening up access to the Middle East and Africa. In exchange, China will finance Pakistani development projects to help Pakistan overcome its energy crisis and stabilize its ailing economy.

What are the concerns of India regarding CPEC?

Violation of India's Sovereignty:

- Since the project crosses through the Gilgit-Baltistan region, which is an integral part of Kashmir and Pakistan claims as its own. This violates the territorial sovereignty of India. From its inception India has consistently opposed CPEC.

Strategic Concerns:

- When CPEC is completely operational, China's "Malacca Dilemma" will end thus giving access to China in the Indian Ocean for trade and energy.
- CPEC will cause concern for India as it will lead to the embodiment of 'String of Pearl' around India along with the Belt and Road Initiative.

India's Economic Influence may weaken:

- CPEC expansion efforts into Afghanistan may weaken India's status as Afghanistan's economic, security, and strategic partner.

Terrorism and Security concern:

- Increased economic prosperity may also push Pakistan to continue and even promoting the cross border terrorism strategy against India. This will add to the security concerns of India.
- This along with Belt and Road Initiatives and Gwadar port will lead to the increased presence of China in India's sphere of influence in the Indian Ocean. This will pose the increased security threat to India posed by any nation.

G-20 MEETING IN BALI INDONESIA

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: International Relations | Bilateral, Regional and Global Groupings and agreements involving India and/or affecting India's interests

Context:

- The G20 Ministerial Meeting was held on July 8th, 2022 in Bali, Indonesia with the theme of "Building a more peaceful, stable, and prosperous world together".
- The sessions highlighted the growing divides within the G20 as Russia accused the US of pressuring Europe and the rest of the globe into giving up inexpensive energy sources while the US accused Russia of causing "global food insecurity."

What is the G20 Grouping?

- The G20, or Group of Twenty, is an intergovernmental forum made up of 19 countries and the European Union.
- It focuses on major global economic issues such as international financial stability, climate change mitigation, and sustainable development.
- The G20 membership is made up of a mix of industrialized and emerging economies, representing over two-thirds of the worldwide population, 85% of global GDP, 80% of global investment, and over 75% of global commerce.
- The G20 nations comprise Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union.

Key Highlights of the G20 Ministerial Meet

- In the ministerial gathering, two significant sessions took place.
- The first meeting focused on advancing multilateralism.
- It looked at coordinated initiatives to improve international cooperation and promote nation-to-nation confidence.
- Its goal was to foster an environment that will support global stability, peace, and advancement.
- The food and energy crises were the topics of the second session.
- It examined tactical steps to combat growing global commodity costs, a shortage of fertilizer, and food insecurity.
- The forum was the first in-person encounter between Russia and the most vocal opponents of its war.
- The meeting with the senior diplomat of the Kremlin has been ruled out by a number of Western ministers, including Baerbock and Blinken. They skipped a meal on Thursday night because Lavrov was there.

What is the Structure and Functioning of G20?

- The G20 Presidency is cycled every year in accordance with a structure that ensures regional balance over time.
- The 19 countries are divided into five groups, each with no more than four countries, to select the president. Each faction takes turns holding the presidency.
- Every year, the G20 elects a president from a different group.
- In Group 2, India is joined by Russia, South Africa, and Turkey. There is no fixed secretariat or headquarters for the G20.
- Instead, the G20 president is in charge of bringing the G20 agenda together in conjunction with other members and reacting to global economic events.
- TROIKA: Every year, when a new country becomes the president (in this case, Argentina in 2018), it collaborates with the previous presidency (Germany in 2017) and the following presidency (Japan in 2019) to form TROIKA.
- This maintains the group's agenda's continuity and coherence.

Significance of G20

- **Flexible:** With only 20 members, the G20 is flexible enough to make quick choices and adapt to changing circumstances.
- **Inclusive:** Every year, invited countries, international organizations, and civil society organizations are included in participation groups, allowing for a larger and more

thorough viewpoint when examining global concerns and creating consensus to address them.

- **Coordinated Action:** The G-20 has also played a key role in bolstering the worldwide financial regulatory framework, including improved cross-country cooperation.
- **Assistance in Loans:** Assisted in a US\$235 billion surge in loans from multilateral development banks at a time when private-sector sources of finance were dwindling.
- **Rapid Deployment of Emergency Money:** During the global financial crisis of 2008, one of the G20's major accomplishments was the rapid deployment of emergency money.
- **Monitoring of National Financial Institutions:** It also strives to improve the monitoring of national financial institutions in order to promote reforms in international financial institutions.
- **Implementation of Tax Transparency Standards:** Reforms to the international tax system driven by the G20/OECD Base Erosion and Profit Shifting (BEPS) project, as well as the implementation of tax transparency standards, are examples.
- **Trade Facilitation Agreement:** The G20 was instrumental in the passage of the Trade Facilitation Agreement, which the World Trade Organisation estimates may contribute between 5.4 and 8.7% of global GDP by 2030 if fully implemented.

Called for an End to the War in Ukraine

- The G20 foreign ministers demanded an end to the conflict and the grain blockade in Ukraine.
- It was during the forum that Russia and its most vocal opponents of the war first met face-to-face.
- The meetings revealed the G-20 grouping's developing divides. Russia claimed that the United States was pressuring the rest of the world including Europe to give up cheap energy sources.
- On the other hand, the United States attributed the world's food insecurity to Moscow.
- The conflict in Ukraine and its economic repercussions are pointing to a rift within the ranks of the international alliance.
- The United States, European Union, Japan, Canada, Australia, and France are uniting to oppose Russia.
- While the other nations favor a cautious approach and call for a peaceful end to the conflict in Ukraine.

- The Indian Finance Minister at the **G20 Ministerial Symposium on Tax and Development in Bali** urged G20 nations to make sure that the planned **global minimum tax deal** generates "**meaningful revenues**" for developing countries without having any "unintended consequences."
- The Indian Finance Minister urged the G20 to support active engagement from all countries in the finalization of the **two-pillar solution's technical aspects**.
- It is a global deal under the aegis of OECD to enforce the Global Minimum Tax (GMT). The GMT will ensure big MNC, having presence in many nations, pay a minimum tax rate of 15% in the country of operation and thus the deal aims to make it harder for them to avoid taxation.

Two-pillar solution:

- **Pillar One:** The first pillar concerns the reallocation of a larger portion of the profit to the market jurisdictions.
- As a result, the greatest MNEs, including digital enterprises, will have a more equitable allocation of revenues and taxing rights among nations.
- Even if they don't have a physical presence there, it would transfer some taxing authority over MNEs from their home countries to the markets where they conduct business and generate profits.
- **Pillar Second:** The second pillar consists of a minimum tax and is governed by tax laws.
- It introduces a global minimum corporate tax rate that nations might employ to preserve their tax bases in an effort to put a floor under competition over corporate income tax.

Global Minimum Tax (GMT):

- GMT is designed to address the low effective tax rates paid by some of the largest firms in the world, particularly Big Tech giants like Apple, Alphabet, and Facebook.
- To divert income from important markets into low-tax jurisdictions or tax havens like Ireland, the British Virgin Islands, the Bahamas, or Panama, these businesses frequently rely on intricate webs of subsidiaries.
- With GMT, Multinational Enterprises (MNEs) will have fewer options to engage in profit shifting and will be forced to pay at least some local taxes.

What is the significance of the deal?

- **Stopping Tax Evasion:** Regardless of where their sales are made, major economies want to deter multinational corporations from moving profits and tax revenues to low-tax nations. It will support those programmes.
- **Economic impact:** According to the OECD, which oversaw the negotiations, the minimum tax will bring in \$150 billion more in yearly worldwide tax receipts.
- **Ending Tax Competition:** With the minimum tax and other conditions, governments will no longer be competing with one another in taxes to entice foreign investment, as they have for many years.
- **Prevent cross-border taxation:** In order to close loopholes in cross-border taxation, it will put in place mechanisms to ensure that companies pay taxes in the nations where they operate.
- According to economists, the agreement will encourage multinational corporations to return capital to their home countries, which will strengthen those economies.

- **Fair Share:** A historic agreement that has been signed by the majority of the world's countries may require multinational corporations to pay their fair share of taxes in the areas

Pillar One	Pillar Two
▶ Will cover top 100 global companies ▶ Re-allocation of an additional share of profit to the market jurisdictions ▶ 'Amount A' would apply to firms with over €20 billion in revenues and a profit margin above 10%	▶ A portion of their profits would be taxed in jurisdictions where they have sales ▶ Between 20-30% of profits above a 10% margin may be taxed ▶ Review of €20 billion threshold to €10 billion after 7 years ▶ India and other developing countries were pitching for a threshold of €1 billion
	▶ Minimum global tax of 15% and subject to tax rules ▶ The effective tax rate should be at least 15%, else additional taxes would be owed to a company's home jurisdiction

INDIA-TAJIKISTAN BILATERAL RELATIONS**Priority:** Medium**Primary Source:** PIB**Prepp Prelims Booster:** Location of Tajikistan**Prepp Mains Booster:** India-Tajik Relations**Context:**

- On the sidelines of the UN Ocean Conference in Lisbon, Portugal, the Minister for Science, Technology, and Earth Sciences of India met with the Minister for Energy and Water Resources of the Republic of Tajikistan.
- Issues relating to study of water resources, paying particular attention to glacier monitoring and comprehension, non-conventional energy, etc were discussed.
- Tajikistan asked India to help international efforts to combat climate change and use water for sustainable development.
- Tajikistan is considered to be India's "**Gateway to Central Asia**" and is located in India's immediate neighbourhood.
- The only area of Tajikistan that isn't rugged, isolated, or mountainous is the **Ferghana Valley**, which is lush and thickly populated.
- It is a **landlocked** country

What are recent high level engagement?

- With the participation of the Presidents of Tajikistan, Kazakhstan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan, Prime Minister Shri Narendra Modi hosted the **first India-Central Asia Summit in January 2022** in a virtual setting that represented the significance of a comprehensive and long-lasting partnership between **India and the Central Asian nations**.
- The **11th meeting of the Tajikistan-India Intergovernmental Commission** on Trade-Economic, Scientific and Technical Cooperation in **2020** covered cooperation in business, trade, finance, investment, the private sector, industry, and new technologies, as well as transport, agriculture, energy, education, culture, and tourism.

- **Eight Memorandums of Understanding** or Agreements were signed during the **2018 visit of the Indian President to Tajikistan**, including significant ones in the fields of disaster management, renewable energy, agricultural research and education, and the peaceful use of space technology.



Indo-Tajik relations:

- **On August 28, 1992, India and Tajikistan established diplomatic relations.** Since then, frequent high-level exchanges between the two nations have strengthened their bilateral ties.
- One of the first nations to establish diplomatic ties with Tajikistan and **acknowledge its independence was India**
- The opening of the Indian embassy in Dushanbe coincides with the 30th anniversary of their diplomatic relations.

The two countries have five bilateral consultative mechanisms in the form of: -

- Foreign Office Consultations.
- Joint Working Group on Counter-terrorism.
- Joint Commission on Trade, Economic, Scientific and Technical Cooperation.
- JWG on Defense Cooperation.
- JWG on Peaceful Use of Space Technology for Development.

Private Investments and Projects

- Tajikistan's small market (population 9.3 million), harsh, capricious, and opaque tax and other laws, and a dishonest administration have all worked against Indian companies' interest in doing business there.
- Medicinal products, cane or beet sugar, tea, handicrafts, machinery, pharmaceuticals, and medical preparations make up the majority of Indian exports to Tajikistan.
- On the Tajik market, Indian pharmaceutical products account for about 25% of sales. However, not all medical supplies come from India directly; some go through Russia before reaching Tajikistan.
- Tajikistan exports a variety of ores, slag and ash, aluminium, organic chemicals, herbal oils, dried fruits, and cotton to India.

Cultural & People-to-People Relation

- Tajikistan and India are closely related historically, culturally, and linguistically.
- Indian culture is very popular, and Russian-dubbed movies, TV shows, and other media are frequently broadcast on regional TV networks.
- About 1650 NRIs are thought to be in total, of which more than 1450 are students at the Avicenna Tajik State

Medical University enrolled in the MBBS programme. Each year, these students contribute about \$9 million to the GDP of Tajikistan.

INDIA-AUSTRALIA CRITICAL MINERALS INVESTMENT PARTNERSHIP

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: Physical, Social, Economic Geography of India and the World.

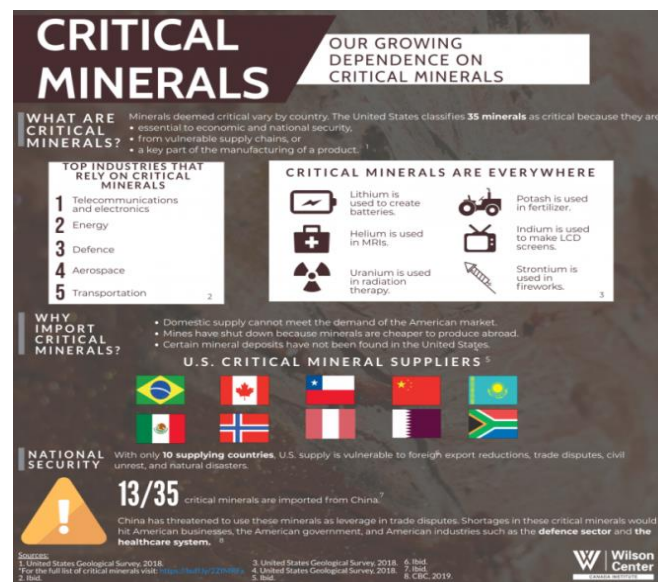
Prepp Mains Booster: Important International agreements between India and Australia

Context:

- Recently, India and Australia have made the decision to intensify their collaboration on critical mineral supply chains and projects.
- With respect to the three-year **India-Australia Critical Minerals Investment Partnership**, Australia confirmed that it will "contribute A\$5.8 million."

What are critical minerals?

- Critical minerals are elements that are the **building blocks** of essential **modern-day technologies**, and are at risk of supply chain disruptions.
- These minerals are now used everywhere from **making mobile phones, computers to batteries, electric vehicles and green technologies** like solar panels and wind turbines.
- Different nations develop their own lists based on their own requirements and strategic considerations.
- However, such lists mostly include **graphite, lithium and cobalt**, which are used for making **EV batteries**; **rare earths** that are used for making **magnets and silicon** which is a key mineral for making **computer chips and solar panels**.



- **Aerospace, communications and defence industries** also rely on several such minerals as they are used in **manufacturing fighter jets, drones, radio sets and other critical equipment**.

How important is the resource?

- These vital resources are essential to the ecosystem that drives this development as nations throughout the world step up their **transition to clean energy and the digital economy**.

- Any **supply shock** can seriously **jeopardise the economy and strategic independence** of a nation that is too reliant on outside sources to obtain essential minerals.
- But because of the limited supply, rising demand, and intricate processing value chain, these **dangers to the supply exist**.
- Oftentimes, **hostile governments or politically unstable regions** can disrupt the intricate supply chain.
- Due to a **territorial dispute**, **China temporarily stopped** exporting rare earths to Japan in 2010.
- According to Brookings Institutions it caused a surge in market pricing for REEs of **anywhere between 60% and 350%**. After China resumed supplies, the prices didn't return to normal for another year.
- According to a US government statement, demand for these essential minerals will **climb by 400–600%** over the next few decades as the globe transitions to a clean energy economy.
- For minerals like **lithium and graphite** used in electric vehicle (EV) batteries, demand will rise by up to **4,000%**.

Chinese Dominance

- China** is the **world's top producer of 16 essential minerals**, according to the 2019 USGS Mineral Commodity Summaries report.
- China is expected to produce **almost 70% of the world's cobalt and 60% of its rare earth elements in 2019**, according to research on the importance of essential minerals by the International Energy Agency.
- For **processing operations**, where **China dominates** on a global scale, the concentration is considerably larger.
- Around 35 percent of nickel is refined in China, 50 to 70 percent of lithium and cobalt are refined there, and approximately 90 percent of rare earth elements are refined there.
- Additionally, **China** has control over the **Democratic Republic of the Congo's cobalt** mines, which provide 70% of this material.

What are the steps taken by nations to address the issue?

USA

- The **US** ordered a **review of supply chain vulnerabilities in 2021** and discovered that an excessive reliance on "adversary nations and foreign sources for essential minerals and materials posed national and economic security dangers."
- After conducting the supply chain review, they have moved their attention to **increasing local production**, processing, and recycling of vital minerals and materials.
- With the goal of assisting governments in identifying possibilities to diversify their supply of key minerals, the US, Canada, and Australia created an **interactive map of critical mineral deposits** in June 2021.

India

- In order to "secure a constant supply of important and strategic minerals to the Indian domestic market," India established **KABIL**, also known as the **Khanij Bidesh India Limited**.
- KABIL will not only **safeguard the nation's mineral security** but also it will help in attaining the **broader purpose of import substitution**.
- An **MoU** was recently signed by **Australia's Key Minerals Facilitation Office (CMFO) and KABIL** to guarantee a steady supply of critical minerals to India.

UK

- The UK launched its new **Critical Minerals Intelligence Center to research** the availability and demand of key minerals in the future.
- Additionally, it stated that the crucial mineral plan for the nation would be announced this year.

How will the partnership help India?

- The resources will **support India's efforts to reduce emissions** and meet the nation's rising need for **vital minerals** for its aerospace and defence sectors, as well as for the production of solar cells, batteries, and electric cars.
- Critical Australian mining projects will advance thanks to the **bilateral collaboration**, which will also assist **diversify global supply chains**.

How Critical Minerals Pact will help India regarding Electric Vehicles?

Australia has the resources to help India fulfil its ambitions to:

- lower emissions
- meet growing demand for critical minerals to help India's space and defence industries,
- manufacture of solar panels, batteries and electric vehicles

Eight priority critical minerals

- The report lists eight critical minerals that matter most to Australia and India.
- These are in three groups, based on their end-use industries:
- traditional – titanium and vanadium
- sunrise – lithium
- mixed use:
- cobalt
- nickel
- graphite
- light rare earth elements (LREEs)
- heavy rare earth elements (HREEs).

About Electric Vehicles:

- Lack of charging infrastructure is one of the main reasons behind poor adoption of electric mobility in India.
- According to a survey by the Economic Times in May 2019, with appropriate infrastructure in place, 90% car owners in India are willing to switch to EVs.
- Under the NEMMP 2020, there is an ambitious target to achieve 6-7 million sales of hybrid and electric vehicles by the year 2020.
- At present, EV market penetration is only 1% of total vehicle sales in India, and of that, 95% of sales are electric two-wheelers.

National Electric Mobility Mission Plan (NEMMP) 2020:

- It is a National Mission document by Ministry of Heavy Industries & Public Enterprises providing the vision and the roadmap for the faster adoption of electric vehicles and their manufacturing in the country.
- As part of the NEMMP 2020, Scheme named Faster Adoption and Manufacturing of (Hybrid & Electric Vehicles in India (FAME) was launched in the year 2015 to promote manufacturing of

electric and hybrid vehicle technology and to ensure sustainable growth of the same.

- The Phase-I of this Scheme (FAME I) was initially launched for a period of 2 years and was implemented through four focus areas:
 - Demand Creation,
 - Technology Platform,
 - Pilot Project
 - Charging Infrastructure.

FAME II

- It was launched in March 2019 for a period of 3 years.
- The main objective of the scheme is to encourage faster adoption of electric and hybrid vehicle by way of offering upfront incentive on purchase of electric vehicles and also by establishing the necessary charging infrastructure for electric vehicles.

PAKISTAN AND IMF TALKS: WHAT LIES AHEAD?

Priority: Low

Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: Effect of Policies and Politics of Developed and Developing Countries on India's interests.

Context:

- Recently, the staff-level talks between Pakistan and the International Monetary Fund (IMF) concluded and IMF agreed to consider an extension of the current Extended Fund Facility (EFF) to end June 2023 and augment the fund amount to \$7 billion for Pakistan.



What is the Extended Fund facility of the IMF?

- It is an IMF financing facility for members that are experiencing balance of payments issues that require a lengthier adjustment period than what is allowed under a standby arrangement.
- The EFF was created to help nations that:
 - had severe payments imbalances brought on by structural barriers; or
 - had slow growth and an innately precarious balance of payments position.
- The EFF offers support for comprehensive initiatives that include the kinds of laws and regulations needed to permanently address structural inequities.

What is an Extended Fund Facility for Pakistan?

- The 39-month EFF between the two was signed in July 2019 to provide funds amounting to Self-Drawing Rights (SDR) — \$4,268 million.

- The EFF was signed by Pakistan to address the medium-term balance of payment problem, and work on structural impediments and increase per capita income.
- Among the requests made by the IMF were the elimination of "quasi-fiscal" losses in the energy industry, institutional strengthening with transparency, and fiscal consolidation to reduce debt and increase resilience.
- According to the EFF standards, the president of Pakistan at the time, freezing fuel prices in February 2022 was a significant departure.

Why did the discussions take longer to conclude on EFF?

The IMF made several conditions, all of which Pakistan is unable to meet, including:

- Fiscal consolidation to lower debt and increase resilience.
- Currency rate set by the market to reestablish competition.
- 'Quasi-fiscal' losses in the energy sector must be eliminated. and
- Institutions strengthened by transparency.
- Ousted The PM of Pakistan lowered petrol costs. According to the EFF benchmarks, this was a significant departure.
- After that, the government granted tax amnesties to industry, which had an impact on the tax code and served as a structural baseline for fiscal consolidation.

How important is EFF to Pakistan?

- The economic condition in Pakistan is really bad. The fiscal deficit for FY 22 was \$18.6 billion, and the net public debt was \$252 billion, or 66.3 percent of GDP, according to the Economic Survey of Pakistan 2022.
- Circular debt in the power sector is \$14 billion.
- The current account deficit has reached a height of \$48.3 billion, according to the most recent report from the State Bank of Pakistan.
- According to the anticipated expenditure outlay for FY 23, debt servicing will account for 41% (\$19 billion) of total expenses.
- The IMF's assistance in resolving the aforementioned figures is essential. The IMF's contribution to the overall external debt (of \$9.4 billion) for the fiscal year 2021–2022 is only \$834 million, according to the Economic Affairs Division's most recent quarterly report.
- However, the IMF's assistance goes beyond simply balancing the books; it also legitimises other global institutions and inspires economic trust in them.

Why have the Pakistan-IMF relations remained complicated?

- Because Pakistan's short-sighted political objectives have sacrificed the long-term commitment necessary for structural reforms, the need to approach the IMF for fiscal stability has persisted throughout time.
- Pakistan has a number of credit agreements in place with the IMF and has contacted them about 22 times for assistance. However, a programme has only ever been finished once.
- The IMF has made precise requests since the 1990s, but Pakistan has only partially complied.
- Even as the most recent EFF was about to disintegrate, the ruling coalition government persisted in trying to rekindle the conversation.
- The government has worked on particular laws, such as the Finance Bill 2022 and the State Bank of Pakistan (SBP)

Amendment Act, to address the structural benchmarks of the IMF.

What lies ahead for Pakistan and the IMF?

- The IMF and Pakistan still have a difficult road ahead of them despite the most recent deal.
- Pakistan's economic choices would be influenced by political considerations and upcoming elections.
- Pakistan must pay \$31 billion by 2026, according to information released in 2019 by the Director-General Debt Office of the Ministry of Finance. It is anticipated that the total public debt as a share of GDP would rise even further.
- Another common misconception is that Pakistan, which has the fifth-largest population and nuclear weapons, cannot afford for them to go off-line.
- The country's geostrategic position would give Pakistan an advantage for cooperation rather than pressure, according to a portion within the government. The IMF would therefore continue to fund, according to this part.

INDIA - AFRICA AT CII EXIM BANK CONCLAVE

Priority: High

Primary Source: PIB

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: India and its Neighborhood- Relations, Groupings & Agreements Involving India and/or Affecting India's Interests, Effect of Policies & Politics of Countries on India's Interests.

Context:

The Minister of Commerce and Industry recently called for the expansion and diversification of India-African economic ties as well as the inclusion of emerging sectors like solar energy, start-ups, and digital infrastructure for partnership at the 17th Confederation of Indian Industry (CII) Exim Bank Conclave on India-Africa Growth Partnership in New Delhi, India.



What is CII EBC on India-Africa Growth Partnership?

- It was introduced in 2005 with assistance from the Indian government's Ministries of External Affairs and of Commerce & Industry.
- In order to broaden the earlier focus on "Project Partnership," it had been renamed as the "CII EXIM Bank Conclave on India Africa Growth Partnership."
- The conclave has not only prepared the environment for numerous new international alliances to flourish, but it has also undertaken a critical assessment of the current cooperative arrangements on the basis of which a new roadmap for upcoming African alliances would be developed.

- It has helped shape policy discussions between the Indian government, the Exim Bank, and the business community.
- It has inspired Indian exporters to reach out to African nations.
- More than 4430 projects have been discussed on its forum.
- Companies looking for commercial prospects outside of the Government of India's Lines of Credit have been encouraged by it.

INDIANS WHO GAVE UP THEIR CITIZENSHIP FOR

USA	Canada	United Kingdom
2019 - 61,683	2019 - 25,381	2019 - 14,309
2020 - 30,828	2020 - 17,093	2020 - 6,489
2021 - 78,284	2021 - 21,597	2021 - 14,637
Australia	Germany	Italy
2019 - 21,340	2019 - 2,157	2019 - 3,833
2020 - 13,518	2020 - 2,152	2020 - 2,312
2021 - 23,533	2021 - 2,381	2021 - 5,986

TOTAL (2019 - 1,44,017, 2020 - 85,256, 2021 - 1,63,370)

- It has improved communication with other financial institutions throughout the continent of Africa and provided Indian enterprises with competitive lending facilities to assist their commercial endeavours.

What is the importance of Africa for India?

- Africa is one of the world's growth hotspots since it is home to more than half a dozen of the nations with the fastest economic growth this decade, including Rwanda, Senegal, Tanzania, and others.
- In the last ten years, real GDP growth in Africa and Sub-Saharan Africa has been more than twice as fast as it was in the 1980s and 1990s.
- With a population of over one billion people and a GDP of 2.5 trillion dollars, the African continent offers a sizable market.
- Africa is a country with abundant natural resources, including metals like gold and other metals, leather, gas, pulses and lentils, and crude oil, all of which India does not have access to in adequate amounts.
- Africa can play a significant part in India's energy matrix as it seeks to diversify its oil supplies away from the Middle East.

What are the areas of India-Africa Relations?

- **Trade:** Synergies in trade between India and Africa can be applied to the growth of industries including tourism, finance, telecommunications, manufacturing, and agriculture.
- **Security:** Since they are Indian Ocean's littoral governments, they can strive to create procedures to deal with threats to the region's security, such as terrorism and piracy.
- **Capacity Building:** Africa's expectations of India in the area of public health extend beyond the provision of reasonably priced medication to include support in enhancing the capabilities of the continent's public health services.
- **Maritime Cooperation:** Indian experience and the know-how to develop and manage the maritime resources can realise maritime cooperation - development of blue economy and renewable energy for the expansion of the continent.

- **Food security:** When it comes to hunger and malnutrition, India and Africa face comparable difficulties. The nation's concern with food security will be solved by importing grains from African countries.
- Additionally, it will give African farmers the chance to boost their incomes, productivity, and employment.

How has India's Africa relations been?

High Level Visits:

- Over the past eight years, contact with the continent has increased. There have been 36 high level visits from India and more than 100 comparable ones from Africa.

Loan & Assistance:

- India has provided Africa with concessional loans totaling more than \$12 billion USD. India has also provided a grant of USD 700 million.
- Projects: India has already finished 197 projects; 65 more are being carried out, and 81 are in the planning stages.
- India has built the National Assembly building and worked on water supply, agricultural, and food processing projects in the Gambia.
- India is involved in the construction of prefabricated health posts, the supply of cars, and a significant hydropower project in Zambia.
- Recent noteworthy construction initiatives in Mauritius include the new Supreme Court, the metro express, and social housing.

Covid - 19 Assistance:

- India sent 150 tonnes of medical aid to 32 African nations. Many of them also used vaccines that were "Made in India," whether they were imported from India or not.
- India has joined forces to advocate for fair and inexpensive access to vaccinations in international fora, including through a TRIPS waiver.
- Human Resources: During the third India-Africa Forum Summit (IAFS) in 2015, India announced 50,000 scholarships, of which more than 32,000 scholarship places have already been filled.
- The e-VidyaBharti and e-Arogya Bharti networks for tele-education and tele-medicine, respectively, were created in 2019 to offer partners high quality virtual education and medical services.
- Through the establishment of IT Centers, Science & Technology Parks, and Entrepreneurship Development Centers(EDC), India has assisted African nations in promoting digital transformation.

Capacity Building Programme:

- Under the Indian Technical and Economic Cooperation (ITEC) programme, India is investing in capacity building by providing more than \$1 billion in technical assistance and staff training.
- India has committed \$1 million as a full member of the African Capacity Building Foundation (ACBF) to the organization's sustainable development, poverty reduction, and capacity building effort.

Humanitarian Assistance and Disaster Relief:

- Operation Sahayata, which will help Mozambique in 2019, Operation Vanilla, which will aid flood victims in Madagascar in January 2020, and Operation Sahayata, which will help Mauritius contain the oil spill brought on by the grounding of the ship Wakashio.

Energy:

- A major organisation that has pushed the quick advancement of renewable energy technologies is the International Solar Alliance.
- The "One Sun One World One Grid" programme, which aims to further promote solar and renewable energy, came after this.
- Clean and green energy have taken centre stage in recent years in both third country partnerships as well as India's development programmes in Africa.

Trade and Economics:

- In 2021–2022, India's bilateral trade with Africa would be \$89.5 billion, up from \$56 billion the year before.
- India is one of the top five investors in Africa, with total investments in the continent totaling USD 73.9 billion from 1996 to 2021.
- India has allowed African nations access to its market under the Duty Free Tariff Preference (DFTP) Scheme, which gives duty-free access to 98.2 percent of its total tariff lines.
- 33 LDCs in Africa are currently eligible for benefits under this programme.

What are the challenges to India in Africa?

- Foreign investors are reluctant to enter the region because of racial and religious tensions as well as governance problems in some nations.
- India's significant presence in Africa has remained negligible due to its Cold War-era focus on its own perimeter, which constrained its capabilities.
- Since the conclusion of the Cold War, China has become more present in Africa and has increased its influence there through giving subsidised loans to African nations.
- With enterprises and government agencies operating in separate silos, India lacks a coordinated Africa policy and it doesn't appear that there is a way to combine the advantages of the two parties.

INDIA - MALDIVES JUDICIAL COOPERATION

Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance

Prepp Mains Booster: India and its Neighborhood- Relations

Context:

The Memorandum of Understanding (MoU) for judicial cooperation between India and the Judicial Service Commission of the Maldives was recently approved by the government. It is the eighth MoU in the area of judicial cooperation that has been signed by India with other nations.

What is the importance of the MOU?

- It will offer a platform for utilising information technology's advantages for court digitalization and may present a growth opportunity for IT (information technology) start-ups and corporations in both countries.
- The two countries' positive relations will continue to grow.
- In addition to facilitating knowledge and technological exchange in the judiciary and other legal sectors between the two nations, it will also further the goals of the "Neighborhood First" programme.

How was India's Maldives ties?

- After the Maldives gained their independence in 1965, India was one of the first nations to recognise Maldives and establish diplomatic ties with them.
- India and the Maldives have long-standing ties in terms of ethnicity, language, culture, religion, and trade, and their relations are warm and complex. India and the Maldives have long had cordial relations.
- However, bilateral ties deteriorated under Abdulla Yameen's presidency (2013–18), particularly as the Maldives' economic and geopolitical ties with China grew quickly.

Why is Maldives significant for India?

- **Geostrategic Reasons:** Geographically, the Maldives is situated at the "toll gate" of Western Indian Ocean. In recent years, due to the "Indo-Pacific" and China's presence in India's area of influence, the Indian Ocean has recently gained strategic importance. In this context, Maldives has also got strategic importance.
- **Economic:** Despite its tiny size, a number of established and emerging nations are now courting the Maldives. Due to the strategic significance of the Maldives' geographic location in relation to important international shipping lanes (ISLs).
- **Security:** The Maldives are crucial for maintaining the region's political stability and security, as well as for safeguarding Indian commerce and investment.
- **Countering the Chinese influence in the Indian Ocean:** Healthy and strong relation with Maldives becomes important in countering the Chinese presence in the Indian ocean, which poses a security threat to India.

INDIA-VIETNAM TIES, FROM STRONG TO STRONGER

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: India and its Neighborhood-Relations. Bilateral Agreements involving India and/or affecting India's interests.

Context:

India and Vietnam will have had diplomatic relations for 50 years in 2022, and both countries will be commemorating this milestone.



What is the significance of the India Vietnam relations?

- Vietnam is an important ASEAN partner and a vital pillar of India's Act East Policy.
- Numerous high-level visits by officials from both sides throughout the years have demonstrated the improvement in political ties between the two sides.
- Vietnam's expanding involvement with the region and with India, together with India's push under the "Act East" policy, has yielded great rewards.

- Along with the UN and WTO, India and Vietnam work closely together in a number of regional fora, including ASEAN, the East Asia Summit, the Mekong Ganga Cooperation, and the Asia Europe Meeting (ASEM).
- Both India and Vietnam have the ability to establish areas of agreement that concurrently advance infrastructure and defence cooperation.
- Vietnam wants India to intensify its military engagement because of the burden China's actions in the South China Sea (SCS) are putting on its maritime security.

How has been the India-Vietnam Relations?

Background:

- India and Vietnam have had traditionally close bilateral relations due to their long history of cultural and civilizational ties and mutual origins in the fight against colonialism.
- India presided over the International Commission for Supervision and Control.
- This group was constituted by the Geneva Accord of 1954 to assist in the peace process in Vietnam.
- India has consulate-level connections with both North and South Vietnam at the time.
- In January 1972, it established full diplomatic relations with the newly united Vietnam.
- In July 2007, the two countries' relations were raised to the level of "Strategic Partnership."
- Bilateral relations were elevated to a "Comprehensive Strategic Partnership" in 2016, during Prime Minister Modi's visit to Vietnam.
- India and Vietnam will commemorate the 50th anniversary of their diplomatic relations in 2022.

What are the areas of corporations?

Strategic Partnership:

- In order to achieve shared security, prosperity, and growth for everybody in the area, India and Vietnam have decided to strengthen their strategic collaboration "in line with India's Indo-Pacific Oceans Initiative (IPOI) and the ASEAN's Outlook on Indo-Pacific."

Economic Cooperation:

- Mutually beneficial trade and commercial ties have grown throughout time, especially with the signing of the ASEAN-India Free Trade Agreement.
- India is aware that Vietnam, with its strong political stability and rapid economic growth, has the potential to become a regional power in South East Asia.
- Through quick impact projects (QIP), ideas for water resource management in the Mekong Delta region of Vietnam, Sustainable Development Goals (SDGs), and digital connectivity, India is engaging in development and capacity assistance for Vietnam.

Defence Cooperation:

- India is eager in enhancing South-East Asian neighbours' defence capabilities to ensure peace in the strategically important area, while Vietnam is interested in modernising its armed forces.
- Vietnam is interested in India's Brahmos missiles, Dhruv advanced light helicopters, and Akash surface-to-air systems.
- Along with this, other aspects of defence relations include personnel training, capacity building, addressing shared security issues, and collaboration on defence research and development.

- In 2020, the Indian Naval Ship INS Kiltan travelled to Ho Chi Minh City to give flood relief supplies to the citizens of Central Vietnam (Mission Sagar III).
- Along with the Vietnam People's Navy, it took part in the PASSEX exercise.
- Additionally, China plays a significant role in how India and Vietnam evaluate their distinct strategic options.
- Mutual defence cooperation has been further reinforced by the signing of the "Joint Vision for Defence Cooperation" and a MOU on shared logistics support in June 2022.

Trade:

- India and Vietnam's bilateral trade totaled USD 11.12 billion in the Financial Year (FY) April 2020 to March 2021.
- India imports 6.12 billion USD from Vietnam while exporting 4.99 billion USD to Vietnam.

Cooperation in Several Multilateral Forums:

- In 2021, Vietnam and India will both be serving as non-permanent members of the UN Security Council.
- In a number of regional fora, like the East Asia Summit, Mekong Ganga Cooperation, and the Asia Europe Meeting, India and Vietnam work closely together (ASEM).

People-to-People Contacts:

- The ASEAN-India Year of Tourism was observed in 2019. To encourage bilateral travel, both nations have made it easier to obtain visas.
- To commemorate Mahatma@150 in 2018–19, the Indian Embassy organised a number of events. These include Jaipur prosthetic limb fitting camps, which were organised in four provinces of Vietnam and benefited 1000 individuals as part of the Indian government's "India for Humanity" campaign.

What are the areas of growing convergence in India and Vietnam relations?

Convergence of strategic and economic interests:

- Strengthening affinity between the two nations is a natural result of their shared visions for peace, prosperity, and their people, as well as the rising convergence of their strategic and economic interests.

Shared strategic concerns:

- The two nations are seeking to resolve these issues, as well as others (including energy security and open and safe sea lines of communication), so that they can make decisions about their national policies without excessive influence from other nations.
- Both nations will gain from a better bilateral relationship given India's expanding economic and geopolitical interests in the region and Vietnam's quest for strategic autonomy.
- **Concerns about China** are shared by India and Vietnam, both of whom are involved in territorial conflicts with China.
- **Due to its location**, which allows it to control "the South China Sea — a veritable Mediterranean of the Pacific," Vietnam is of significant strategic significance.
- **Maritime sector** has become crucial to India and Vietnam's relations because of concerns of "open and free sea lines of communications" and "rule based order in the open sea" for both nations.
- In-depth academic and cultural exchanges, shipbuilding, maritime connectivity, maritime education and research, coastal engineering, the blue economy, marine habitat

conservation, and improved cooperation between maritime security agencies are some additional potential areas for New Delhi and Hanoi to further their cooperation.

What are the factors responsible for growing maritime engagement with Vietnam?

- India's desire to confront China's assertiveness by bolstering Vietnam's military might.
- Security of sea lines of communication
- Development in the maritime sector
- Naval partnership
- India's maritime strategic interests in the area are well known, and the South China Sea serves as a conduit for about 55% of its trade with the Indo-Pacific region.

What are the initiatives of cooperation in the Indo-Pacific?

- Both nations are combining their efforts to work in bilateral as well as other sub-regional and multilateral frameworks, such as the
 1. **Indian Ocean Rim Association (IORA),**
 2. **the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC),**
 3. **the Mekong-Ganga Cooperation,**
 4. **ADMM-Plus or the ASEAN Defence Ministers Meeting-Plus.**
 5. Additionally, both nations are considering working together on the **Indo-Pacific Oceans Initiative's seven pillars (IPOI).**

Conclusion

A cooperation between India and Vietnam that promotes stability in the Indo-Pacific would be made possible with the support of the leaders' agreed-upon road plan, which will be useful in tackling shared issues and directing policymakers in that direction.

RUSSIA, UKRAINE SEAL GRAIN EXPORTS DEAL

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Context:

- A military impasse that had jeopardised global food security was resolved on 22 July 2022 when Russia and Ukraine signed separate deals with Turkey and the United Nations, paving the way for the delivery of millions of tonnes of urgently needed Ukrainian grain as well as Russian grain and fertiliser.
- Early in June, amid worries that the war was jeopardising food supplies for several poor countries and potentially aggravate famine for up to 181 million people, the UN secretary general suggested a package deal.

What is the significance of the deal?

- Together, Russia and Ukraine provide more than **25% of the world's wheat supply.**
- According to 2020 figures, Russia and Ukraine export 20% and 8% of the world's wheat, respectively.
- Over fifty nations buy more than 30% of their wheat from Russia and Ukraine.
- Ukraine is the **fourth-largest exporter of corn** in the world and the **eighth-largest producer of wheat**, making up 16% of all exports.

- Additionally, **Ukraine** is the world's **top exporter of sunflower oil** and produces up to 46% of the world's sunflower seeds.
- **Food prices** throughout the world were **already under pressure** from climate shocks and the COVID-19 pandemic when the Ukraine war broke out.
- In recent weeks, food price inflation has risen sharply in all economies.
- If the exports deal is put into effect, **grains from Russia and Ukraine** will flow back into the market, bringing down prices.

What are the terms of the deal?

- The agreement includes **measures for the ship's secure transit**.
- It calls **for the installation of an Istanbul control centre**, which will be manned by U.N., Turkish, Russian, and Ukrainian officials, to oversee and manage the process.
- To make sure they don't have any weapons on board, **ships would go through inspections**.
- Ukraine is **not required** under the agreement to **demine its southern seas**. However, particular routes from Odesa and other Ukrainian ports will be set aside for the grain-laden ships to travel to the Bosphorus in Turkey.
- Additionally, if required, a minesweeper can be sent in to clear the pathways to the ports..
- The pact was made at the Dolmabahce, a 19th-century Ottoman palace in Istanbul, and **it is valid for 120 days** before it expires.
- Ukraine will be permitted to **export five million tonnes of grain per month**, or around pre-war levels.
- Russia **is also anticipated to increase its grain and fertiliser exports** as part of the UN framework.

Why was the grain movement delayed till now?

- Moscow charged Ukraine with failing to clear the ports of naval mines to ensure secure shipping.
- According to Ukraine, any exports were rendered impossible by Russia's port blockade and missile launches from the Black Sea.
- Ukraine's government has also charged Russia with taking grain from the country's east and purposefully setting Ukrainian farms on fire with artillery shells.

THE EXECUTIONS IN MYANMAR

Priority: Medium 

Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: India and its Neighborhood-Relations. Bilateral Agreements involving India and/or affecting India's interests.

Context:

- According to state media, Myanmar's military authorities executed four democracy advocates on July 25 after accusing them of participating in "terror acts." These were the country's first executions in decades.
- The execution of four political prisoners by the Myanmar junta—two of whom were well-known pro-democracy activists both in Myanmar and abroad.

Background

- After Aung San Suu Kyi's National League for Democracy (NLD) won a landslide of the elections in February 2021, a military coup reversed the transition, sending Myanmar back three decades to 1990, when the military annulled

Suu Kyi's first election victory and imprisoned her for the following 20 years.

- In the 18 months following the coup, thousands of people have been detained.
- The junta quickly added 23 new criminal offences to the list of crimes that carry the death penalty after seizing power last year.
- It established martial law in numerous parts in March 2021, giving the military control of the executive and judicial branches. The military tribunals' closed-door proceedings have been criticised as being unjust trials.

What is India's stand on Myanmar?

- Regional countries like India, China, and Russia have responded to the developing situation with more restraint.
- India has so far followed a policy of cooperating with the junta but also pressuring the generals to return to democracy due to its **security concerns in the Northeast** states and its worries about **China expanding its footprint in Myanmar**.
- **India does not support the use of sanctions**, according to External Affairs Minister S. Jaishankar, who also **expressed confidence in ASEAN's stance** on Myanmar and its engagement efforts.

What is the stand of other countries about Myanmar?

- Days following the coup, numerous generals were subject to sanctions from the US, UK, EU, Canada, and Australia, which included **travel restrictions, asset freezes, and denial of access to financial, legal, and medical services**.

WHAT IS THE NORD STREAM 1 GAS LINK?

Priority: Medium 
Primary Source: Indian Express

Prepp Prelims Booster: Nord Stream Pipeline

Prepp Mains Booster: Significance of Nord Stream 1 for Europe and Russia

Context:

Recently, the Nord Stream 1, was shut down for scheduled maintenance work. European nations are becoming increasingly concerned that Russia will prolong the temporary suspension of gas shipments as punishment for the present sanctions imposed against Moscow.

What is the Nord Stream 1 pipeline?

- Nord Stream 1 is one of **two natural gas pipelines** which is known as **Nord Stream**, each with two lines.
- Nord Stream 1 is a network of offshore natural gas pipelines that connects Germany and Russia beneath the Baltic Sea.
- The 1,224-kilometer Nord Stream 1 gas pipeline, opened in 2011, travels under the Baltic Sea from Lubmin in northeastern Germany to Vyborg in northwest Russia.
- Nord Stream 2 refers to another pipeline was completed in September 2021, built from Ust-Luga to Lubmin and has a capacity of 55 billion cubic metres of gas per year once it becomes operational..

- These pipelines are the main entry point for Russian energy giant Gazprom's gas into Germany, and it is majority owned by that company.



- The twin pipelines can provide 110 billion cubic metres (bcm) of gas to Europe over a period of at least 50 years.
- The Exclusive Economic Zones (EEZs) of numerous nations, including Germany, Finland, Sweden, Denmark, and Russia, as well as the territorial seas of Germany, Denmark, and Russia, are traversed by the Nord Stream pipeline.
- The pipeline joins the NEL (North European Pipeline) and OPAL (Baltic Sea Pipeline) in Germany, and it also joins the European grid.

What is the significance of Nord Stream 1 for Europe and Russia?

Europe:

- Russia supplies more than 40% of the more than 100 billion cubic metres (bcm) of natural gas through Nord Stream pipelines that Europe needs annually.
- Europe has recently depended more on gas imports due to a decline in local gas output.
- Because there are no simple alternatives, it is challenging for European countries to decrease their dependency on Russian gas.



- European Nations are under pressure as a result of the significant investments made in Nord Stream 2 by numerous European enterprises.
- Last but not least, a **decrease in Russian gas would result in an increase in already high domestic gas costs**, which would be unpopular for many European nations.

Russia:

- Gas and oil sales in Russia, which has the greatest natural gas reserves in the world, makeup over 40% of Russia's annual revenue.
- Because pipelines eliminate the dangers involved in shipping gas through transit nations, eliminates transit fees, and grants direct access to Germany, its most

important European consumer, Nord Stream pipelines, is vital.

- It increases Europe's reliance on Russia while giving it a dependable client.

How is Europe handling the dependence on Russia?

- The biggest economy in Europe, Germany, continues to be largely dependent on Russian gas despite efforts to minimise that dependence.
- The Nord Stream 2 project, whose completion in September 2021 would have increased the amount of direct Russian gas flowing to Germany, was put on hold in response to the invasion of Ukraine in February.
- Nevertheless, despite Moscow decreasing its gas delivery by 60% in mid-June, Nord Stream 1 was still in operation.
- Russia reportedly attributed the decrease in supplies to the delayed return of a turbine that was being fixed by German company Siemens Energy in Canada.

What are the alternative sources of energy that Europe is looking for?

- European nations are increasingly looking to the US, from whom they buy liquified natural gas (LNG), which is transported by ships, as a substitute for their current energy sources.
- There are also efforts to obtain non-Russian pipeline gas from Norway and Azerbaijan since ship-delivered gas ends up being significantly more expensive.
- While several EU nations were turning back to coal to address the energy problem, they had earlier sought to phase out fossil fuels and prioritize renewable energy sources.

IRAN, BELARUS TO BE NEWEST SCO MEMBERS

Priority: High:



Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance, Important International organizations.

Prepp Mains Booster: What are challenges for SCO, How SCO can benefit India

Context:

- According to officials, **Iran and Belarus** are expected to be the two newest members of the **Shanghai Cooperation Organization (SCO)**, which is supported by **China and Russia**.
- At the SCO meeting in Samarkand, Uzbekistan, in September, leaders of the organisation, including Prime Minister Narendra Modi, Russian President Vladimir Putin, and Chinese President Xi Jinping, are set to discuss a number of topics, including expanding the group.

What is the Shanghai Cooperation Organization (SCO)?

- The Shanghai Cooperation Organization (SCO) was founded as a multilateral organization to ensure security and stability throughout the vast Eurasian region.
- It envisions joining forces to combat new threats and challenges, as well as enhancing trade, cultural, and humanitarian ties. It was founded in the year 2001.
- Kazakhstan, China, Kyrgyzstan, Russia, and Tajikistan** were members of the **Shanghai Five** prior to the establishment of the SCO in 2001.
- The Shanghai Five (1996) developed from a series of border demarcation and demilitarisation agreements between China and the four former Soviet republics to assure border stability.

- The Shanghai Five was renamed the SCO after the inclusion of Uzbekistan in the organization in 2001.
- In 2002, the SCO Charter was signed, and it came into force in 2003. **Russian and Chinese are the official languages of the SCO.**

There are two Permanent Bodies in the SCO:

- The SCO Secretariat is located in Beijing.
- The Executive Committee of the RATS in Tashkent.
- The SCO's Chairmanship is rotated annually by the Member States.
- The SCO currently comprises eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan), four Observer States interested in acceding to full membership (Afghanistan, Belarus, Iran, and Mongolia) and six "Dialogue Partners" (Armenia, Azerbaijan, Cambodia, Nepal, Sri Lanka and Turkey).

How is SCO different from NATO?

- The SCO is a cooperative organization built on **non-alignment and not targeting** a third party. The NATO expansion is **fundamentally different**.
- NATO is built on **Cold War-era principles**. In order to maintain its own survival, NATO's rationale is to create new opponents.
- He cited the SCO's stance that "**one should not develop one's safety at the expense of other countries,**"
- The SCO, whose two most significant members, China and Russia, are increasingly placing the **organisation at conflict with the West**.

Upcoming summit

Varanasi has been chosen as the SCO region's first "**Tourism and Cultural Capital,**" Mr. Zhang said, a designation it will wield next year concurrently with India chairing the grouping. India will host the **SCO summit** the following year.

What are the challenges for SCO?

- Because China and Russia are co-founders of the SCO and its dominant powers, **India's ability** to assert itself would be **limited**, and it may be forced to play second fiddle.
- As the SCO has traditionally taken an **anti-Western stance**, India may have to either dilute its growing partnership with the **West or engage** in a delicate balancing act.
- Terrorism, extremism, and separatism are among the SCO's security challenges, as are drug and weapons trafficking, illegal immigration, and other issues.
- Despite their proximity in terms of geography, the **SCO's decision-making** is complicated by the **rich diversity of its members' histories**, backgrounds, languages, national interests, forms of government, wealth, and culture.
- Importantly, Russia and China are contiguous to Central Asia, whereas **India does not have a direct land boundary** with these landlocked members
- Projects are hampered by **unilateral Western sanctions** against Iran and Russia, which is against India's interests.

How can SCO benefit India?

- **Socio-economic** cooperation.
- **Connectivity** projects have created a regular entry point into the area and opened up a wealth of potential.

- **Digital economy** driven by high technology can accelerate sustainable economic cooperation.
- India can overcome the **geographical impediment**.
- The emphasis on **multilateralism** coincides with Indian efforts to strengthen its ties with the Central Asian region.

IN 2021, OVER 1.6 LAKH INDIANS RENOUNCED CITIZENSHIP

Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: Facts related to citizenship

Prepp Mains Booster: Concerns related to denouncing of Indian Citizenship.

Context:

Recently, according to the Ministry of Home Affairs, more than 1.6 lakh Indians resigned their citizenship in 2021. The figures represented a significant increase over the 85,256 individuals who renounced their Indian citizenship in the Covid-hit year of 2020, but a marginally lesser increase over the 1.44 lakh individuals who gave up their passports in 2019.

What is the news about?

- According to data supplied by the Ministry of Home Affairs (MHA) in the Lok Sabha over the question asked, the number of Indians who renounced their citizenship in 2021 was over 1.6 lakh, the highest number in the previous five years.
- According to the reply to the question, there were 23,533 Indians residing in Australia who gave up their citizenship, followed by Canada (21,597), the United Kingdom (14,637), Italy (5,986), the Netherlands (2187), New Zealand (2643), Singapore (2516), the United States (78284), Pakistan (41) and Nepal (10).

What is renunciation of citizenship?

- The voluntary giving up of citizenship is known as renunciation. It differs from denaturalization, in which the loss of citizenship is mandated by a state, and is the reverse of naturalization, in which a person voluntarily receives citizenship.
- One must relinquish their Indian citizenship in order to obtain citizenship in another nation because India does not allow dual citizenship.

What are the ways of losing citizenship in India?

The citizenship act, 1955 prescribes three ways of losing citizenship:

Voluntary Renunciation:

- If an Indian citizen, who is of legal age and capacity, desires, he may voluntarily renounce his Indian citizenship.
- Every minor child of a person who renounces their citizenship also loses their Indian citizenship. When a child of this type reaches the age of 18, he may reclaim his Indian citizenship.

By termination:

- Single citizenship is provided by the Indian Constitution. It denotes that an Indian can only hold one citizenship at a time.
- A person's Indian citizenship automatically expires if they acquire citizenship in another nation. This clause, however, does not apply when India is engaged in combat.

Deprivation by Government:

The government of India has the right to revoke/ terminate their citizenship, in cases if:

- if the citizen has disrespected the Constitution.
- has fraudulently earned citizenship.
- During a conflict, the citizen engaged in illicit commerce or communication with the enemy.
- Any country has condemned a person to two years in prison within five years of their registration or naturalisation.
- The citizen has constantly resided outside of India for 7 years.

What are the reasons for Indians giving up their citizenship?

There has been very few reasons for giving up of citizenship by Indians which include:

- **Migration:** Many people are emigrating to other countries in the search of better job opportunities and livelihood, which is causing the giving up of Indian citizenship.
- **Administrative reason:** In 2022, the government of India, had eased procedures for Indians to renounce their citizenship, and enabled online applications for that. This has led to an increase in the application of renunciation of citizenship.
- **Acquiring citizenship:** In recent times, many Indians are acquiring the citizenship of other countries because of the benefits and privileges they receive from using passports of these countries. The benefits include more visa free entries in other nations compared to India.

What is citizenship?

- Citizenship is a privilege which a nation grants to its citizens. Under it, a nation grants certain rights and privileges to its citizens.
- Citizenship is gained by meeting the legal requirements of a national, state, or local government.

What are the constitutional provisions for Citizenship?

- According to the Constitution, citizenship is included in the Union List and is therefore solely within the purview of Parliament.
- The term "citizen" is not defined in the Constitution, although Part 2 (Articles 5 to 11) provides information on the various types of people who are entitled to citizenship.
- The Citizenship Act of 1955 outlines five ways for acquisition of an Indian citizenship: By birth, descent, registration, naturalisation, and incorporation of territory.

GENERAL STUDIES 3

Environment Conservation, Environmental Pollution, And Degradation.

COASTAL EROSION

Priority: Medium 

Primary Source: Indian Express

Prepp Prelims Booster: Coastal Erosion

Prepp Mains Booster: Conservation, environmental pollution and degradation, environmental impact assessment

Context:

Recently, the Ministry of Earth Sciences informed the Lok Sabha that of the 6,907.18 km long Indian coastline of the mainland, about 34% is under varying degrees of erosion, while 26% of the coastline is of an accreting nature, and the remaining 40% is in a stable state.

Key Highlights

- The National Centre for Coastal Research (NCCR), Chennai, an attached office of the Ministry of Earth Sciences (MoES) has been monitoring shoreline erosion

since 1990 using remote sensing data and GIS mapping techniques.

- In terms of percentage, West Bengal with a 534.35 km-long coastline, suffered the most erosion along about 60.5% of the coast over the period from 1990 to 2018.
 - This is followed by Kerala, Tamil Nadu and Gujarat
- The Indian National Centre for Ocean Information Services (INCOIS), has prepared and published an atlas of Coastal Vulnerability Index (CVI) maps for the entire coastline of India.

What is Coastal Erosion?

- Coastal erosion is a natural process which occurs whenever the transport of material away from the shoreline is not balanced by new material being deposited onto the shoreline.
- It can be defined as the long-term removal of sediment and rocks along the coastline due to the action of waves, tides, currents, wind-driven water etc.
- Many coastal landforms naturally undergo quasi-periodic cycles of erosion and accretion on time-scales of days to years.
- However, human activities can also strongly influence the propensity of landforms to erode.
- Coastal Erosion includes 4 main processes which are hydraulic action, abrasion, attrition and compression.

Major threats:

- A 2018 national study of the Indian coastline claimed that anthropological effects like the construction of coastal structures, beach sand mining and dams on rivers are a few reasons triggering erosion. Seawater contaminates wells and increases soil salinity among several other problems.

Impact of Coastal erosion

- Coastal erosion has led to large-scale displacement of fishing communities.
- Biodiversity of the region is severely affected.
- Loss of productive land
- Loss in employment for the coastal communities

Indian initiatives to control Coastal erosion

- **National Centre for Sustainable Coastal Management:** It aims to integrate sustainable management of the coastal and marine areas of the traditional coastal and island communities.
- **'Integrated Coastal Zone Management Plan':** It manages coast using an integrated approach including geographical and political boundaries of the region.
- **Coastal Regulation Zone (CRZ):** To regulate activities in coastal areas of India, the Ministry of Environment and Forest issued the Coastal Regulation Zone (CRZ) notification in 1991 under the Environmental Protection Act, 1986.

NEW TROPICAL OZONE HOLE DETECTED OVER TROPICS

Priority: Low 

Primary Source: Down to Earth

Prepp Mains Booster: Environment Conservation, Environmental Pollution, and Degradation.

Context:

Recently, a new ozone hole has reportedly been discovered above the tropics at latitudes between 30 degrees South and 30 degrees North, according to a recent study.

What are the findings of the study?

- A new hole has been found in the ozone layer above the tropics. It is estimated that the tropical ozone hole is seven times bigger than Antarctica.
- In contrast to Antarctica, which is only visible in the spring, it is also visible throughout all four seasons.
- Given the risks involved, the tropical ozone hole, which accounts for 50% of the Earth's surface, could be of worldwide concern.
- In tropical areas, it is likely to have a negative impact on ecosystems and human health, including the development of skin cancer and cataracts.

What is Ozone?

- Ozone is oxygen molecules having three oxygen atoms rather than the normal two.
- Despite being present in the atmosphere in extremely small amounts (less than 0.001%), it has significant impacts.
- Ultraviolet (UV) energy from the Sun interacts with oxygen (O₂) molecules to produce ozone molecules.
- The majority of ozone is formed in the stratosphere, giving rise to what is known as the "ozone layer," since UV light is more powerful at higher altitudes when the air is thinner.
- Over 90% of the ozone in the atmosphere is found in the ozone layer, which has an altitude range of roughly 10 to 40 km and reaches its height peak in the stratosphere at around 25 km.

Ozone is classified in two layers:

- **Good Ozone:** It is the Ozone which is naturally found in the stratosphere, the upper atmosphere of the Earth, where it creates a protective layer against the sun's harmful ultraviolet rays.
- These "good" ozone is being steadily destroyed by man-made substances known as Ozone-Depleting Substances (ODS), such as methyl bromide, carbon tetrachloride, halons, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and methyl chloroform.
- **Bad Ozone:** This Ozone is created when pollutants released by vehicles, power plants, industrial boilers, refineries, chemical plants, and other sources react chemically in the presence of sunlight in the lower atmosphere (troposphere) of the Earth, close to the surface.
- Ozone at ground level is a dangerous air contaminant.

Why do we need the Ozone Layer?

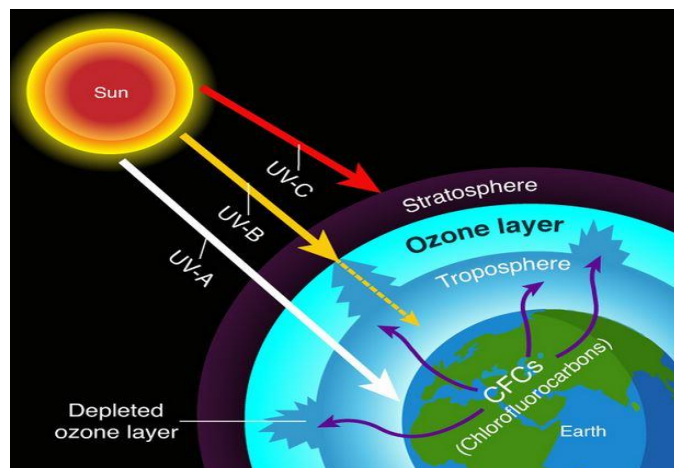
- Because it has the ability to block UV-B radiation, which has a wavelength of between 280 and 315 nanometers and is the most harmful type of UV radiation, the ozone layer is crucial for the survival of life on Earth.
- The stratospheric temperature inversion is caused by the absorption of UV radiation by ozone in the stratosphere, which heats the air around it.

What is the Tropical Ozone layer?

- The study claims that the ozone hole is situated over the tropics at an altitude of 10 to 25 kilometres.
- According to the study analysis, this hole is roughly seven times bigger than Antarctica.
- In contrast to Antarctica, which is only visible in the spring, it is also visible throughout all four seasons.
- Since the 1980s, the hole has grown significantly. But it wasn't identified till the present study.

What caused the Ozone hole in the tropics?

- As suggested by the study, the depletion of the ozone layer may be caused by cosmic rays.
- It is commonly known that CFCs contribute to the ozone



layer's thinning.

- Low temperatures of 190–200 Kelvin were seen in the tropical stratosphere (K).
- This may help to explain why the tropical ozone hole develops seasonally.

How significant is the finding of the study?

- Given the risks involved, the tropical ozone hole, which accounts for 50% of the Earth's surface, could be of worldwide concern.
- In tropical areas, it is likely to have a deleterious impact on ecosystems and human health, including the development of skin cancer and cataracts.

What is Ozone Layer Depletion?

- Beyond natural events, the term "ozone layer depletion" refers to the chemical breakdown of the stratospheric ozone layer.
- Ozone in the stratosphere is continuously produced and destroyed by natural cycles.
- However, a number of Ozone Depleting Substances (ODS) quicken the process of ozone breakdown, leaving ozone levels lower than usual.
- ODSs include carbon tetrachloride (CCl₄), methyl chloroform, bromine-containing halons, HCFCs, and chlorofluorocarbons (CFCs).
- The usage of these compounds in coolants, foaming agents, fire extinguishers, solvents, insecticides, and aerosol propellants has historically existed, and it still does on occasion.

RESTORING BANNI GRASSLANDS, GUJARAT BATTLES INVASIVE TREE SPECIES

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Banni grasslands

Prepp Mains Booster: Conservation, environmental pollution and degradation, environmental impact assessment

Context:

Recently, the Gujarat Forest Department stated that it plans to restore 10,000 hectares of Banni grasslands this year and every year for the next decade.



About Banni grasslands

- Tectonic activity caused the Banni region to rise from the ocean; it then received soil from rivers flowing from the Bhuj mainland. The region ends at the Greater Rann of Kutch.
- Under the Indian Forest Act of 1927, Banni grassland was designated as a Protected Forest in 1955
- Banni is home to the Indian wolf, jackal, Indian fox, desert fox, desert cat, caracal, hyena, chinkara, Nilgai, wild boar, Indian hare, and common monitor lizard, in addition to 40 species of grass and 99 species of flowering plants
- Before its extinction, cheetah was also found here
- Banni also has 273 species of bird and is home to thousands of migratory birds during years of good rainfall.

Reasons for deterioration of Banni grassland

- heavy, unregulated grazing
- Invasion by Prosopis Juliflora (a harmful exotic tree species)
- Dams built on rivers that run towards Banni
- Frequent occurrence of droughts
- increasing soil salinity over time

Invasion by Prosopis Juliflora

- It is native to Mexico, Central and northern South America and is known to be one of the most aggressive invader
- In 1989, Prosopis Juliflora covered only 15.72 per cent of the area in Banni
- As per the assessment of the grassland over a 10-year period, P Juliflora's cover has increased to more than 30 per cent
- The restoration project is focused on removal of this alien species, which was introduced by the forest department in the 1960s

What are Invasive Species?

An invasive species is an introduced organism that significantly changes the ecosystems it colonizes. They are known to destroy biodiversity, and permanently alter habitats of the area where they are introduced. Example- water hyacinth and pigeons.

What are Grasslands?

- Grasslands are an intermediate stage in ecological succession
- They are dominated by grasses rather than large shrubs or trees

- Grasslands are mainly found in areas with minimal rainfall and/or poor soil depth and quality
- They are known by various names:

Economic Importance of Grasslands

- Three main crops grown on grasslands worldwide are wheat, corn, and rice. These form the staple diet of majority of the population.
- They also provide a significant food source for cows and sheep.
- Natural grasses produce a system that effectively absorbs water and has high infiltration rates and little erosion
- Plants that honey bees have a long-standing association with can survive in pastures and grasslands
- Some grasslands have been declared as national parks or nature reserves, and both locally and nationally they are frequently marketed as tourism destinations.

FOREST LANDSCAPE RESTORATION: REGAINING ECOLOGICAL FUNCTIONALITY

Priority: Medium

Primary Source: The Hindu

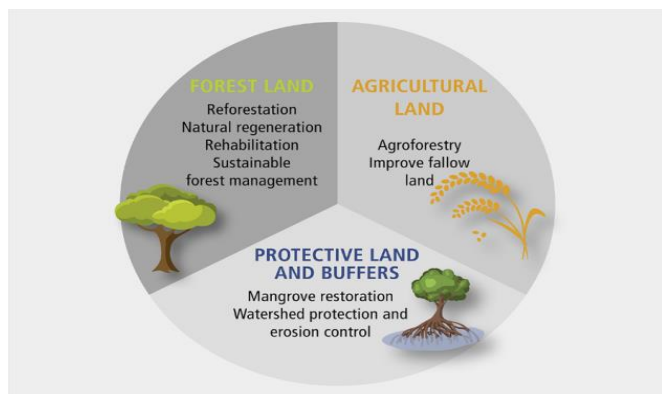
Prepp Mains Booster: **Status of Forest Landscape Restoration in India**

Context:

- **Hariyali Mahotsav** to be organised by the **Ministry of Environment, Forests, and Climate Change**.
- The Mahotsav is being held to raise awareness about the importance of trees and green cover in protecting our environment from air pollution and global warming in July's first week from 1st July to 7th July 2022.
- M.S. Randhawa, a Punjabi botanist, founded **Van Mahotsav Day in July 1947**. Following that, in 1950, Kanaiyalal Maneklal Munshi, an environmentalist and Union Minister of Agriculture and Food.

Forest Landscape Restoration

- The focus is now on **Forest Landscape Restoration** in order to restore ecological functionality and improve human welfare.
- The ongoing process of restoring ecological functionality and improving human well-being across deforested or degraded forest landscapes is known as **forest landscape restoration (FLR)**.
- FLR entails more than just planting trees; it entails restoring an entire landscape to meet current and future needs, as well as providing multiple benefits and land uses over time.
- **Forest landscape restoration** aims to involve communities in the process of designing and implementing mutually beneficial interventions for landscape improvement.
- Nearly two billion hectares of degraded land worldwide (140 million hectares in India) have the potential to be restored as forest land.
- A critical aspect of this process is ensuring species diversity while planting trees.
- Natural forests with a diverse range of native tree species sequester more carbon than **monoculture tree plantations**.
- Planting diverse species is also healthier for local communities and their livelihoods, and diversifying species in forest plantations improves forest quality.



Status of Forest Landscape Restoration in India

- **Deforestation and forest degradation** contribute approximately 12% of global greenhouse gas emissions, according to the **International Union for Conservation of Nature (IUCN)**.
- In India, 30 percent of forestland is degraded. The total area of primary forests in India has shrunk by 3.6 percent.
- Nearly two billion hectares of degraded land worldwide (140 million hectares in India) have the potential to be restored as forest land.

What is the Significance of Forest Landscape Restoration?

- Tree planting provides numerous **environmental and ecological benefits**.
- Forests play an important role in ecosystem regulation, influencing the carbon cycle, and mitigating the effects of climate change.
- Forests absorb approximately 2.6 billion tonnes of CO₂ per year.
- This **absorption** includes nearly 33% of the carbon dioxide emitted by the combustion of fossil fuels.
- Beyond the environmental benefits, there is a human dimension that is prominent.
- Our forests support millions of people's lives and livelihoods.
- Forests benefit local communities and their livelihoods by serving as a source of goods and services.
- Forest ecosystems improve **soil fertility and water availability**, thereby increasing agricultural productivity and, as a result, the rural economy.
- **Planting trees** helps to prevent erosion and stem flooding. Sustainable forest crops reduce food insecurity while also empowering women by providing them with more nutritious diets and new income streams.
- Agroforestry reduces **rural-to-urban migration** while increasing resources and household income.
- Tree planting is inextricably linked to the 'holistic' well-being of all individuals, communities, and the planet.
- In Punjab, the community is actively planting resilient and acclimatised native species such as **Jhand, Desi Kikar, and Pharwan**.
- And the majority of these saplings have a high survival rate of 90%, which is critical for long-term reforestation efforts.

What are the Initiatives and Programmes?

- The **UN Decade on Ecosystem Restoration**, which runs from 2021 to 2030, focuses on efforts to restore degraded terrestrial ecosystems, including forests.
- The **Bonn Challenge** was launched in 2011 with the goal of restoring 150 million hectares of degraded and

deforested landscapes by 2020 and 350 million hectares by 2030.

- In 2015, India pledged to restore 26 million hectares of degraded and deforested land by 2030, as part of the **Bonn Challenge**.
- By 2030, an additional carbon sink of 2.5 billion-3 billion tonnes of CO₂ equivalent will be created through forest and tree cover.
- At the **COP26 summit in Glasgow**, India pledged to set a net zero target by 2070, emphasising the importance of forests as an undisputed mechanism to help mitigate the challenges of climate change.

What are the initiatives of the Indian Government?

- There are numerous government programmes, including **Compensatory Afforestation**, the **National Afforestation Programme**, the **Green India Mission**, the **Nagar Van scheme**, and the **Forest Fire Prevention and Management Scheme**.
- The **Green Skill Development Programme** for youth who want to work in the environment and forest sectors puts a spotlight on them.
- The **Forest Festival, Van Mahotsav**: It is observed during the first week of July.
- It was first observed in 1947. The first week of July is an ideal time to plant trees because it coincides with the monsoon season.
- Telangana's state government has launched a large-scale tree planting programme called '**Telanganaku Haritha Haram**,' which employs drones.

Concerns on Forest Landscape Restoration

- In India, forest restoration faces challenges in identifying restoration areas.
- In tree planting, there is a lack of emphasis on research and scientific strategies.
- Conflicts of interest among stakeholders and financing

WHY IS KARNATAKA OPPOSING CENTRE'S DRAFT ECO-SENSITIVE AREA NORMS FOR WESTERN GHATS?

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: What are Eco-Sensitive Zones?

Prepp Mains Booster: Conservation, environmental pollution and degradation, environmental impact assessment;

Context:

- Recently, Karnataka has **voiced strong resistance** to the new draft notification from the Union Environment Ministry regarding **ecologically sensitive areas (ESA)** in the Western Ghats.
- Large portions of Karnataka, Tamil Nadu, Gujarat, and Maharashtra were designated as eco-sensitive zones in a draft notification that the Ministry of Environment, Forests, and Climate Change (MoEF&CC) released on July 6.
- With 20,668 sq km, Karnataka has the largest proportion of the Western Ghats' classified areas among these states.

Background

- A report from the **Kasturirangan committee from 2013** recommended classifying **37 percent of the Western Ghats, or an area of 59,940 sq km**, as ESA. This led to the introduction of a number of drafts, which were later rejected by the neighboring states, including Karnataka.

What is stated in the newly released draft notification for the Western Ghats?

- In the five states of Gujarat, Maharashtra, Karnataka, Goa, and Tamil Nadu, 46,832 sq km are designated as ESA in the Western Ghats by the draft notification.
- Kerala is not included in the draft notification** and had already started the practice of **physically verifying** the ESA boundaries in the state.
- In comparison to the 13,108 sq km proposed by the **K Kasturirangan panel**, which released its findings in 2013, the ESA approved by the Kerala state government is spread over an area of 9,993.7 square kilometres.
- The ESA spans five states: Tamil Nadu (6,914 sq km), Maharashtra (17,340 sq km), Goa (1,461 sq km), Karnataka (20,668 sq km), and Gujarat (449 sq km). The notification specifies that the **respective state governments** are in charge of overseeing and enforcing its requirements.

What restrictions must the state governments enact in accordance with the notification?

- According to the draft notification, **all mining, quarrying, and sand mining is prohibited within the ESA.**
- Within **five years of the final notification's issuance** or the expiration of the current mining lease, **all active mines must be phased out.**
- In addition, it forbids the construction of new **"Red" category industries** as well as the development of existing "Red" category factories in the sensitive area.
- These include operations like coal liquefaction and petrochemical manufacturers that have a **Pollution Index score of 60 or above.**
- The regions will also be off limits for the building of new townships and neighbourhood initiatives.
- On the basis of the **Environmental Impact Assessment** announcement, new hydropower projects will also be included in the ESA, as will all currently operating healthcare facilities.
- Industries in the **"Orange" category**, which have a pollution index score of **41–59**, such the processing of jute, and **"White" categories**, which are thought to be non-polluting, like the production of chalk, would also "be allowed with strict compliance of environmental legislation."

How will the Center ensure that these standards are followed?

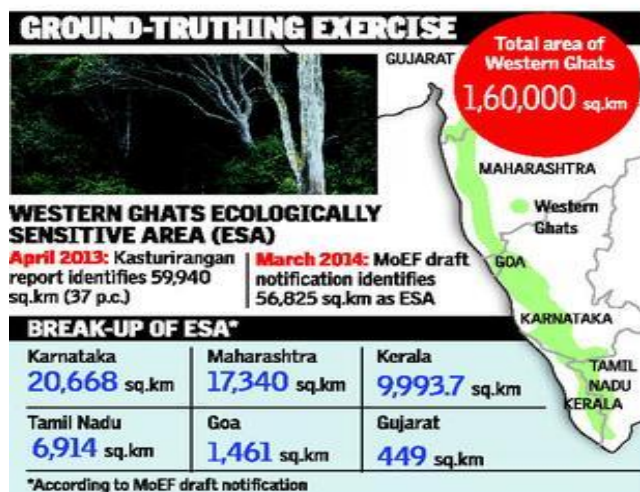
- The Environment Ministry will work with the state governments in the Western **Ghats region to develop a Decision Support and Monitoring Center** for the region. Regular assessments and reports on the ecology of the Western Ghats will be made, and a decision-support tool for putting the notification's contents into action will be made available.
- The appropriate state government, the **State Pollution Control Board**, and the regional office of the Ministry would be **responsible for the post clearance** monitoring of projects and activities permitted in the ESA.
- The **regional office of the Union Environment Ministry** will **monitor** all projects in the **Eco-sensitive Area** that have received an environmental **clearance or a forest clearance** at least once per year.
- The state governments will also create an **annual "State of Health Report"** for the portion of the **Western Ghats**

that falls under their purview, detailing the measures taken to monitor and implement the notification's terms.

What recommendations did the Kasturirangan panel make?

- The panel was established in 2012 with the mission of bringing **"synergy"** between the objectives of preserving the **environment and biodiversity**, while sustaining the needs and aspirations of the local and indigenous people, of sustainable development, and of environmental integrity of the region.
- This high-level working group made recommendations for upcoming actions to be taken to **stop further deterioration of the Ghats' delicate environment.**
- The research had advocated a **complete prohibition on thermal power projects, red category businesses, mining, and quarrying.**
- Additionally, it was noted that before approval is granted, the effects of infrastructure projects on the forest and animals should be researched.

What is the position of Karnataka on this?



- Since 2014, the Union government has sent the Karnataka government numerous draft notices to finalise the eco-sensitive regions in the Western Ghats, but the administration has been adamant in its **refusal to do so.**
- Karnataka's chief minister, Basavaraj Bommai, informed the centre in December of last year that the state **disagreed with the Kasturirangan committee's** recommendations on the Western Ghats.
- According to Bommai, designating the Western Ghats as an ESA would have a negative impact on **locals' ability to support themselves.**
- Environmental scientists believe that the state government's choice will be **devastating** for the Western Ghats' biodiversity.

What is an Eco-Sensitive Zone (ESZ)?

- The fragile area that is within 10 kilometres of protected areas, such as national parks and wildlife sanctuaries, is known as an eco-sensitive zone.
- The ESZ width and regulatory type may vary from one protected territory to the next.
- The ESZ's border with the protected region, however, may normally be up to 10 kilometres wide.
- An Eco-Sensitive Zone will be developed to act as a **buffer** for the protected areas.

- The term "**Eco-sensitive Zones**" is **not mentioned** in the **Environment Protection Act of 1986**.
- According to section 3(2)(v) of the Act, the Central Government may impose restrictions on the locations where particular businesses, operations, or procedures may be carried out or permitted, depending on the circumstances.
- In addition, Section 5(1) of this Act states that the central government may restrict or prohibit the location of industries and the carrying out of specific operations or processes based on factors such as the biological diversity of a region, the maximum allowable limits of pollutant concentration for a region, environmentally friendly land use, and proximity to protected areas.
- The government has successfully declared ecologically sensitive zones or ecologically fragile areas using the aforementioned two clauses (EFA).
- The government has designated No Development Zones based on the same standards.
- In line with the Environment (Protection) Act of 1986, the Ministry of Environment, Forests, and Climate Change (MoEF&CC) declares an ESZ surrounding protected areas.

What are the activities prohibited around ESZ?

- Stone quarries,
- commercial mining, and crushing equipment,
- Tourism pursuits (like flying over protected areas in an aircraft or hot air balloon)
- placing polluting industries in place,
- the creation of hydroelectric projects,
- Using firewood for commercial purposes, disposing of solid waste

AMENDMENT TO ENVIRONMENT IMPACT ASSESSMENT RULES

Priority: High



Primary Source: Indian Express

Prepp Prelims Booster: General issues on Environmental Ecology, Biodiversity and Climate Change

Prepp Mains Booster: Environmental Impact Assessment

Context:

Recently, the Environmental Impact Assessment (EIA) Rules have been amended, and a number of exclusions from obtaining environmental clearance have been notified by the Ministry of Environment, Forests, and Climate Change (MoEF&CC).

What are the amendments to EIA rules?

- **Exemption to the Strategic and Defence infrastructure Projects:** Exempts highway projects from environmental review before construction, including those that are 100 km from the Line of Control and other strategic and defence locations.
- **Exemption to the Highway projects:** In border states, highway projects of strategic and defensive importance are exempted from EIA norms while taking into account strategic, defensive, and security issues.
- **Exemption to the thermal power plant:** Thermal power plants up to 15 MW that use biomass or non-hazardous municipal solid waste and use auxiliary fuels like coal,

lignite, or petroleum products up to 15% are also exempt



from this rule.

- **Exemption for Ports and Harbours Used for Fishing:** Fish handling ports and harbours are exempt from environmental clearance since they are less likely to cause pollution than other ports and harbours and serve small fishermen.
- **Toll Plazas:** Toll plazas that require additional width for the installation of toll collection booths to accommodate numerous vehicles and expansion activities at existing airports related to the expansion of terminal buildings without enlarging the airport's current area, as opposed to the expansion of runways, etc., are two additional projects exempt from this rule.

What is Environmental Impact Assessment (EIA)?

- The Environmental Impact Assessment (EIA), according to UNEP, is a tool used to determine the environmental, social, and economic impacts of a project prior to making a decision.
- It seeks to anticipate environmental effects early in the project planning and design process, identify strategies for minimising negative effects, adapt projects to the local environment, and give predictions and options to decision-makers.
- **Aim:** To identify methods and means to lessen negative consequences, mould projects to suit the local environment, estimate environmental impacts early in project planning and design, and provide the options and predictions to decision-makers.
- In India, the Environment Protection Act, 1986, which incorporates many provisions on EIA methodology and process, provides statutory backing for EIA.

What is the history of EIA in India?

- Prior to 1994, the Central Government's approval of environmental matters was an administrative choice without any backing from the legislature.
- Under the Environmental (Protection) Act of 1986, the then-Union Ministry of Environment and Forests promulgated an EIA notification on January 27, 1994, requiring environmental clearance (EC) before expanding or modernising any activity or initiating new projects that are listed in Schedule 1 of the notification.
- In September 2006, the Ministry of Environment, Forests, and Climate Change (MoEF&CC) announced revised EIA regulations in the form EIA Notification 2006.

What is EIA Notification 2006?

Decentralization of Project Clearances: It divided the growth initiatives into two groups:

- **Category A (national level appraisal):** Projects are evaluated by the Expert Appraisal Committee (EAC) and the Impact Assessment Agency (IAA) (E).

- **Category B (state level appraisal):** Projects in this category are given approval by the State Level Expert Appraisal Committee (SEAC) and the State Level Environment Impact Assessment Authority (SEIAA).

Introducing the various Stages:

- With the amendment, the EIA cycle now has four stages: screening, scoping, public hearings, and appraisal.
- **Category A projects** must get an environmental clearance that is required; as a result, they are exempt from the screening procedure.
- **Category B projects** after being screened, are further divided into B1 (mandatory EIA required) and B2 categories (Not requiring EIA).

Provides for the Mandatory Approval of Projects:

Environmental clearance is required for projects in the mining, thermal power, river valley, infrastructure (road, highway, ports, harbours, and airports), as well as very small electroplating and foundry units.

ATTEMPT ON TO ACHIEVE \$100BN CLIMATE FINANCE TARGET BY 2023: COP 26 CHIEF

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: General issues on Environmental Ecology, Biodiversity and Climate Change

Prepp Mains Booster: Environmental Pollution & Environmental Degradation

Context:

Recently, The UNFCCC COP26 president, Alok Sharma, visited India to talk about how India is carrying out its COP 26 pledges. He added that a mechanism is being set up to reach the goal of climate financing for USD 100 billion by 2023.

What is climate financing?

- According to the United Nations Framework Convention on Climate Change (UNFCCC) Standing Committee on Finance the Climate finance is defined as "finance that aims at reducing emissions, and enhancing sinks of greenhouse gasses and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts".
- In light of their obligations under the UN Climate Convention to provide "new and additional financial resources," developed countries have used the term in a narrow sense to refer to transfers of public resources to developing countries, and in a wider sense to refer to all financial flows related to climate change mitigation and adaptation.
- The Kyoto Protocol and Paris Agreement call on Parties with larger financial resources (Developed Countries) to provide financial support to those who are less wealthy and more vulnerable (Developing Countries).
- Climate finance is according to the "Common but Differentiated Responsibility and Respective Capabilities" principle (CBDR).
- New financial commitments were agreed at COP26 to help developing nations achieve the global objective of coping with the effects of climate change.

What is the target of climate finance?

- In order to accomplish substantial mitigation efforts and transparency on implementation, the developed nation agreed to set a target of USD 100 billion a year by 2020 to address the needs of developing countries at the UNFCCC COP15 (held in Copenhagen) in 2009.

- The UNFCCC Conference of the Parties then publicly acknowledged the climate finance aim at COP16 in Cancun.
- Developed nations extended the \$100 billion goals through 2025 at COP21 in Paris.
- Following the conclusion of COP26, it was agreed that developed countries will increase their collective contribution to adaptation funds from 2019 levels to 2025 levels in order to strike a balance between adaptation and mitigation.

What are the mechanisms for Climate Finance?

- The UNFCCC has established a financial system to offer financial resources to developing nation Parties in order to facilitate the provision of climate finance. The Paris Agreement and the Kyoto Protocol are likewise served by the financial system.
- UNFCCC states that the management of the financial mechanism may be delegated to one or more already-established international organizations.
- Since the Convention's entry into force in 1994, the Global Environment Facility (GEF) has served as the operating institution for the financial mechanism.
- At the COP 16 in 2010, parties created the Green Climate Fund (GCF), and in 2011, they recognised it as an operating entity of the financial mechanism.
- The COP, which sets the financial mechanism's policies, programme priorities, and eligibility requirements, receives reports from the financial mechanism.
- The Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF), both managed by the GEF, as well as the Adaptation Fund (AF), established under the Kyoto Protocol in 2001, have been established by the Parties in addition to giving direction to the GEF and the GCF.
- The operating entities of the financial mechanism, GCD and GEF, as well as the SCCF and the LDCF, were agreed upon by the Parties at the Paris Climate Change Conference in 2015 to serve the Paris Agreement. The Ad hoc Working Group on the Paris Agreement is currently engaged in negotiations regarding the Adaptation Fund serving the Paris Agreement (APA).

What are India's Initiatives regarding Climate Finance?

- The **National Adaptation Fund for Climate Change (NAFCC)** was formed in 2015 to cover the costs associated with climate change adaptation for India's State and Union Territories, which are particularly susceptible to its negative consequences.
- The **National Clean Energy Fund** was established to support clean energy, and it was first financed by a carbon tax on sectors that use coal.
 - It is managed by an Inter-Ministerial Group, whose chairman is the finance secretary.
 - Its mission is to support the development and study of cutting-edge clean energy technologies in both the fossil fuel and non-fossil fuel industries.
- **Clean energy cess:** In 2010, the government imposed a cess on coal. The excise duty imposed on Peat and lignite coal. It is analogous to a carbon tax. This cess was imposed in order to raise funds for financing and promoting sustainable energy initiatives.

Way Forward

- To ensure that the former met the \$100 billion target, developed nations must collaborate and support poor nations as they migrate to clean energy sources and secure funding for climate resilient infrastructure.
- A political commitment must also be maintained to raise additional funds, in addition to ensuring that the money is better directed toward lowering emissions and vulnerability.
- Learning from recent mistakes and making improvements, especially when the Green Climate Fund goes to work.

INDIA'S BIOECONOMY REPORT 2022

Priority: Medium 

Primary Source: PIB

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: Indian Economy and Mobilization of Resources, Growth, Development, Environmental Conservation, Environmental Pollution and Degradation.

Context:

- Recently, India's **Bioeconomy Report 2022**, was published by the **Biotechnology Industry Research Assistance Council (BIRAC)**.
- In conjunction with the release of the report, the government announced a special Biotech Ignition Grant call for the NorthEast Region (BIG-NER) and provided 25 companies and entrepreneurs from the region with financial support of up to Rs 50 lakhs each to help them develop biotech solutions.

What are the highlights of the report?

- With about a 3% share of the global biotechnology market, India is one of the top 3 biotechnology destinations in South Asia and in the top 12 worldwide.
- Due to a growing enabling ecosystem and prioritization, the number of biotech companies in the country has expanded from 50 to over 5,300 during the past ten years.
- The bioeconomy of the nation has surpassed USD 80 billion in 2021, growing by 14.1% from USD 70.2 billion in 2020.
- By 2025 and 2030, India's bioeconomy is predicted to reach \$150 billion and \$300 billion, respectively.
- In 2021, the industry spent more than USD 1 billion on research and development, with an average of three biotech businesses being established each day (1,128 in total).
- The second-highest number of USFDA-approved manufacturing facilities outside of the US are located in India.
- Every day, India sent out around 4 million doses of the Covid-19 vaccination (a total of 1.45 billion doses given in 2021).
- Covid-19: In 2021, the nation performed 1.3 million Covid-19 tests per day (a total of 506.7 million tests).

What is bioeconomy?

- "An economy where the basic building blocks for materials, chemicals, and energy are derived from renewable biological resources" is the definition of a bioeconomy.
- According to the **United Nations Food and Agriculture Organization (FAO)**, bio-economics is the production, use, and conservation of biological resources, together

with related knowledge, science, technology, and innovation, with the goal of achieving a sustainable economy.

Evolution of Bioeconomics:

- In the first ten years of the twenty-first century, the term "bioeconomy" gained popularity.
- It gained more traction internationally after being adopted as a framework for supporting the use of biotechnology to generate new goods and markets by the European Union (EU) and the Organization for Economic Co-operation and Development (OECD).
- Food systems and bio-based goods are crucial components of the bioeconomy, and these include:
 - Sustainable agriculture
 - Sustainable Fishing
 - Forestry and aquaculture
 - Food and feed manufacturing
 - Bioplastics
 - Biodegradable clothing

Why do we need bioeconomics?

- **Mitigation of climate change:** Particularly in developing and undeveloped nations, increasing greenhouse gas emissions, the effects of climate change on food security, human health, migration patterns, biodiversity loss, and increasing sea levels can be addressed with the help of bioeconomy.
- **Ecosystem and Biodiversity restoration:** With Bioeconomy aligned with the Sustainable Development Goals (SDG), we can recover part of the degraded ecosystem.
- **Renewal and modernisation of industrial fabric:** With bioeconomy we can introduce the innovation in agriculture, aquaculture, forestry and other industries.
- **Job creation:** Bioeconomy creates the scope of generation of millions of green jobs, especially in rural and coastal areas in India.

What are the potential advantages of bioeconomy?

- It will help in providing rural and coastal areas with It will be instrumental in addressing food security and hydric stress reduction in a sustainable way.
- It will bring breakthroughs in forestry, agriculture, aquaculture, and other industries, as well as renewing and updating industrial fabrics.
- It will be helpful in lowering carbon emissions and reliance on fossil fuels, which will help with climate change adaptation and carbon neutrality.
- It is in line with SDGs and will aid in restoring biodiversity and repairing some of the degraded habitats.
- The Sustainable development Goal(SDGs) in the United Nations' 2030 agenda are aligned with the bioeconomy and it will have an impact on the decrease of inequality, the elimination of hunger, and the end of poverty.
- Clean water and sanitary conditions, environmentally friendly cities and towns, and ethical consumption and production are all related to the bioeconomy.
- The bioeconomy will foster economic growth and adequate employment opportunities while also driving sustainable infrastructure and industries.

How is India moving ahead in Bioeconomy?

The bioeconomy sector in India is expanding across a number of industries, including:

- The Prime Minister's goal of Atmanirbhar Bharat and India becoming "**energy independent**" by 2047 has given the **bio-industry** sector a boost.
- **Biofuel:** The Government of India has also decided to hasten the introduction of ethanol-blend gasoline with an up to 20 percent blend beginning in April 2023 and authorised modifications to the **National Policy on Biofuels**.
- Another industry, such as **Bio-Agri**, which includes Bt Cotton, pesticides, marine biotechnology, and animal biotechnology, has the potential to nearly quadruple its contribution to the bioeconomy from USD 10.5 billion to USD 20 billion in 2025.
- According to numerous research reports, India was the second-largest vaccine exporter by volume prior to the pandemic.

What are the Indian Initiatives taken related to Bioeconomy?

Biofuel:

- The Government of India released the National Biofuel policy in 2018 with aim to increase the adaptation of biofuel in the economy and further amended the National Policy on Biofuels and took decisions to increase biofuel production and advance the introduction of ethanol blended petrol with up to 20% blend from April 2023.

Biopharma Sector:

- In order to encourage entrepreneurship and domestic production in the biopharmaceutical industry, the Department of Biotechnology (DBT 2017)'s National Biopharma Mission, "Innovate India," intends to bring together business and academia.

For Startups promotion:

- 35 bio incubators with top-notch facilities have been established throughout India to promote startups.
- Under the auspices of Mission Innovation, DBT and BIRAC established the first international incubator, the Clean Energy International Incubator.
- Startups from the 23 member EU nations may visit India and be incubated there, while startups from this incubator may travel to the partner nations, facilitating access to international opportunities. Four bioclusters are supported by the department (NCR, Kalyani, Bangalore, and Pune).

National Mission on Bioeconomy:

- In an effort to improve rural economies by utilising bioresources, the Science and Technology Ministry's Institute of Bioresources and Sustainable Development launched a "National Mission on Bioeconomy" in 2016.

NEED OF ORDERLY TRANSITION FROM COAL TO RENEWABLES

Priority: High



Primary Source: Indian Express

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Infrastructure: Energy Security, Government Policies and Interventions for Development in various sectors.

Context:

Energy security has become a concern as a result of the rise in commodities prices from the start of the pandemic and in recent months following the conflict between Russia and Ukraine.

What are the issues faced by coal sectors in present times?

- Concerns over energy security have arisen as a result of the rise in commodity prices following the conflict between Russia and Ukraine.
- **India's import volumes** have decreased due to the pressure on prices, and its power plant stockpiles have fallen to dangerously low levels at the same time that demand has reached record highs.
- Additionally, India's thermal power plants only had an average of four days' worth of coal on hand in 2021 compared to the 15 to 30 days that experts recommend, with several states expressing worry about blackouts as a result of the coal scarcity.
- And in 2021, Coal India imported the fuel for the first time since 2015 for usage by public and private power plants.

What is the coal scenario in India?

- India has the fourth-largest coal reserves in the world. The world's largest coal miner, Coal India, which produces 80% of the nation's domestic output, is based in this country, which is the second-largest producer of fossil fuels after China.
- The nation is the third-largest producer of electricity in the world and produces more than 75% of its energy from coal.
- The annual demand for power would increase at the quickest rate in at least 38 years, according to the Ministry of Power.
- Around 15% to 20% more coal can be mined from the coal blocks that have already been assigned than is anticipated to be needed in 2030.
- By FY 2023–2024, the state-owned Coal India has stated that it intends to increase its domestic coal production to 1 billion mt.

What are the measures taken by the government to boost domestic coal production?

Policy Reforms:

- **Policy declaration:** From 2023 to 2024, the nation would no longer import thermal coal, according to a February 2020 announcement from the coal minister.
- **National Coal Index (NCI):** This index was launched in 2020 to serve as a benchmark for revenue-sharing agreements that were carried out following coal mining auctions. It displays the shift in coal prices from one month to the next in comparison to the fixed base year (2017-18).
- Since imported coal is not included in the wholesale price index (WPI) for coal, the NCI had to be established.
- **Using the private sector:** To encourage the private sector to increase its coal production, considerable effort has been undertaken to legalise commercial mining. Approximately 50 contracts have been finalized in the last year after taking preliminary steps.

Other Reforms:

- Commercial mining of coal allowed, with 50 blocks to be offered to the private sector.
- Entry norms will be liberalised as it has done away with the regulation requiring power plants to use "washed" coal.
- Coal blocks to be offered to private companies on a revenue sharing basis in place of fixed cost.
- Coal gasification/liquefaction to be incentivised through rebate in revenue share.

- Coal bed methane (CBM) extraction rights to be auctioned from Coal India's coal mines.

Why should we have transition from Coal to renewable energy?

- Low maintenance costs:** Solar energy has the advantage of requiring essentially no fuel acquisition and having less wear and tear due to parts not being moved as much as traditional energy sources like coal- or oil-based thermal power plants. As a result, long-term return on investment is larger.
- Benefits to the economy:** Decentralized connectivity reduces transmission and distribution losses, which benefits both the government and individuals.
- Sustainable:** Solar power is a renewable energy source. Therefore, renewable energy will always be encouraged to spend more resources and build greater energy capacity, unlike thermal energy where the government policy is to penalise the usage.
- Environmental advantages:** Renewable energy is a cleaner source of pollution, which is good for the environment overall and particularly good for lowering pollution and the diseases it causes.
- Atmanirbhar Bharat:** The private sector's investment in renewable energy would also be beneficial in achieving the government's goal of self-sufficiency. Additionally, it will generate employment possibilities for the nation.

What are the challenges in the transition to renewable energy?

- One of the biggest obstacles to the growth of renewable energy is land acquisition. It takes time to identify land with RE potential, convert it (if necessary), get approval from the land ceiling act, decide on the rent for a land lease, get clearance from the revenue department, and get additional clearances.
- Barriers in the market, the economy, and society are posed by renewable energy technologies, which are still developing in terms of technological maturity and cost competitiveness.

What are the government's initiatives taking to boost renewable energy?

- Mission Solar National (NSM):** The NSM was introduced in January 2010 with the aim of making India a global leader in solar energy by building the regulatory framework for the distribution of solar technology throughout the nation.
- Pradhan the Mantri Kisan Urja Suraksha The Utthaan Mahabhiyan (PM-KUSUM):** An ambitious plan to "make Annadata also an Urjadata" in order to give farmers certainty over their access to water and energy while simultaneously increasing their income.
- Solar Parks Initiative:** By facilitating the essential infrastructure, such as land, power evacuation facilities, road connectivity, water facilities, etc. along with all regulatory permissions, solar parks give solar power developers a plug-and-play approach.
- The **Green Energy Corridor (GEC)** intends to make it easier for renewable energy to be exported and to reshape the grid to meet future needs.
- Other schemes:** National Action Plan on Climate Change, National Hydrogen Mission, National Biofuel Policy, National Wind-Solar Hybrid Policy etc.

What steps need to be taken to further boost renewable energy?

- Energy transition will be time- and money-consuming. To achieve scale, the economic system dependent on fossil fuels will need to be modified and, in certain cases, completely reconstructed.
- Decades will pass during the procedure, and significant funding will be needed.
- To fulfill the rising need for energy, the financial community must be made aware of the necessity of increasing domestic coal production.
- The actions to support local manufacturing in the renewable energy sector need to be strengthened (Atma Nirbhar Bharat Policy).
- All entities must be required to buy and utilise solar PV cells and modules made in the country.
- To harmonise the interests of the various parties (governments, regulators, farmers) involved in this process and to provide uniform norms and standards, a single point executive should be chosen.
- The adoption of energy-efficient behaviors, such as using air conditioners for household and business purposes more flexibly throughout the day and choosing energy-efficient items, would be crucial to the transition to renewable energy.
- Given that coal will inevitably be used in the near future, the shift to 500 GW of renewable energy must be gradual in order to ensure an orderly transition.
- Concentrated effort is required to decrease coal imports and increase domestic coal output.

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

RBI SETS UP SYSTEM TO SETTLE INTERNATIONAL TRADE IN RUPEES

Priority: Medium



Primary Source: The Hindu

Prepp Prelims Booster: About RBI

Prepp Mains Booster: Advantages of the new mechanism

Context:

- To encourage the expansion of international trade with an emphasis on Indian exports, the Reserve Bank of India (RBI) recently devised a system to settle foreign trade in rupees.
- The central bank's action comes after rising pressure on the rupee as a result of Russia's invasion of Ukraine and US and EU sanctions.



What is the New Mechanism of Settlement of International Trade in Rupee?

- A system, or extra arrangement, has been put in place by the Reserve Bank of India (RBI) for the invoicing, payment, and settlement of exports and imports in rupees (INR).
 - With immediate effect, this action has been made to simplify international trade in INR.
- The RBI stated that all exports and imports made in accordance with this arrangement may be valued and invoiced in INR in a circular sent to commercial banks.
 - The market may set the rate of exchange between the currencies of the two trading partners.
 - India's Authorised Dealer (AD) banks are now able to open rupee Vostro accounts.
 - Vostro accounts are those that a correspondent bank manages on another bank's behalf.
 - As a result, AD banks in India may open special rupee vostro accounts of correspondent banks of the trading partner countries to settle trade transactions with any country.
 - However, in order to effectuate these transactions, banks operating as authorised dealers must first receive authorisation from the RBI's Central Office in Mumbai's Foreign Exchange Department.

How will it work?

- When using this system, Indian importers must pay in INR against invoices from an international seller or supplier, which must be credited to the special vostro account of the partner country's correspondent bank.
- The balances in the designated special vostro account of the correspondent bank of the partner nation should be used to pay Indian exporters who use this mechanism to export products and services in INR.
- Under the condition that the Foreign Exchange Management Act (FEMA) notification requirements are followed, the issuance of bank guarantees for trade transactions (conducted under this arrangement) is permissible.

How important will it be?

- The new RBI mechanism is intended to make it easier for importers and exporters to get over restrictions that bar using a major currency, such the US dollar, for commerce with particular nations.
- Numerous nations had placed sanctions on Russia after its invasion on Ukraine. The new system can be used by Indian enterprises who were looking for other ways to pay for imports.
- This will support the increasing interest of the international trading community in the INR and encourage the growth of global trade, with a focus on Indian exports.

What are the advantages of the new mechanism?

- **Increasing global trade** with a focus on **exports from India** (such as tea exports) and supporting the growing interest of the international trading community in the home currency are two benefits of the move.
- It will facilitate the **promotion of Indian Rupee as international currency** for the settlement of trade in the long run. New mechanism will lead to **export of the Indian Rupee** international market and may lead to

appreciation of Rupee vis-a-vis US dollars. Thus, creating a check on the free fall of Rupee in the exchange rate crisis.

- Speed up **business with Russia**, which is under sanctions. In 2021–2022, commerce between India and Russia was \$13.1 billion.
- New mechanism of settlement of global trade in rupee will aid in improving relations with Russia. Russia's importance as India's commercial partner is demonstrated by the establishment of the trade settlement route, despite growing pressure from Western nations to sever ties.
- It will facilitate the final settlement of International trade in Indian Rupee. Final settlements must be made in free foreign exchange, with the exception of Nepal and Bhutan, in accordance with the Foreign Exchange Management Act's current rules. The ultimate payout to all nations can now be made in Indian rupees, pending RBI approval.
- India has a large trade deficit because it imports more than it exports. It will increase forex inflows and serve as a **step toward rupee stabilization**.
- New Mechanism can also be **applied to other neighbouring nations**. There are currency shortages in a number of nations, including Iran, Sri Lanka, and others in Africa and Latin America. The new system will therefore aid India in promoting its exports to these nations.

Why was there a need for this new mechanism?

- When compared to the dollar, the rupee is at an all-time low at Rs79.44 per dollar.
- The new mechanism aims to make commerce with sanctioned nations easier.
- As soon as the conflict between Russia and Ukraine started, exporters started to struggle with payments, especially after Russia lost access to the SWIFT payment channel.
- The system for facilitating trade has helped to resolve payment concerns with Russia.
- The action would also **lessen the risk of currency fluctuations**, especially when considering the parity between the euro and the rupee.
- We regard this as the **first step towards the rupee being fully convertible**.
- It will also aid in **rupee stabilization** after its fall vis-a-vis US dollars.

INCREASE IN CURRENT ACCOUNT DEFICIT (CAD)

Priority: Low



Primary Source: The Hindu

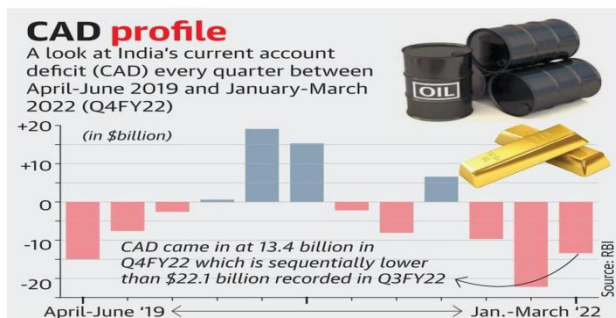
Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

Context:

- According to the **Finance Ministry's monthly economic review**, India's current account deficit (CAD) is predicted to **worsen in the current fiscal year** as a result of more **expensive imports and weaker merchandise exports**.

- Crude oil and food, which have fuelled inflation in India, continue to be key imported components in the



consumption basket, according to the evaluation published on July 14 by the Ministry, and **this poses a downside risk to growth.**

What is Balance of Payment?

- The Balance of Payment, sometimes known as the **BoP, is that ledger, slate, or notebook.** Two sections make up the BoP.
- The capital account :** This includes all types of trading in capital. For example, if an Indian corporation invests money in the US to launch a new business there or if an Indian purchases stocks on an American exchange, all investments made inside and outside the country are tracked here.
- The Current Account:** It is the second component of the BoP. Here, all commerce in products and services is recorded, such as when an Indian imports American hardware or software, when an American corporation imports Indian steel, or when an American organisation hires an Indian IT company to create a software.
- Therefore, there are two distinct sub-parts of the **current account:**
- Goods imports and exports comprise the **"trade account."**
- Service imports and exports are recorded in the **"invisibles account."**

What is the Current Account Deficit?

- It is conceivable for a nation, like India, **to import more** things than it does to export (including everything from automobiles to cell phones to machinery to food grains, etc.).
- This would result in a **"deficit" on its trade account.** In other words, more money leaves the country through the sale of tangible things than it does to enter.
- This means that there is a **greater demand for foreign currency**, like the US dollar, than there is for Indian rupees.

What does the report say about the present scenario?

- "India's **CAD (current account deficit)** would deteriorate in 2022–23 on account of **costlier imports and weak exports** on the goods account," says the World Bank, "if recession worries do not lead to a persistent and considerable fall in the prices of food and energy commodities.
- The CAD, which was mostly caused by a **rise in the trade deficit**, was 1.2 percent of GDP in 2021–2022 Analysts

predict that in the current fiscal year, the **CAD may increase to 3% of the GDP.**

- The research added that the **widening of CAD** has caused the **Indian rupee to weaken against the US dollar** by 6% since January 2022, but that the widening of CAD might be moderated by an **increase in service exports**, in which India is more globally competitive than product exports.
- In contrast to 2013**, when it depreciated versus other major nations, **the rupee has behaved well in 2022**, demonstrating the robust foundations of the Indian economy.
- Along with the rise in global commodity prices, the depreciation of the rupee has made **price-inelastic imports more expensive**, making it even harder to lower the CAD.

What are the measures taken to increase forex inflows and arrest depreciation of currency?

- In the six months from January 2022, foreign exchange reserves have decreased by \$34 billion in order to fulfill the financing demands of a **widening CAD and increasing FPI outflows.**
- The RBI has taken steps **to increase forex inflows** while guaranteeing overall macroeconomic and financial stability in order to **further diversify and extend the sources of forex funding** in order to reduce volatility and dampen global spillovers.
- These measures include removing the **interest rate cap on incremental foreign currency non-resident (bank) FCNR (B) and non-resident (external) rupee (NRE) term deposits**, relaxing **rules for foreign portfolio investors (FPIs)** in the debt market, and raising the maximum amount of external commercial borrowings that can be taken out under the automatic route.
- The government's actions, including the **introduction of windfall taxes** and increased **import charges on currency-drainers like gold**, along with the **central bank's announcement of interest rate** increases and measures to stop the flow of dollars have been credited with clearing some of the economic gloom.

What are the steps taken by the government to control Inflation?

- Regarding **commodity prices**, the report stated that as crude oil and edible oils, which have **fuelled inflation in India**, continue to be the key imported items in the consumer basket, there is a continued downside risk to growth.
- Their **current global prices have decreased** because of some price dilution brought on by **recessionary anxieties**. As a result, inflationary pressures in India would be reduced.
- Additionally, it added, a **number of government actions** made to reduce inflationary pressures might also help to keep inflation under control.
- To lessen the effects, the government increased the **customs charge on gold** from the current level of 10.75 percent to 15 percent.

What does the report say on economic recovery?

- The research noted that the **restoration of monsoon and Kharif sowing has given agriculture a boost.** The regional distribution of rainfall has been significantly improved.

- According to the report, **rising global agricultural prices** have increased the **actual purchasing power in rural areas**, and since March 2022, the terms of trade for agricultural commodities have been positive.
- Rural demand has recovered as a result, although some indicators have **not yet returned to pre-pandemic levels**.
- According to the research, the business sector has started **to exhibit indications of recovery with a strong rise** in net sales in the quarter ending March 2022, aided by a broader recovery in demand.
- Investor confidence has been boosted by stronger corporate sector fundamentals and **a well-capitalized banking system**, the report said, adding that **private equity and venture capital investments have increased** in the first two months of Q1 of 2022–23 compared to the same period last year.
- Because of the government's continued **emphasis on increasing capital spending**, it grew by 70.1 percent year over year in May 2022.
- The government has also made guidelines for distributing \$1 trillion in interest-free capex loans to the State public in order to facilitate capex, according to the statement.

Way Forward

- Stabilization policy measures** will need to keep balancing inflation and economic concerns as long as retail inflation in India is higher than the RBI's tolerance target of 6 percent, as it was at 7 percent in June 2022.
- The government may review its **fiscal capacity** and consider **additional measures** to spur growth and lessen the negative effects of high inflation and interest rates on **consumption and investments** if the fiscal deficit is not a concern and tax revenues may in fact exceed Budget estimates due to high inflation.

DIGITAL BANKS: A PROPOSAL FOR LICENSING & REGULATORY REGIME FOR INDIA' - REPORT BY NITI AAYOG

Priority: Medium

Primary Source: PIB

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: Indian Economy and issues relating to Mobilization of Resources, Growth, Development.

Context:

A report titled "Digital Banks: A Proposal for Licensing & Regulatory Regime for India" was recently published by NITI Aayog. It recommended creating Digital Banks and a framework for their licensing and regulation.

What are the findings of the report?

- India has advanced Financial Inclusion (FI) rapidly in recent years thanks to the Pradhan Mantri Jan Dhan Yojana (PMJDY) and India Stack.
- Credit penetration, however, continues to be a policy concern, particularly for the 63 million or so MSME in the country (Micro, Small and Medium Enterprises).
- The Unified Payments Interface (UPI), which has seen unprecedented adoption, has advanced the FI.
- India is about to put its own open banking architecture into action.
- By developing a model for a regulatory framework and policy for digital banking, India will have the chance to solidify its place as the world's Fintech leader while also

addressing the many issues it faces in the area of public policy.



What did the report recommend?

- A restricted digital bank licence would be issued, with restrictions on the number and value of customers it could serve, among other things.
- Adding the licensee to a regulatory sandbox framework that the Reserve Bank of India has established.
- A "full-scale" digital bank licence will only be granted if the licensee performs satisfactorily in the regulatory sandbox, which includes operational, prudential, and technological risk management.

What is the Digital Bank?

- Under the NITI Aayog discussion paper, the term "Digital Banks" or "DBs" refers to a bank as that term is used in the Banking Regulation Act 1949 (BR Act).
- In other words, the B R Act gives the Digital Bank the authority to make loans, issue deposits, and provide the entire range of services.
- However, contrary to what the name might imply, DBs will primarily rely on the internet and other nearby networks to provide their services rather than actual physical branches.
- DBs will be held to the same prudential and liquidity standards as existing commercial banks.
- Digital banks would be distinct from the 75 Digital Banking Units (DBUs) that the Finance Minister had previously announced in the Union Budget for 2022–2023. DBUs are being established to promote fintech, banking, and digital payment innovations in underserved areas.

What will be the roadmap of the digital bank?

According to the report's recommendations, the Reserve Bank of India (RBI) should license digital banks in three stages:

- First stage: An application should be granted a restricted digital bank licence with limitations on the volume/value of customers served and other factors.
- Second stage: The RBI will place the licensee in a regulatory sandbox framework.
- Third Stage: Based on the licensee's successful performance in the regulatory sandbox, which includes salient, prudential, and technological risk management, a "full-scale" digital bank licence will be issued.

Capital Requirement:

- During the restricted period, a digital bank may be required to raise a minimum of 20 crores in paid-up capital. A full-scale Digital Business bank will need to raise 200 crores in order to advance from the sandbox.

Regulatory norms:

- Digital banks will be held to the same prudential and liquidity standards as current commercial banks.

Why is there a need for a digital bank?

- Despite the quick progress India has made toward advancing its financial inclusion agenda, the lack of financial deepening continues to be an issue, particularly with regard to the agenda for small business lending.
- According to the most recent MSME census (2015–16) data, there are 63.88 million unincorporated MSMEs in India.
- A sizable portion of these 63.88 million people continue to be uninsured, and they continue to rely on informal money markets to finance themselves, such as money lenders (rapid disbursement without documentation) and chit funds (delayed disbursement but lower interest rates than money lenders).

What will be the potential benefits of the DBs?

Low Cost-to-income ratio:

Estimates suggest that DBs have a high cost efficiency.

- For instance, Webank (DB in China) charges \$0.5 for each account operation.
- When compared to typical banks, it may be 10–20 times more expensive (depending on where we are).
- In the context of India, both old private banks and large and midsize PSBs have cost-to-income ratios that are greater than 50%.
- Despite operating more efficiently than their competitors, the new private banks nonetheless had a cost to income ratio of up to 43%.

Other advantages:

- The comfort of doing your banking from home. Availability of banking services around-the-clock. And extension of paperless and electronic banking to the customers..
- DBs will enable the setup of automatic utility bill payments.
- DBs will enable the customers for online payments for shopping and other purposes.
- It will be more instrumental in extending the banking and financial services in rural locations.

WHAT ARE EXTERNAL COMMERCIAL BORROWINGS

Priority: Medium

Primary Source: Live Mint

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Indian Economy and issues relating to Mobilization of Resources, Development

Context:

Recently, currency specialists have identified another potential danger for the exchange rate - unhedged exposure through external commercial borrowing (ECB) - at a time when increasing US interest rates and a global flight to dollars have put pressure on the Indian rupee.

What is External Commercial Borrowing?

- **External commercial borrowing (ECB)** is borrowing made in foreign currency by non-resident lenders to Indian borrowers.
- When it comes to luring in fresh investments, the ECB has proven to be an invaluable tool for helping Indian businesses and organisations raise money from abroad.
- Debtors could be the nation's government, businesses, or people.



- The debt includes sums due to private commercial banks, foreign governments, or international financial organisations like the IMF and World Bank.
- A three-year minimum maturity is customary for external commercial borrowings.
- The Reserve Bank of India and the Department of Economic Affairs of the Ministry of Finance work together to oversee and control ECB rules and regulations.
- The largest portion of India's external debt is made up of commercial borrowings and the majority of the external debt is expressed in US dollars.

Methods to Avail ECB?

Currently, there are two ways to raise money by utilizing the ECB:

- **the Automatic Route and the permission route**
- **Automatic Route:** For those who desire to receive money automatically, the government has established a number of eligibility restrictions. These regulations control, among other things, dollar quantities, industries, and how money is used in the end.
- **Permission Route:** In contrast, the route of approval requires express consent from the government or the RBI before collecting money through external commercial borrowing.
- The borrowing structure has been outlined by the RBI through circulars and official guidelines.
- To guarantee that the inflow remains clean, the RBI has defined the categories of "Eligible Borrowers" and "recognised non-residents" among potential lenders.

Eligible Borrowers and Recognized Lenders:

There are two versions of the ECB:

- ECB Foreign Exchange (FCY ECB)
- ECB for Indian Currency (INR ECB)
- The term **"Eligible borrower"** refers to any organization that qualifies for foreign direct investment (FDI). Examples of particular entities that can be included are Port Trusts, Units in Special Economic Zones, the Small Industries Development Bank of India, and the EXIM Bank of India.
- **"Recognized lenders"** will provide the ECB.
- Any organization that belongs to the Financial Action Task Force (FATF) or the International Organization of Securities Commissions (IOSCO) may be referred to by these words (FATF).
- In addition to IOSCO and the FATF, other recognised lenders are individuals, foreign subsidiaries of Indian banks (subject to appropriate prudential standards), and multilateral and regional financial organisations of which India is a member (if they are foreign equity holders).

Advantages of the ECBs:

- **Low Capital Cost:** To start, funds borrowed from external sources typically have a lower value.
- For instance, there are many economies with lower interest rates; Indian businesses and organisations would

surely gain if they could borrow money from Europe and the US at lower interest rates.

- **Borrowing without giving control:** Taking out loans without giving up control has the additional benefit that ECB loans are, at their core, straightforward loans.
- Even though they are not required to be of an equity kind, the company's stakes cannot be reduced.
- The borrowers will be able to obtain money without giving up control because debtors will not be granted voting privileges in the business.
- **Global Exposure:** While ECBs give borrowers the opportunity to expand their pool of investors, they also give borrowers more exposure to international markets, yet this does not imply that ECBs do not support local economies.
- **Economic Growth:** The sector's potential for growth can be increased by the Indian government directing funds into it. To aid in the development of the nation, the government may, for instance, permit a bigger proportion of ECB funding for the infrastructure and SME sectors.

The disadvantages of the ECBs:

- **Reckless Borrowing:** It's possible to assume that when the corporation finds more funds available at reduced rates, their attitude may change. As a result, businesses might borrow carelessly, which would increase their debt on their balance sheet and harm their financial ratios.
- **Low Creditworthiness:** Companies with more debt on their balance sheets are seen negatively by rating agencies, which could lead to a market downgrade for those companies.
- Additionally, there is a chance that the market value of the company's shares will drop over time.
- **Exchange of currencies:** Since funds are raised through external commercial borrowing in foreign currencies, the principal and interest must also be paid in those same currencies. The corporation exposes itself to the risks related to currency exchange rates as a result.
- **Restrictions on Borrowing:** Despite the fact that it is well known that ECBs can be acquired at reduced rates, there are a number of rules and limitations that must be adhered to.

Report on External Commercial Borrowing by the Sahoo Committee 2013:

- The Sahoo Committee was established in 2013 to establish a framework for access to both domestic and foreign capital markets.
- The Committee evaluated the currency risk that participating Indian businesses in the ECB faced.
- The Committee noted that requiring businesses to hedge their exposure to exchange risk when borrowing in a foreign currency can lessen the likelihood of a market collapse.
- It should abandon the complicated system of controls already in place for borrowing foreign cash.
- There is no market failure in India's domestic rupee loan market, which offers an effective substitute for international borrowing to finance Indian businesses.
- The goal of the policy should be to eliminate all barriers to the expansion of the domestic rupee loan market.

Effects of Liberalization on the Economy, Changes in Industrial Policy and their Effects on Industrial Growth

GOVT. EXTENDS ROSCTL SCHEME FOR GARMENT EXPORTS

Priority: Low

Primary Source: The Hindu

Prepp Prelims Booster: Indian Economy

Prepp Mains Booster: Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

Context:



- Recently, Union Ministry of Textiles stated that the Scheme for Rebate of State and Central Taxes and Levies (RoSCTL) would **continue through March 31, 2024**, for the export of clothing, accessories, and made-ups.
- The government has approved the continuance of the programme in order to increase exports and create jobs in the textile industry.

What is the significance of the Scheme for Rebate of State and Central Taxes and Levies (RoSCTL)?

- The RoSCTL helped increase **cost effectiveness and export competitiveness** in the global market and created a stable and predictable policy framework.
- Additionally, it has **aided** in the development of **startups and business owners** in the industry and encouraged a significant number of MSMEs to enter the garment export market.

SCHEMES FOR STRENGTHENING PHARMACEUTICALS INDUSTRY WITH FOCUS ON MSMEs AND CLUSTERS

Priority: Medium

Primary Source: PIB

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: Government Policies & Interventions, Issues Relating to Development, Inclusive Growth, Indigenization of Technology, Industrial Policy

Context:

Recently, the "**Strengthening Pharmaceuticals Industry (SPI)**" scheme was formally introduced by the **Ministry of Chemicals and Fertilizers** with an eye toward the strategic importance of MSMEs (Micro, Small and Medium Enterprises).

What is the Strengthening Pharmaceutical Industry scheme?

- The scheme **offers credit-linked capital and interest subsidies** for **MSME pharmaceutical industry** units that upgrade their technology, as well as support of up to Rs 20 crore per facility for shared resources like research centres, testing labs, and ETPs (Effluent Treatment Plants) in pharmaceutical clusters.
- The MSME unit will be given the choice between a capital subsidy and an interest subsidy.

- **Small Industries Development Bank of India (SIDBI)** is the project management advisor for putting the programme into action.
- **Objective:** By addressing concerns about technology upgradation among MSMEs at the unit level and cluster level, we hope to further strengthen India's already strong manufacturing capabilities in the pharmaceuticals sector.

Sub-schemes under SPI:

Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS):

- With the help of the Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS), pharmaceutical MSMEs with a track record of success can update their technology.
- It includes provisions for a **capital subsidy** of 10% on loans with a maximum ceiling of Rs. 10 crore and a minimum repayment period of three years, as well as an interest subsidy of up to 5% (or 6% in the case of units owned by SC/ST) on a declining balance basis.

Assistance to Pharma Industries for Common Facilities Scheme (API-CF):

- It will increase the ability of the current pharmaceutical clusters to experience steady expansion.
- It allows for assistance up to Rs 20 crore, or 70% of the approved project cost, whichever is smaller.
- The grant-in-aid amount for the Himalayan and north-east regions will be Rs 20 crore per cluster or 90% of the project cost, whichever is less.

Pharmaceutical and Medical Devices Promotion and Development Scheme (PMPDS):

- It will entail writing study reports on important subjects for the Indian pharmaceutical and medical device industries.
- The plan aims to compile a database of the pharmaceutical and medical device industries.

How important will the scheme be?

- The infrastructure facilities will be strengthened, and India will become a leader in the pharmaceutical industry globally.
- This will guarantee that clusters continue to expand sustainably while also enhancing their quality.
- The programme will address the growing need for assistance for MSMEs and countrywide Pharma clusters to increase their sustainability, quality, and productivity.
- Plans will boost investment, promote research and innovation, and let business create cutting-edge goods and concepts.

What are the schemes for Pharmaceutical industries?

- **Production Linked Incentive (PLI) scheme for Pharmaceuticals**
- **Production Linked Incentive (PLI) Scheme for Promotion of Domestic Manufacturing of critical Key Starting Materials (KSMs)/ Drug Intermediates and Active Pharmaceutical Ingredients (APIs) in the Country**
- **Production Linked Incentive (PLI) Scheme for Promoting Domestic Manufacturing of Medical Devices**
- **Scheme for Promotion of Bulk Drug Parks**

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.

PROMOTING NER AS AGRI EXPORT HUB

Priority: Medium

Primary Source: The Hindu

Prepp Mains Booster: About APEDA

Context:

- The Agricultural and Processed Food Products Export Development and Authority (APEDA) has recently come up with a strong strategy to promote locally produced horticultural products to the worldwide markets.
- This is focused on North-Eastern (NE) states in order to improve the export of horticultural products.
- It has built a platform in Assam that allows exporters to purchase goods directly from producers and processors.
- The platform will connect Assamese producers and processors with exporters from other regions of the nation, broadening the base of the North-Eastern states' export pockets.

Significance of NER (North Eastern Region) in Agri Exports

- Due to its shared international borders with China, Bhutan, Myanmar, Nepal, and Bangladesh, the NE area is crucial from a geopolitical perspective and might serve as a hub for the export of agricultural goods to both its neighbors and other countries outside.
- The export of agricultural products climbed by 85.34 percent during the previous six years, rising from USD 2.52 million in 2016–17 to USD 17.2 million in 2021–22.
- The Middle East, the UK, Europe, Bhutan, Bangladesh, and the Middle East have been the main export destinations.
- Nearly all agricultural and horticultural crops can be grown in practically all soil types in Assam and the other North Eastern states.
- Large commercial surpluses of a variety of perishable commodities, including tomato, pineapple, orange, and banana, are produced by the NER.

What is APEDA?

- APEDA stands for Agricultural and Processed Food Products Export Authority which is an Indian Apex-Export Trade Promotion Active government body.
- It was established by the Ministry of Commerce and Industry under the Agriculture and Processed Food Products Export Development Authority.
- Its vision is to "build a world-class organization dedicated to promoting India as the supplier of choice' for agricultural and food goods with added value in the international markets."
- The leading organization for promoting the export of fresh fruits and vegetables is APEDA.
- Farmers, warehouses, packers, exporters, surface transportation, ports, railroads, airlines, and everyone else involved in export trade to the global market are connected through it, which is essential.

Various Initiatives to Promote NER as Agri Export Hub

- **Mission Organic Value Chain Development for North East Region (MOVCD-NER):** The Ministry of Agriculture and Farmers Welfare launched the Central Sector Scheme, a sub-mission under the National Mission for Sustainable Agriculture (NMSA).

- The Ministry of Agriculture and Farmers Welfare launched the Central Sector Scheme, a sub-mission under the National Mission for Sustainable Agriculture (NMSA).
- The program's objective is to support the growth of the entire value chain, from inputs and seeds to certification to the establishment of facilities for collection, aggregation, processing, marketing, and brand-building initiatives.
- It also aims to develop certified organic production in a value chain model to connect farmers and consumers.
- **Training Programmes:** In order to conduct various training programs on pre-harvest and post-harvest management as well as other research activities for the development of export from the region, APEDA signs an MoU with Assam Agriculture University, Jorhat.
- **Virtual Buyer Seller Meet:** Throughout the Covid-19 period, APEDA continued to promote its export plans through Virtual Buyer Seller Meet in collaboration with the Indian Embassy located in various nations with exporters from NER regarding the sourcing of pineapple, ginger, lemon, and orange, among other products.
- **Trade Fairs:** During the pandemic, APEDA also organized virtual trade fairs and promoted export to other nations.
- KIWI Wine, processed foods, and conducting a wet sampling of Joha Rice Pulao and Black Rice Kheer are just a few examples of the North East items that APEDA has endorsed for branding and promotion.
- **Branding Local Products:** APEDA also provided support for the marketing and branding of goods from the North East, including KIWI Wine, processed foods, the wet sample of Joha Rice Pulao, and Black Rice Kheer, etc.
- **Workshop on Food Quality and Safety Management:** To increase exports of agricultural and processed food products from NER through the development of sustainable food value chains, APEDA facilitated a workshop on Food Quality and Safety Management for Export of Processed Food Products.

Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

JNPT TO BECOME A 100% LANDLORD PORT

Priority: Low



Primary Source: PIB

Prepp Prelims Booster: Transportation, Major Ports.

Prepp Mains Booster: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

Context:

Recently, **Jawaharlal Nehru Port** became the first significant port in the nation to operate all of its berths on a PPP model, making it a **100% Landlord port of India**.



What is the Landlord port model?

- In this arrangement, **private enterprises** handle port operations, primarily **cargo-handling activities**, while the **publicly run port authority** serves as a **regulatory body and a landlord**.
- Here, the **infrastructure is leased to private companies** that install their own cargo handling equipment, provide and maintain their own superstructure, and continue to own the port while the port authority retains control of the port.
- In exchange, the landlord port receives a portion of the money made by the private company.

What is the present situation in India?

- Currently, the majority of **India's major port trusts** also manage terminal operations, creating a hybrid type of port governance or service port model.
- The port authorities' involvement in terminal operations creates a conflict of interest and undermines neutrality.

What is the Service Port Model?

- In the service port model, the port authority is in charge of overseeing and **managing port operations**.
- The port's operations include the provision of infrastructure, adequate machinery, warehouse space, and professional laborers. The port authority is now in charge of building infrastructure, superstructures, and providing staff.
- Even if the port authority acts in the public interest, the state or government nevertheless retains complete control of the port.
- Service ports typically operate at a **loss due to inefficiency**. Workers go on strike to demand their demands because the port is state property and operations are governed by the port authorities.

What are the issues faced by ports in India?

- **High ship turnaround time:** India's ports experience high ship turnaround time. For instance, the typical ship turnaround time at Singapore is under a day. However, it takes more than two days in India.
- **Container traffic and congestion:** a lack of handling equipment, and ineffective operations all contribute to port congestion, which is a serious issue. For instance, the port of Nhava Sheva
- **Mixture of suboptimal transport modes:** Transport modal mix is not optimum since the necessary infrastructure for evacuation from large and minor ports is lacking.
- **Limited Hinterland Linkages:** Due to limited hinterland connectivity by rail, road, motorways, coastal shipping, and inland waterways, there is inefficiency. As a result, moving goods and paying for transportation become more expensive.
- **Lengthy Custom Clearance Procedure:** Inspections and scrutiny continue to be drawn out for cargo and other shipping operations, despite the fact that India's customs processes are quickly growing paperless and becoming digital.
- **Inadequate infrastructural and technological problems:** this involves Lack of adequate depth, suitable length, berth count, and berthing facilities for proper berthing of the vessels at the major as well as on non-major ports.

- **Regulatory issues:** Major and minor ports are governed by different authorities. The regulatory system is also strict.
- Foreign-flagged ships are not permitted to transport cargo between Indian ports because such ports are still reserved for domestic shippers.
- Purchasing land and obtaining environmental approvals.
- **Problems with the PPP Model:** Private operators are typically subject to stringent restrictions under the majority of port PPPs, usually in the form of the kinds of goods they are permitted to handle.
- Up until recently, there were still issues with tariff control and the lack of a dispute settlement process.



What are the initiatives taken by the government?

- With the **Sagarmala initiative**, ports are modernised and developed, port connection is improved, coastal communities are supported, and port-related industrialization is encouraged.
- Sagarmala intends to **lower logistical costs** for both domestic and international trade. In the modal mix, it also seeks to double the proportion of water transportation.
- The **Jal Marg Vikas Project (JMVP)** is an initiative to expand India's national waterways.
- It was put into place as a step toward national integration with the intention of lowering carbon emissions, congested roads and rails, and resource depletion to a minimum.
- In order to include a list of projects and infrastructure sub-sectors, including inland waterways, for which the **Central Road Fund (CRF)** could be used, the Ministry of Finance revised the Central Road Fund Act, 2000.
- The goal of the **Draft Indian Ports Bill 2021** is to consolidate state governments' current management of minor ports.
- **The Inland Vessels Bill 2021** seeks to replace the many laws currently in place in each state with a unified national law.
- There will be no need for state permissions because the registration certificate will be accepted all across the nation.
- Additionally, it creates a single database for keeping track of crew and vessel details via an online portal.
- **Marine Aids to Navigation Bill 2021:** The Parliament approved it, including international requirements, technology advancements, and best practises from around the world.

Way Forward

- Ports constitute an important aspect of India's economy, which facilitate export, employment generation and improving cost competitiveness of the Indian economy. Thus it is important to address the issues faced by port operation and infrastructure.

- Less rigidity and complexity should be added to the regulatory environment. For the comprehensive development of India's ports, there should also be vertical integration of all stakeholders.

Developments In The Field of Science & Technology

GENOMIC DEMOCRACY

Priority: Medium



Primary Source: Down to Earth

Prepp Prelims Booster: Science and Technology

Prepp Mains Booster: Awareness in the fields of IT, Space, Computers, Robotics, Nano-technology, Bio-technology; Important International institutions, agencies and fora- their structure, mandate.



Context:

- Recently, the **WHO Science Council** has published a report titled "**Accelerating access to genomics for global health**" that promotes the distribution of genetic technologies to underdeveloped nations.
- The report adhered to the WHO's 10-year strategy for pathogen genomic surveillance.
- Due to their capabilities in this field, nations like **South Africa** were able to make key contributions in **discovering variations**, which was crucial to the worldwide Covid -19 reaction.

What are the highlights of the report?

- It is **necessary to increase access to genetic technology**, especially for **low- and middle-income countries (LMIC)**.
- It is neither morally acceptable nor rational from a scientific standpoint for less developed nations to have later access to such technologies.
- To increase access to genomic technology, deficiencies in funding, laboratory infrastructure, supplies, and highly skilled employees must be addressed.
- The advantages won't be completely recognised until they are applied globally.
- Science can only have its greatest impact and contribute to global health improvement through equity.
- **Four themes** were identified in the report as needing attention: **advocacy, implementation, collaboration, and related ethical, legal, and social** challenges.
- A **Genomics Committee** should be established by WHO to carry out and oversee the report's recommendations.

What are the recommendations of the WHO report?

- **Advocacy for genomics' advancement:** Through widespread campaigning, encourage the adoption or expanded use of genomics throughout all Member States.
- WHO should leverage its position as a global leader in public health to promote the increased application of genomics in its Member States.
- In order for all Member States, especially Low and Middle-Income Countries (LMICs), to accept and increase

the use of genomics for better health and other advantages, WHO should encourage affordable access to genetic technology globally.

- **Application of genomic methods:** Determine and address the practical problems that prevent the application of genomics through regional planning, funding, education of key employees, and availability of tools, materials, and computing infrastructure
- Best practises for implementing national or regional genomic programmes should be outlined by WHO for Member States to follow.
- For the purpose of enhancing or extending their genomic capabilities, Member States should either create national programmes or join regional programmes.
- **Collaboration Among Genomics-Related Entities:** Encourage organizations to commit to working together to advance all facets of national and regional programmes that enhance genomics in Member States.
- By enhancing successful current collaborative arrangements and assisting in the formation of new ones for particular requirements, WHO should promote international cooperation on genomics.
- The use of genetics to address significant health issues, particularly those that are widespread in LMICs, should involve cooperation between business, academia, and civil society.
- **Considering the Ethical, Legal, and Social Issues (ELSI) Arising from Genomics:** Through effective oversight and national and international laws and standards in the practice of genomics, promote the ethical, legal, and equitable use of information gained using genetic technologies and responsible sharing of that information.
- The **Genomics Committee of WHO** should be in charge of providing instructions on how to handle the moral and social repercussions of genomics, including the global governance of genomic data.
- **Organizations in Member States**, in particular funding agencies, educational institutions, and governmental entities, should be aware of ELSIs and the work being done by the WHO and other international organisations to find answers to unresolved problems with genomic ELSIs.

How is genomics different from genetics?

- The primary distinction between genomics and genetics is that while **genomics examines all genes and their interrelationships** to determine their cumulative influence on the growth and development of the organism, **genetics focuses on the structure and operation of a single gene.**

What is the application of Genomic?

- Applications for genomics can be found in **a wide range of sectors**, such as biotechnology, anthropology, and other social sciences.

Genomic medicine:

- The collection of genomic data on large study populations can be dramatically increased by clinicians and biomedical researchers thanks to next-generation genomic technologies.
- This enables researchers to better comprehend the **genetic bases of drug response and disease** when combined with modern informatics tools that integrate

multiple types of data with genomic data in disease research.

Bioengineering and synthetic biology:

- **Applications of synthetic biology** are becoming more complex thanks to the expansion of genomic information.
- In 2010, scientists at the **J. Craig Venter Institute** announced the development of *Mycoplasma* laboratory, a partly synthetic bacterial species generated from the genome of *Mycoplasma genitalium*.

Population and conservation genomics:

- Population genomics has become a popular area of study where genomic sequencing techniques are used to compare DNA sequences on a large scale among populations, going beyond the capabilities of traditional population genetics genetic markers like short-range PCR products or microsatellites.
- In order to better comprehend microevolution and gain knowledge of a population's phylogenetic history and demography, population genomics investigates genome-wide effects.

Public Health and Disease Control:

- Mapping of the evolution of infectious agents to control infectious disease.
- putting phenotypic traits on certain genes, including pathogenicity and infectivity.
- determining the drug sensitivity or resistance of an infectious agent.

Prevent and Manage Genetic Conditions:

- Examining the carrier status for a genetic illness under Prevent and Manage Genetic Conditions.
- diagnosis and testing for single gene diseases.
- determining a person's propensity for certain chronic diseases or their vulnerability to them.
- choosing drugs based on their mode of action or genetic factors that affect metabolism to lower toxicity.

Agriculture:

- Inventories of genetic diversity in founder stocks and the wild
- evaluating genetic profiles for commercial and health traits
- identifying vulnerabilities to and coping mechanisms for environmental stress

WHAT INDIA'S FIRST HPV VACCINE COULD MEAN FOR FIGHT AGAINST CERVICAL CANCER

Priority: Medium



Primary Source: Indian Express

Prepp Prelims Booster: Science and Technology

Prepp Mains Booster: Development and Management of Social Sector/Services relating to Health, Achievements of Indians in Science & Technology;

Context:

- The Serum Institute in Pune recently received market authorization from the Drugs Controller General of India to produce Cervavac, the nation's first locally manufactured vaccine against the human papillomavirus (HPV).
- As per the plan, if mass produced the Cervavac vaccine will be included as soon as possible in the country's Universal Immunisation Programme (UIP) against the cervical cancer.



What is cervical cancer?

- A common sexually transmitted infection is cervical cancer.
- The cervix, the lowest portion of the uterus that links to the vagina, is where this particular type of cancer develops.
- It is primarily brought on by chronic HPV infection with specific strains.
- Human Papilloma Virus (HPV), a sexually transmitted infection, play a role in causing most cervical cancer
- It is the second most common type of cancer and the second worst killer of cancer patients who are female and of reproductive age (15-44).

What is Human Papilloma Virus (HPV)?

- Over 150 different viruses make up the **Human Papillomavirus (HPV) family**. Usually harmless, it disappears on its own.
- Some varieties, however, result in papilloma or warts on specific body areas.
- HPV is the most prevalent sexually transmitted infection, which is transmitted or spread by skin-to-skin contact.
- HPV is frequently linked to cervical cancer. Around 67,000 women die from HPV-related cancer each year, making India one of the countries with the highest rates in the world.
- The National Technical Advisory Group on Immunization (NTAGI) had earlier suggested the inclusion of the HPV vaccination in the UIP due to challenges and worries about negative effects with clinical trials for HPV vaccines provided by private companies in India.
- NTAGI serves as an advisory council and makes vaccination recommendations for India's Universal Immunization Program(UIP).

What is the significance of the indigenous vaccine?

- It is the first **quadrivalent human papillomavirus vaccine (qHPV)** developed in India and intended to shield females from cervical cancer.
- It works by developing antibodies against the **L1 protein of the HPV virus and is based on VLP (Virus-Like Particles), much like the Hepatitis B vaccine**.
- It is said to be effective against the Type 6, Type 11, Type 16, and Type 18 viral strains.
- A quadrivalent vaccine stimulates the immune system's defences against four distinct antigens, such as four distinct viruses or other microbes.
- It would be beneficial if it were supplied at a cheaper price than current immunizations and was part of national HPV vaccination initiatives because it has a large potential to eradicate cervical cancer.
- Existing two vaccines, quadrivalent vaccine (Gardasil, from Merck) and a bivalent vaccine (Cervarix, from GlaxoSmithKline) are available in India. But both are

expensive and none of which are included in the government immunisation programme,.

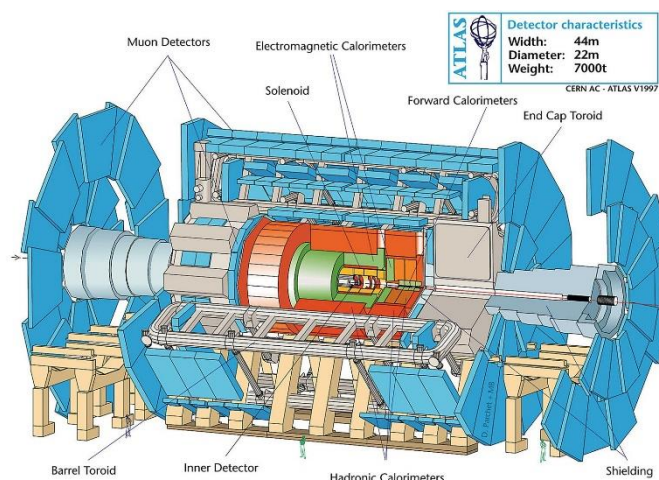
- Following DGCI approval, the government would be allowed to purchase vaccines in large quantities in order to immunise around 50 million females between the ages of 9 and 14.
- Only when it is given prior to the first sex is the vaccine incredibly successful.

What is the Universal Immunization Programme?

- The universal immunization program is earlier known as the expanded program of immunization (EPI).
- The government of India officially launched the program in **1985** and renamed it a universal immunization program(UIP).
- UIP is a component of the Reproductive and Child health Program (RCH) and runs under the umbrella of the **National Health Mission of India (NHM)**.
- The main aim of UIP is to provide several vaccines to infants, children, and pregnant women.
- Earlier UIP's purpose was to prevent six killer diseases which included diphtheria, pertussis, tetanus, polio, measles, and tuberculosis.
- Later , UIP basket was extended to include vaccines against the **12 diseases – Diphtheria, pertussis, tetanus, oral polio vaccine, diarrhoea, tuberculosis, measles, mumps, rubella, hepatitis B, pneumonia, and Japanese encephalitis**.

LARGE HADRON COLLIDER

Context:



- The **Large Hadron Collider (LHC)**, the most potent particle collider in the world, will start smashing protons against one another on July 5.
- Scientists **will gather and examine the data**, which they hope will reveal "new physics," or physics that goes **beyond the Standard Model of Particle Physics**, which describes how the fundamental constituents of matter interact under the control of four fundamental forces.

What is CERN ?

The European Organization for Nuclear Research, better known by its original name CERN—Conseil Européen pour la Recherche Nucléaire—runs the particle accelerator complex that houses the LHC, the largest and most intricate collider in the world.

What is the Significance of a Large Hadron Collider ?

- Protons, which are positively charged particles found in the nuclei of atoms, will be sent in beams that travel

within the 27-kilometer ring of the LHC at speeds that are almost as fast as light.

- The **protons** are maintained in a narrow beam and are guided by the magnetic field produced by the **superconducting electromagnets** as they pass through beam pipes and eventually collide.
- "To increase the likelihood of collisions, a different kind of magnet is employed **to 'squeeze' the particles** closer together just before impact.
- According to the European Organisation for Nuclear Research (originally Conseil Européen pour la Recherche Nucléaire, or CERN in French), which manages the particle accelerator complex that houses the LHC, the particles are so tiny that the task of making them collide is **comparable to firing two needles 10 km** apart with such precision that they meet halfway.
- It is necessary to keep the **LHC's strong electromagnets cold** since they may carry nearly as much **electricity as a lightning strike**.
- The LHC maintains its vital components at **minus 271.3 degrees Celsius**, which is **colder than interstellar space**, via a distribution system of liquid helium. The enormous machine is difficult to warm up or cool down given these needs.

What is the Large Hadron Collider?

- The **Large Hadron Collider** is a massive, intricate device designed to investigate particles, the **tiniest known constituents of everything**.
- On the **Swiss-French border**, it is a 27-km-long track loop that is 100 metres underground.
- When in operation, it **shoots two proton beams in opposite directions** almost as quickly as light inside a ring of superconducting electromagnets.

How has the world of Physics evolved in the last 10 years?

- On July 4, 2012, ten years prior, CERN researchers made the public announcement that they had **discovered the Higgs boson**, also known as the **"God Particle,"** during the **LHC's initial run**.
- The discovery put an end to the protracted search for the "force-carrying" **subatomic particle** and supported the Higgs mechanism, a theory proposed in the middle of the 1960s.
- This resulted in Peter Higgs and his associate François Englert winning the 2013 **Nobel Prize in physics**. It is thought that the Higgs boson and the energy field it produces were essential to the universe's formation.
- Following the discovery of the Higgs boson, researchers have begun to seek **beyond the Standard Model**, the most accurate explanation of the fundamental constituents of the universe and their interactions.
- CERN researchers said they are unsure of what **Run 3** will show, but they do hope to learn more about so-called **"dark matter"** through the collisions.
- The majority of the universe is said to be made up of this elusive, hoped-for particle, which is absolutely invisible because it does not absorb, reflect, or emit light.
- According to experiments conducted in the past ten years, fundamental particles including **top quarks, bottom quarks, and tau leptons** gain their mass from interactions with the Higgs field, according to a statement released by CERN.
- A **more powerful relative of the electron** known as the **muon** has produced a number of surprising results.

- Except for their masses, electrons and muons should behave almost identically.
- However, some research is finding potential proof that muons and electrons are treated differently in the universe.
- The **second run (Run 2)** of the LHC started in 2015 and ended in 2018. Five times as much data was collected in the second season of data collection than in Run 1.
- Compared to Run 1, there will be 20 times as many collisions in the third run.

What are the experiments at LHC?

- Detectors are used in **eight experiments at the Large Hadron Collider (LHC)** to examine the wide variety of particles generated by collisions in the accelerator.
- Teams of scientists from many institutions throughout the world work together to conduct these tests.
- The detectors used in each experiment make it unique. The two largest of these projects, **ATLAS and CMS**, employ all-purpose detectors to look at as many facets of physics as they can.
- One of the two general-purpose detectors at the LHC is called ATLAS. It looks into a variety of physics topics, including the hunt for the Higgs boson, the existence of extra dimensions, and particles that might be responsible for dark matter.
- A **particle detector called CMS** is created to detect a variety of particles and phenomena produced in **LHC high-energy collisions**.
- Different layers of detectors, arranged like a coiled onion, measure the various particles, and with the help of this vital information, scientists can piece together what happened during the encounter.
- Additionally, CMS will use previously unheard-of accuracy to measure the characteristics of already identified particles and keep an eye out for wholly unanticipated events.
- Detectors in **ALICE and LHCb** are tailored for focusing on particular phenomena. On the LHC ring, these four detectors are positioned underground in sizable caverns.
- The smallest LHC experiments, **TOTEM and LHCf**, concentrate on "forward particles"—**protons** or heavy ions that brush past one another when the beams clash rather than colliding directly.
- **MoEDAL-MAPP** use detectors placed close to LHCb to look for the **magnetic monopole, a hypothetical particle**.
- To look for **light new particles and explore neutrinos**, **FSER**, the newest LHC experiment, is located 480 metres from the ATLAS collision point.

NATIONAL INTERNET EXCHANGE OF INDIA (NIXI)

Priority: Medium

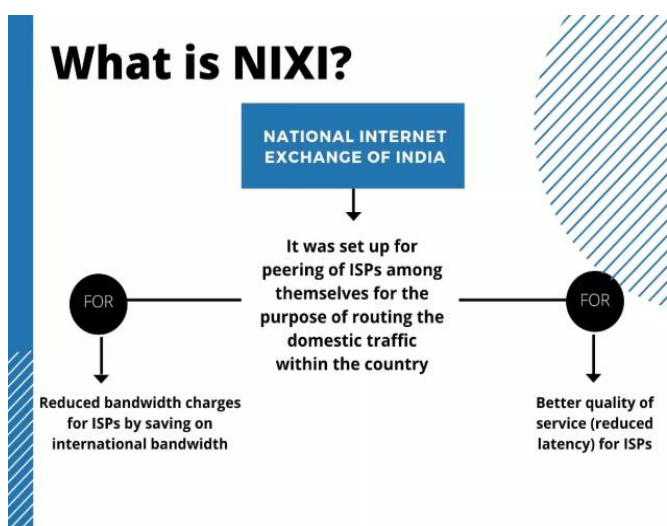
Primary Source: PIB

Prepp Prelims Booster: NIXI, Infrastructure and Communications

Context:

- To enhance the quality of Internet and broadband services in West Bengal and the surrounding areas, the National Internet Exchange of India (NIXI) opened Internet Exchanges in Durgapur and Bardhaman.
- It is a project that is part of the Ministry of Electronics and Information Technology's (MeitY) 1000-Day Vision.

What is NIXI?



What is the National Internet Exchange of India (NIXI)?

- According to Section 8 of the 2013 Companies Act, NIXI is a not-for-profit organisation that was established on June 19, 2003.
- In order to route local data within the nation rather than sending it all the way to the US or beyond, NIXI was established for ISP peering.
- By saving on international bandwidth, this results in improved service (reduced latency) and lower bandwidth costs for ISPs.
- According to the best global norms for such initiatives, NIXI is run and maintained on a neutral basis.

What is the significance of NIXI?

- The **National Internet Exchange of India** also manages West Bengal's **first Internet exchange in Kolkata (NIXI)**.
- With the opening of two new Internet Exchange Points in Durgapur and Bardhaman, it is currently increasing its presence throughout the state.
- The opening of these new NIXI internet exchanges throughout the state will help to **advance and improve broadband and Internet services** both locally and in surrounding areas.
- By **improving their broadband services** to their end users and changing the lives of the people in the area, the internet service providers connecting at these sites will gain.
- Every sector of the **state will benefit** from the **opening of these new IXPs**, including **MSMEs** and other business sectors as well as the health, education, agricultural, and startup ecosystems.
- Citizens will have **greater access to government benefits and convenience**, which will raise their standard of living. The two new Internet Exchange nodes from NIXI will undoubtedly improve the Internet ecosystem of the region.
- NIXI intends to **establish such internet exchanges in Tier-2 and Tier-3 cities** soon in order to enhance the whole Indian internet ecosystem and provide internet users with access to it at a low cost with increased speed.
- NIXI extends an invitation to all ISPs to set up peering at any of its nodes and assist the domestic Internet ecosystem.

What are the various activities of National Internet Exchange of India (NIXI) ?

The National Internet Exchange of India (NIXI) is a nonprofit organisation that has been promoting internet technology among Indian residents since 2003. It does this by engaging in the following activities:

- The exchange of internet data between ISPs and between ISPs and CDNs via **internet exchanges**.
- selling, administration, and operation of the **IN and IDN domains for India**.
- Selling, administering, and **using IPv4/IPv6** in accordance with APNIC, Australia's authorization.

INDIA INNOVATION INDEX 2021: NITI AAYOG

Priority: Low



Primary Source: PIB

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: Indian Economy and issues relating to planning; Statutory, regulatory and various quasi-judicial bodies

Context:

- In the **India Innovation Index, 2022**, published by **NITI Aayog**. This index **assesses ecosystems and innovation capacities** at the subnational level.
- **Karnataka has earned the top spot in India Innovation Index 2022.**
- In all **three previous editions of the Index**, Karnataka has maintained this ranking within the **Major States category**.
- **Manipur** took first place in the **Northeast and Hill States category** of the released Index, while **Chandigarh** came out on top in the **Union Territories and City States category**.



What is the India Innovation Index?

- The **India Innovation Index**, created by **NITI Aayog and the Institute for Competitiveness**
- It is a thorough instrument for **assessing and developing** the nation's **innovation ecosystem**.
- To **foster healthy competition** among them, it rates the states and union territories based on how well they perform in terms of innovation.
- By using the framework of the **Global Innovation Index**, the **third edition** emphasizes the breadth of innovation analysis in the nation.

- There are **now 66 indicators**, up from 36 in the India Innovation Index 2020. (in the India Innovation Index 2021).
- The indications are now split up into 16 smaller pillars, which together make up the seven primary pillars.
- The India Innovation Index 2021 will follow the same format as the previous year. The two "Performance" **pillars measure output, and the five "Enabler" pillars, like the previous iteration, measure input.**
- **Every indication in the Enabler pillars addresses elements that are essential for fostering innovation in a state or union territory.**

What is the significance of the India Innovation Index?

- Growth that is **both inclusive and sustainable** depends on innovation.
- It can assist us in **overcoming the most pressing problems** of our time, including **alleviating poverty for millions of people**, creating chances for employment, and establishing an Aatmanirbhar Bharat.
- The index also draws some international parallels, which will add to India's learning and how we can be on par with our counterparts.
- The indicators in the Performance pillars show **how productive and competitive** a country is.
- Innovation is essential to fostering the **nation's toughness and independence.**
- According to a senior adviser at NITI Aayog, the score indicates the **decentralisation of innovation** across all Indian states.

What are the suggestions made in the report?

- The report by the government think tank, NITI Aayog has recommended actions, such as raising:
 - **Gross domestic expenditure on research and development (GDERD),**
 - **encouraging private sector involvement in R&D, and**
 - **bridging the gap between industry demand and what the nation produces through its educational systems.**

Gross domestic expenditure on research and development (GDERD):

- It makes the point that India's average innovation score is arguably **insufficient**, given the country's ambitious targets of being named among the top 25 nations in the **Global Innovation Index.**
- The **ability to innovate** is contingent on the quality of human capital, according to the research, and nations that **spend less on GDERD fail to keep their human capital over time.**
- India's GDERD as a proportion of GDP stood at roughly 0.7 percent.
- GDERD should therefore be significantly improved and should reach at **least 2 percent**, which would be crucial in helping India reach its aim of a \$5 trillion economy and further expanding its inventive influence globally, the report stated.

Participation of private sector in R&D:

- The business sector needs to **accelerate R&D was emphasised.**
- The report noted that public expenditure is productive up to a point; once the growth follows a trajectory. **It is**

desirable to shift to R&D that is primarily driven by the private sector.

- The report used the evidence from countries like South Korea, the United States, and Germany, where the presence of private players is quite evident.
- India must thus identify the turning point at which the private sector replaces the public sector.

What are the concerns?

- The country has **not fared well in the knowledge worker pillar** as it has in the **human capital pillar**, according to the report. The country's knowledge base has **not been able to be developed despite** the expenditure on human capital.
- It is found that the innovation was **skewed against the manufacturing sector.**
- In order to overcome obstacles and utilise resources to their fullest potential inexorable efforts are required.

WHAT ARE THE CHALLENGES OF FIBERISATION AHEAD OF INDIA'S 5G DEPLOYMENT

Priority: High



Primary Source: The Hindu

Prepp Prelims Booster: General Science

Prepp Mains Booster: Science and Technology- Developments and their Applications and Effects in Everyday Life.

Context:

Recently, About 72 GHz of airwaves will be put up for auction in India in order to launch 5G services. However, existing radio towers must be connected via optical-fiber cables in order to provide the infrastructure necessary for such a rollout. This has brought fiberisation to the focus.

What is fiberisation?

- Fiberisation is the process of **interconnecting radio towers with optical fiber cables.**
- Once 5G services are launched, they will aid in maximising network capacity and carrying large volumes of data.
- Additionally, it will help in supplying **more bandwidth** and better backhaul support. Data is transported across the network by the backhaul, which is a part of the broader transport. It stands for the portion of the network that links the network's core to its edge.
- As a result, fiber backhaul continues to be a crucial component of transportation for all telecommunications.



What is optical fiber?

- A flexible, transparent fiber known as an optical fiber is created by pulling glass or plastic to a diameter just a hair's width thicker.
- The most common function of optical fibers is to transfer light between their two ends.
- They are widely used in fiber-optic communications, which allows for transmission across greater distances and at higher bandwidths than with electrical connections.
- The backbone of the digital infrastructure is optical fiber, which transmits data by sending light pulses through lengthy, thin fiber strands.
- The Total Internal Reflection (TIR) concept governs how the optical fiber functions.
- Large amounts of data may be transmitted via light rays (In case of long straight wire without any bend).

What is the significance of fiberisation?

- It will contribute to the efficient use of the existing network resources, the transportation of huge volumes of data, and the provision of additional bandwidth in the working of the 5G service.

What is the status of fiberisation at present?

- Only 33% of the towers in India at this time are fiberized. When compared to the 65 to 70 percent in South Korea and the 80 to 90 percent in the United States, Japan, and China, it is quite low.
- For transition into 5G, India needs at least 16 times more optical fiber, according to estimates.
- India has a meager 0.09 fiber kms (fkm) per person, compared to 1.35 in Japan, 1.34 in the United States, and 1.3 in China. A nation should have 1.3 km of fiber per person in order to achieve optimal fiberization.
- The fiber point of presence (POP) refers to the tower locations that are connected by fiber. India's fiber POP can currently process data at speeds of one to five Gbps only which is inadequate for 5G services.

What are the issues with fiberization in India?

- First, to assist fiberize 70% of towers, India needs to invest roughly 2.2 lakh crore. In the following four years, an additional 2.5 lakh crore will be required to build 15 lakh towers for 5G.
- Second, the current average cable laying speed of 350 km per day must be increased by almost 3.6 times in order to connect every town in the nation with optical fiber cable (OFC) in 1,000 days.
- Third, the 2016 **Indian Telegraph RoW Rules** seek to include a minimal one-time payment and a standardized process for the construction of Overground Telegraph Lines (OTL) throughout the nation.
 - While all States and UTs must apply these regulations the central regulations are not entirely being implemented in all of the states.
 - Additionally, many local governments and districts adhere to their own bylaws.
 - Additionally, numerous major Ministries, like the Ministries of the Environment and Forests, the Railways, and the Defense, follow their own departmental regulations.

What are the other government initiatives for fiberisation?

- The DoT updated the RoW regulations in October 2021, simplifying the installation of aerial optical fiber cable across the nation. This could make it possible for

infrastructure providers to install cables using light poles and traffic light posts.

- With the use of the DoT's GatiShakti Sanchar web platform, RoW clearances for telecom infrastructure projects, including 5G, may be centralized.

PLATFORMS OF PLATFORMS

Priority: Low

Primary Source: PIB

Prepp Prelims Booster: Science and Technology

Prepp Mains Booster: Government Policies & Interventions; Scientific Innovations & Discoveries, Inclusive Growth

Context:

On the sidelines of the State Agriculture and Horticulture Ministers' Conference in Bengaluru, Karnataka, the Union Minister of Agriculture and Farmers Welfare recently launched the **Platform of Platforms (PoP)** under the **National Agriculture Market (e-NAM)**.

What is Platform of Platforms (PoP)?

PoP is a Portal or Forum that will act as :

- Providers of Composite Services (Service Providers who provide holistic services for trading of agricultural produce including quality analysis, trading, payment systems and logistics)
- Provider of logistics services, quality assurance services, cleaning, grading, sorting, and packaging services, as well as services for warehousing facilities, agricultural inputs, and technology-enabled finance and insurance.
- Portal for Dissemination of Information (Advisory Services, crop forecasting, weather updates, capacity building for farmers etc.)
- various platforms (e-commerce, international agri-business platforms, barter, private market platforms etc.).

What are PoP's advantages?

- Digital Advantages: In order to improve the price search mechanism and quality commensurate with price realisation, this would expand farmers' digital access to a wider range of marketplaces, buyers, and service providers as well as provide transparency to business transactions.
- A digital ecosystem that will be created by the PoP will profit from the knowledge of many platforms in various areas of the agricultural value chain.
- Operational simplicity: POP covers 41 service providers from multiple platforms who provide a range of value chain services, such as trade, quality assurance, warehousing, fintech, market intelligence, transportation, etc.
- It provides farmers, FPOs, merchants, and other stakeholders with more options by allowing them to access a wide range of products and services from across the agricultural value chain through a single window.
- Farmers will be given assistance in selling their produce outside of their state.
- The addition of diverse service providers enhances the value of the e-NAM platform and allows platform users the choice to employ services from other service providers.
- Additionally, choosing a high-quality Goods/Service Provider saves the stakeholders' time and labour.

National Agriculture Market (eNAM):

- National Agriculture Market (eNAM) is an all-India electronic trading portal which networks the existing

APMC mandis to create a unified national agricultural market for commodities.

- **Background:** In order to facilitate online trading of commodities for farmers, traders, and purchasers, the Government of India developed the National Agriculture Market, or eNAM portal, in 2016.
- In order to build a uniform national market for agricultural commodities, the National Agriculture Market (eNAM) networks the current APMC mandis.
- **eNAM's** mandate is to use an online trading gateway to take advantage of the mandis' physical infrastructure, allowing customers who are located outside of the mandi or state to engage in local trading.
- **Small Farmers Agribusiness Consortium (SFAC)**, a department of the Indian Ministry of Agriculture and Farmers' Welfare, is in charge of implementing eNAM.

Internal Security

LEFT WING EXTREMISM VIOLENCE DOWN IN COUNTRY

Priority: Medium

Primary Source: The Hindu

Prepp Prelims Booster: Current events of national and international importance.

Prepp Mains Booster: Challenges to Internal Security, Non-state Actors in creating challenges to Internal Security.

Context:

According to data given by the Ministry of Home Affairs (MHA) during Question Hour in the Lok Sabha, incidents related to Left Wing Extremism (LWE) have fallen from 2,258 incidents in 2009 to 509 incidents in 2021.

What is the information provided in Loksabha?

- Between 2009 and 2021, the number of **Naxal attacks decreased** by 77 percent, and in the past three years, Maoist insurgency in Chhattisgarh has killed more security officers than ever before.
- In the same vein, the **number of deaths** as a result (citizens plus security forces) has **decreased** by 85% from an all-time high of 1,005 in 2010 to 147 in 2021.
- State-wise, Chhattisgarh leads the nation in the number of security personnel deaths, accounting for 90% of all such fatalities, followed by Jharkhand, which reported 5 personnel deaths.
- Only 46 districts reported LWE-related violence in 2021, down from 96 districts in 2010, indicating a decline in the geographic distribution of violence.

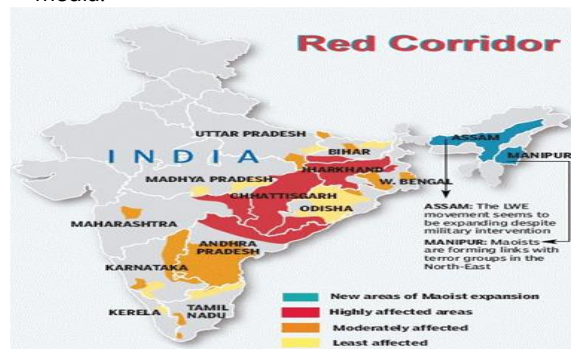
What is Left Wing Extremism?

- LWE is one of the biggest internal security threats India is facing at present time. It is widely known as Naxalism or Maoism.
- LWE is influenced by 'Maoism'. It uses violence as a means to challenge the authority of the Government of India to bring changes in the society and political structure.

Genesis:

- The word "Naxalism" comes from the name of the West Bengal's village, Naxalbari, where in 1967 a peasant uprising against local landowners over a land dispute took place.
- The movement peaked in 1967 when peasants, landless laborers, and Adivasis seized a landlord's granaries in the West Bengali village of Naxalbari.

- Charu Majumdar, along with his close friends Kanu Sanyal and Jangal Santhal, served as the leader of the Naxal uprising.
- People from adjacent villages and the People's Republic of China helped these rebels, in addition to locals. This movement was dubbed "Spring Thunder" by the Chinese media.



Which are the regions affected by the LWE?

- The "Red Corridor," which spans the eastern states of Andhra Pradesh, Chhattisgarh, Jharkhand, Odisha, Telangana and West Bengal is the name given to the most badly affected districts of India.
- Its geographic reach and number of violent incidents have been slowly declining.
- In 2021, it was limited to 25 "most affected" (representing 85% of LWE violence) and 70 "total affected" (down from 180 in 2009) districts spread across the states, in two coal-rich, isolated, forested hilly clusters in and around the Dandakaranya-Chhattisgarh-Odisha region and tri-junction area of Jharkhand-Bihar and-West Bengal.

What are the reasons for LWE?

Displacement of people:

- The displacement of tribals due to the land acquisition for mining, irrigation, and power projects and other infrastructure development projects without sufficient rehabilitation plans led to the livelihoods being lost as a result.

Inequitable regional development:

- The failure of land reforms, particularly after independence with regard to land redistribution. Rising unemployment, socioeconomic disparities, and added to the lack of political opportunity resulted in a sense of helplessness. This led to the growth of naxalism in the regions.

Administrative reasons:

- **Corruption** in the Social Welfare Programs, Public Distribution System, and other infrastructure projects led to ineffectiveness of welfare programs. This caused the feeling of ignorance of the government towards the tribal. This further strengthened the LWE in the tribal belt.

Tribal resentment:

- The Forest (Conservation) Act, 1980 forbids tribal members from gathering the non timber forest produce, despite the fact that their livelihoods depended on these forest products. This led to the loss of livelihood and further resentment against the government.

Incomplete understanding of LWE:

- Government viewed LWE as a security issue rather than a development issue. This led to over focus on security threats rather than addressing the developmental needs of tribal communities and regional imbalances.

Flaws in Security strategies:

- Security strategies for addressing the LWE lacked coordination, intelligence, planning and deterrence among the states. This led to continuation of LWE in some parts of India.

What are the steps taken by the Government of India?

Security related steps:

- The LWE issue has a single, comprehensive solution in the SAMADHAN strategy. It includes all aspects of government strategy, from short-term to long-term decisions made at various levels.
- As a multifaceted effort to tackle LWE, the **National Strategy to Counter LWE** was created in 2015. Its primary goals included, among other things, ensuring inclusive governance and the defence of the rights of the surrounding tribes.
- **National Policy and Action Plan for 2015:** It features a multi-pronged strategy that includes security measures, development initiatives, and ensuring local populations' rights and entitlements.

Rights related Steps:

- Enacted the 73rd and 74th Amendment Act to provide the participation of local tribes in the local self governance and participate in the decision making process.
- Government enacted the Land Acquisition (Rehabilitation and Resettlement) Act to address the rehabilitation of the land displaced people and provide the opportunity to address livelihood loss of the tribal people.
- Government enacted the Forest Rights Acts to undo the historical injustice that occurred to the forest dwelling communities. FRA ensure land tenure, livelihood and food security of the forest dwelling Scheduled Tribes and other traditional forest dweller

Extension of infrastructure and socio economic development projects in the region:

- Aspirational District programs has included the LWE affected districts which is aimed at improving the social and economic parameter of the district by integrating the various schemes at these districts. This has been envisaged to address the socio-economic and infrastructural needs in LWE districts.
- The Central Government supports the efforts of the State Governments through the Security Related Expenditure (SRE) Scheme for LWE impacted States, while State Governments have a surrender and rehabilitation strategy.
- Additionally, the surrendered individuals receive **vocational training** along with a monthly stipend for a maximum of 36 months.
- **Establishing ITIs and Skill Development Centers** in LWE-affected districts is the goal of the 2011–12 project "Skill Development: Skill Development in 34 Districts Affected by Left Wing Extremism."
- **Road connectivity and communication need** to be quickly expanded in the LWE-affected districts. Similarly the **installation of mobile towers** in isolated locations has been taken.

Way ahead

- Strengthening the capacity of state police: States are essential to the upkeep of law and order situations. Therefore, a focus should be placed on enhancing the

capabilities and modernising the local police forces to prevent the rise of LWE in future.

- Preventing IED (improvised explosive device)-related occurrences, which have resulted in numerous fatalities in recent years, by using innovative measures.
- **Rationalizing the surrender policy:** In order to mainstream innocent people caught up in LWE, states should rationalise their surrender policy.
- Continual concentration and effort are required to eradicate such groupings.
- **Role of State:** The Center and the States should coordinate actions that are essential to stopping such radicalization among groupings providing the measures such as confidence-building measures, education, welfare schemes etc

GENERAL STUDIES 4

Ethics and Human Interface: Essence, Determinants and Consequences of Ethics in - Human Actions; Dimensions of Ethics; Ethics - in Private and Public Relationships. Human Values - Lessons from the Lives and Teachings of Great Leaders, Reformers and Administrators; Role of Family Society and Educational Institutions in Inculcating Values.

SHOULD ENDORSERS BE HELD RESPONSIBLE FOR CLAIMS IN ADVERTISING?

What is the issue?

Recently the scholars have argued for upholding the endorser responsible for the misleading advertisement as monetary penalty provided for misleading advertisements is insufficient, and there is need to address some grey areas in this regard.

Why there is need to make provisions relating to misleading advertisements more stringent?

- Celebrity endorsements increased by 44% between 2021 and 2020, according to data published by AdEx India in 2022.
- The Department of Consumer Affairs' Grievances against Misleading Advertisements, which was established in 2017, received more than 12,000 complaints between 2017 and 2020.

What provisions are available against misleading advertisements?

- **Consumer Protection Act (CPA) 2019:** The Act defines misleading advertisements as any product or service advertisements that
 - falsely characterise the product or service being advertised,
 - gives a false guarantee to the customers or is likely to do so
 - intentionally withholds crucial information
 - conveys an image, whether explicit or implicit, that would be considered unfair trade practises
- Under the CPA, 2019, the Central Consumer Protection Authority (CCPA) has been set up to regulate issues connected to consumer rights violations, unfair business practises, and false or misleading advertising.
- The District Collector has the authority to look into a complaint about deceptive advertising or a referral to him

made by the Central Authority or the Commissioner of a regional office.

- **Guidelines for the Prevention of False Advertising and the Endorsement of False Advertising, 2022:** The current guidelines clearly describe "bait commercials," "surrogate advertisements," and "free claim advertisements."
- Any celebrities from the worlds of sports, music, or film are not permitted to appear in advertisements for items that are required by law to carry a health warning.
- The font used in a disclaimer must match the font used in the claim in the advertisement, and it must be written in the same language.
- The obligations of the manufacturer, service provider, advertiser, advertising agency, the need to conduct due diligence before endorsing, and other parties are clearly given forth in the regulations.
- Manufacturers, advertisers, and endorsers who engage in deceptive advertising may be subject to fines of up to Rs. 10 lakh and up to Rs. 50 lakh under the CCPA.
- For a period of up to one year, and for consecutive violations, for a period of up to three years, the Authority may forbid the endorser of a false advertising from making any further endorsements.

Why do companies hire brand ambassadors for a product or a service?

- **Credibility:** It raises the brand's credibility.
- **Trust:** The confidence that some celebrities inspire in the public is what influences how a business is seen.
- **Relationship with the audience:** Because of the celebrity's influence and/or relationship with the audience, having brand endorsers affects consumers' purchase decisions.
- **Lazy marketing:** In some cases, a face rather than ideas are used in lazy marketing.

What onus do brand ambassadors/endorsers have?

- **ASCI's due diligence:** When it comes to the due diligence that celebrities must complete, the ASCI standards offer a similar set of instructions.
 - A team of committed technical professionals from ASCI checks to see if the endorsements are supported or not.
- **Genuine opinion:** According to the existing regulations, celebrities must express their true or most recent opinions and identify any affiliations they may have with the company.
- **Liability perspective:** From a liability standpoint, brands may ask endorsers to certify that they have used the items and agree with the claims made in their endorsements.
- **Penalty:** The brand ambassadors' punishment is so minimal that they don't really care about it.
- **Intangible nature:** It is exceedingly difficult for a celebrity to verify claims because many things in

advertising are intangible, and occasionally even the clients are unable to do so.

IMPORTANT TOPICS FOR PRELIMS

Defence Exercises & Equipments

INDIA JAPAN MARITIME EXERCISE

Context:

On July 23, in the Andaman Sea, the Indian Navy and the Japan Maritime Self Defense Force conducted a maritime partnership exercise (MPX).



What is the significance of bilateral maritime exercise?

- In order to strengthen their maritime cooperation, the two nations have been conducting routine exercises in IOR.
- The exercises were designed to **improve interoperability and streamline** communication and seamanship practices.
- The two fleets are working together to **ensure safe and secure international trade** in the Indian Ocean region as part of this exercise.

Andaman sea

- The Andaman Sea is a marginal sea in the north-eastern Indian Ocean, bordered by the west coasts of the Malay Peninsula and the coastlines of Myanmar and Thailand along the Gulf of Martaban.
- The Andaman Islands and the Nicobar Islands separate the Andaman Sea from the Bay of Bengal to the east. Breueh Island, which is north of Sumatra, marks its southern end, and the Strait of Malacca is located further southeast.
- The sea has traditionally been used for fishing and the transit of products between coastal nations, and its coral reefs and islands are well-liked tourist attractions.

India-Japan Bilateral Relations

Recent Relations

- A comprehensive, broad-based, and action-oriented cooperation that reflects a significant convergence of their long-term political, economic, and strategic aims was agreed upon by the two prime ministers of Japan and India in December 2015.
- A joint declaration that will serve as a compass for the "new era in Japan-India relations" was released, titled **"Japan and India Vision 2025 Special Strategic and Global Partnership Working Together for Peace and Prosperity of the Indo-Pacific Region and the World."**

Security cooperation

- The "Joint Declaration on Security Cooperation between Japan and India" was released by the two leaders in

October 2008, during Prime Minister Manmohan Singh's visit to Japan.

- The **Foreign and Defense Ministerial Meeting ("2+2" meeting)**, the yearly **Defense Ministerial Interaction**, and the **Coast Guard-to-Coast Guard dialogue** are some of the other frameworks for security and defence discussions between Japan and India. The inaugural "2+2" meeting took place in New Delhi in November 2019.
- The **"Acquisition and Cross-Servicing Agreement" (ACSA)**, also known as the "Agreement Concerning Reciprocal Provision of Supplies and Services between the Self-Defense Forces of Japan and the Indian Armed Forces," was signed on September 9th, 2020 by the governments of Japan and the Republic of India. **ACSA became effective on July 11, 2021.**

SEA GUARDIANS-2 MARITIME EXERCISE

Context:

- The Sea Guardians-2 Maritime Exercise took place at Wusong, Shanghai, from July 10 to July 13, 2022.
- The Pakistan Navy and the Navy of the Chinese People's Liberation Army organised it.

What is Sea Guardians-2 Maritime Exercise?

- It is a naval exercise, that is similar to the "warrior" series of combined land exercises and the "shaheen" series of joint air exercises.
- The exercise's main goal is to strengthen teamwork in the face of challenges to maritime security.
- It aims to expand Defence cooperation and improve both nations' navies' naval capabilities.
- It was the exercise's second iteration. In January 2020, the maiden event was held in the northern Arabian Sea off Karachi.
- It had two parts: the port planning phase and the maritime exercise.
- China's and Pakistan's navies engaged in onshore operations such professional expertise exchanges and operational planning during the port planning phase.
- Strikes against maritime targets, cooperative anti-submarine warfare, tactical manoeuvre, and cooperative support for injured vessels were among the training exercises that were included in the maritime exercise phase.

Impact on India

- A growing consensus exists that the Chinese People's Liberation Army Navy will be a challenger in the Indian Ocean region in the near future, which is reflected in the Indian Navy's efforts over the past ten years to enhance its situational awareness in the area and to upgrade the capabilities of the tri-service command in Andaman and Nicobar.

Y-3023: DUNAGIRI, A PROJECT 17A FRIGATE

Context:

- The Project 17A frigate, Y- 3023 Dunagiri, built in Kolkata by Garden Reach Shipbuilders Limited (GRSE), was recently launched by the Indian Defense Minister.

What is Dunagiri?

- Dunagiri is the fourth vessel in the Project 17A Frigates fleet.
- It has the name of a mountain range in Uttarakhand.
- Y- 3023 refers to the pennant number of the ship.
- The current "Dunagiri" ship is a reincarnation of the former 'Dunagiri' ship, a Leander Class ASW Frigate that

served for 33 years and took part in a number of difficult operations and international training exercises.

What is Project 17A?

- Project 17A is a project involving the building of seven frigates of Nilgiri class.
- Project 17A is a follow-on of the P17 (Shivalik Class) to build the frigate with improved stealth features, advanced weapons and sensors and platform management systems.
- Under P-17A, there will be seven frigates to be built for the Indian Navy which will be equipped with advanced stealth capability. four of the Seven will be built at Mazagon Dock Shipbuilders (MDL), Mumbai and three will be Garden Reach Ship Builders Limited (GRSE), Kolkata.

Features:

- The principal advanced stealth capabilities of the P-17A revolve around the ship's reduced radar cross-section, which was made possible by using a particular superstructure form that minimizes radar wave reflections.
- The P17A frigates utilise innovative design ideas for better ship manoeuvrability, stealth, and sea keeping.
- Another crucial aspect of the ship is its low acoustic noise, which is produced by its propellers and other machinery like diesel generators and helps other ships' sonar systems detect it.
- Such stealth qualities are crucial for increasing the ship's ability to operate in dangerous environments.
- **Weapons:** The BrahMos SSM, LRSAM (Forward & Aft configuration) with MF STAR radar, indigenous Sonar, and Triple tube Heavy Torpedo launcher are the major weapons and sensors of P-17A ships mentioned.

What are the ships of Project 17A?

- **INS Nilgiri :** It is the first ship of the Nilgiri class, made by Mazgaon Dockyard Ltd (MDL). It is launched in 2019
- **INS Udaygiri:** It is second of the Nilgiri class, made by Mazgaon Dockyard Ltd (MDL). It is launched in May 2022.
- **INS Himgiri:** frigate of the Nilgiri class, made by Garden Reach Shipyard Ltd (GRSL) It is launched in Dec 2020
- **INS Dunagiri:** frigate of the Nilgiri class, made by Garden Reach Shipyard Ltd (GRSL). It is launched in 2022
- Remaining 3 ships are yet to be launched.

INS SINDHUDHVJ

Context:

After 35 years of service, the Indian Navy recently decommissioned the Kilo class submarine INS Sindhudhvaj from Visakhapatnam. With its decommission, the Indian Navy now only has 15 conventional submarines operating.



INS Sindhudhvaj:

- In June 1987, it was commissioned into the Indian Navy as Sindhughosh class submarine.
- It was one of the ten submarines of the Kilo-class that India acquired from Russia between 1986 and 2000.
- Her accomplishments include the operationalization of the Indigenous SONAR system USHUS, the indigenous satellite communication systems: Rukmani and MSS, the indigenous torpedo fire control system, and the inertial navigation system.
- Additionally, it completed mate-up and crew transfers with Deep Submergence Rescue Vessel successfully.
- The CNS Rolling Trophy for Innovation was presented by the Prime Minister to only one submarine, INS Sindhudhvaj.

What will be the status of the Indian Navy fleet?

- The Indian Navy's sub-surface fleet today consists of seven Russian Kilo-class submarines, four German HDW submarines, four French Scorpene submarines, and the domestic nuclear ballistic missile submarine INS Arihant after the decommissioning of INS Sindhudhvaj.
- Additionally, testing and outfitting for the final two Scorpene class submarines are at various stages.
- There are initiatives being carried out, such as the Project-75I's six modern submarines, however they have been postponed.

Art & Culture**SWADESH DARSHAN 2.0: TOURISM MINISTRY REVAMPS ITS SWADESH DARSHAN SCHEME****Context:**

Recently, The Swadesh Darshan scheme has been revamped by the Ministry of Tourism as Swadesh Darshan 2.0 (SD2.0) with the goal of creating sustainable and responsible infrastructure at destinations.

What is the Swadesh Darshan 2.0 scheme?

- The redesigned programme, Swadesh Darshan 2.0, aims to achieve "Aatmanirbhar Bharat" by fulfilling India's full potential as a tourist destination under the motto "voice for local."
- In order to transform the Swadesh Darshan Scheme into a comprehensive mission to create sustainable and responsible tourism destinations, Swadesh Darshan 2.0 represents a generational transition rather than an incremental adjustment.
- The creation of benchmarks and standards for both general and theme-specific tourism destination development will be encouraged, and the States will use these benchmarks and standards when organising and implementing their projects.
- For tourism under the Scheme, the following key themes have been highlighted:
 - Culture and Heritage
 - Adventure Tourism
 - Eco-Tourism
 - Wellness Tourism
 - MICE Tourism
 - Rural Tourism
 - Beach Tourism
 - Cruises – Ocean & Inland.

What is the Swadesh Darshan scheme?

- A Central Sector Scheme called Swadesh Darshan was introduced in 2014–15 to promote the integration of theme-based tourist circuits across the nation.
- This scheme is intended to work in harmony with other schemes including the Make in India initiative, Skill India,



and the Swachh Bharat Abhiyan.

- For the purpose of developing circuit infrastructure, the Ministry of Tourism offers Central Financial Assistance (CFA) to State Governments and Union Territory Administrations.
- The development of theme-based tourist circuits that adhere to the concepts of high visitor value, competitiveness, and sustainability is one of the program's goals.
- **Tourism Circuits:** Under the scheme, fifteen thematic circuits have been identified- Buddhist Circuit, Coastal Circuit, Desert Circuit, Eco Circuit, Heritage Circuit, Himalayan Circuit, Krishna Circuit, North East Circuit, Ramayana Circuit, Rural Circuit, Spiritual Circuit, Sufi Circuit, Tirthankar Circuit, Tribal Circuit, Wildlife Circuit.

PRASHAD Scheme:

- The Ministry of Tourism introduced the "National Mission on Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASAD)" in 2014–15 with the goal of holistically developing recognised pilgrimage places.
- The respective State/Union Territory Government shall implement the initiatives listed under this scheme through the designated agencies.

VARANASI AS SCO'S FIRST TOURISM AND CULTURAL CAPITAL**Context:**

- Recently, Varanasi has been chosen as the SCO region's first "Tourism and Cultural Capital for 2022-23," ahead of the Shanghai Cooperation Organisation (SCO) Summit, which will take place in September 2022.

**Varanasi: SCO Cultural and Tourism Capital 2022- 2023**

- Since ancient times, Varanasi has served as a showcase for Indian culture and customs.
- As part of the SCO's new rotational programme to encourage people-to-people relations and tourism

among member nations, it will serve as the organization's cultural and tourism capital for the years 2022–2023.

What is the new initiative?

- A new rotational initiative to encourage people-to-people contacts and tourism has selected Varanasi as its "Cultural and Tourism Capital."
- The designation of "Cultural and Tourism Capital" is given annually to a city of a member nation's cultural heritage that will assume the organization's rotational Presidency in order to promote its prominence.
- The new initiative will go into effect following the summit in Samarkand, Uzbekistan in 2022, when India will assume the presidency for 2023 and host the next Heads of State Summit.

KONARK SUN TEMPLE

Context:

- According to Archeological Survey of India, the freshly carved stones on the northern side of the **Jagmohan, or assembly hall, of the World Heritage Site at Konark, Odisha**, will soon be visible to visitors after restoration.

Background

- Konark Sun Temple is located in **East Odisha, near the sacred city of Puri**.
- **King Narasimhadeva I built it in the 13th century** (AD 1238-1264). Its scale, refinement, and conception represent the **Eastern Ganga Empire's strength** and stability, as well as the value systems of the historical milieu.
- The Eastern Ganga dynasty, also known as the **Rudhi or Prachya Gangas**.
- It was a large Indian royal dynasty that reigned from Kalinga in the 5th century to the early 15th century.

What is the significance of Konark temple?

- The **temple is built in the shape of a colossal chariot**.
- The temple is **dedicated to Sun God**.
- The Konark temple is well-known **not only for its architectural grandeur** but also for the intricacy and profusion of sculptural work.
- It represents the **pinnacle of Kalinga architecture**, depicting the grace, joy, and rhythm of life in all its wondrous variety.
- In 1984, it **was designated as a UNESCO World Heritage Site**.
- On each side of the Konark sun temple, there are **two rows of 12 wheels**. Some say the wheels represent the 24 hours in a day, while others say they represent the 12



months.

- The **seven horses** are considered to represent the seven days of the week.
- Sailors used to refer to Konark's Sun Temple as the **Black Pagoda** because it **was thought to draw ships into the shore and cause shipwrecks**.
- Konark is an **invaluable link in the history of the diffusion of the Surya cult**, which originated in **Kashmir during the eighth century and eventually reached the shores of Eastern India**.
- Along with Puri and Bhubaneswar, the 13th-century late-style **Kalinga temple is a part of Odisha's golden triangle**.

Other Significant Odisha Monuments:

- Lingaraja Temple
- Jagannath Temple
- Tara Tarini temple
- Udaygiri and Khandagiri Caves

NATIONAL EMBLEM OF INDIA

Context:

- In a special event on Monday, Prime Minister Narendra Modi presented the national emblem that will sit atop the new Parliament building.
- From clay modelling/computer graphics through bronze casting and polishing, the concept drawing and process of casting the National Emblem on the top of the new parliament building went through eight different stages of preparation.
- The bronze emblem weighs 9,500 kg. According to a statement from the Prime Minister's Office, a supporting steel structure weighing 6,500 kg was built to sustain its weight.



What is a National Emblem?

- The **National Emblem** is a sign of power that appears in all official government communications.
- An emblem is "a heraldic instrument or symbolic artefact used as a distinctive badge of a nation, organisation, or family."
- A nation's **National Emblem** is a seal that is used for official purposes and commands the utmost admiration and allegiance.

- Ashoka's **Lion Capital in Sarnath**. It was adopted as a National Emblem of India on January 26, 1950, the day of the Indian Constitution.
- '**Satyamev Jayate**,' or '**Truth Alone Triumphs**,' is the motto of the Indian National Emblem, adopted from Mundakopanishad.
- Only three lions are visible in the National Emblem, which has been approved by the **Government of India**; the fourth lion is concealed from view since it is sitting back.
- The wheel appears in relief in the centre of the abacus, flanked by a horse on the left and a bull on the right, as well as the outlines of further wheels on the extreme right and left.
- There is no bell-shaped lotus.
- The **National Emblem of India** can only be used in accordance with the terms of the **State Emblem of India (Prohibition of Improper Use) Act-2005**, and any illegal use is penalised by law.



Facts about National Emblem of India

- The Indian National Emblem is known as such. It is referred to as the 'State Emblem' interchangeably.
- The **National Emblem** is a recreation of Ashoka's Lion Capital at Sarnath.
- Emperor Ashoka constructed the **Ashoka pillar**, which has four lions reclining back to back, representing **strength, courage, confidence, and pride**.
- Other animals depicted on the pillar include a horse, a bull, an elephant, and a lion.
- The elephant represents **Buddha's beginning** (the dream by Buddha's mother of a white elephant entering her womb at the moment of Buddha's conception).
- The bull represents Buddha's Zodiac sign, Taurus.
- The **horse represents Buddha's steed**, which he rode when he left the fortress.
- The **lion represents enlightenment**.
- All of the **Ashoka Pillars** were sculpted by local artisans using stone from Chunar and Mathura.
- The **National Emblem** is the official seal of the President of India, as well as the Central and State Governments, and is an indispensable element of the Government of India's official letterhead.
- The **National Emblem** appears on all Indian money and the Republic of India's **National Passport**.
- The fourth lion was omitted from the two-dimensional rendition of the insignia on the first copy of the **Indian Constitution**.
- Officers of the **Indian Police Service (IPS)** wear the state symbol on their hats.

- **Members of Parliament (MPs)** are also permitted to use the state insignia on their letterheads and business cards.
- If someone breaches the legislation regarding the use of the **National Emblem**, they face up to two years in prison or a fine of up to INR 2000.

ALLURI SITARAMA RAJU

Context:

- In Bhimavaram, Andhra Pradesh, PM Modi recently erected a **30-foot bronze statue of revolutionary freedom hero Alluri Sitarama Raju (AP)**.
- Alluri Sitarama Raju's 125th birthday celebrations



officially began with the launch of this.

Who was Alluri Sitharama Raju?

- At a very young age, Raju turned the resentment of the hill people of **Ganjam, Visakhapatnam, and Godavari** into a **highly efficient guerrilla fight** against the British. He is thought to have been born in the present-day state of Andhra Pradesh in 1897 or 1898.
- The **customary podu (shifting) farming** of the indigenous people was challenged by colonial control as the government sought to protect forest lands.
 - Tribal people were made to **labour for the colonial administration under the Forest Act of 1882**, which forbade the harvesting of inconsequential forest products like roots and leaves.
- New rules and systems threatened the tribal people's very way of existence while they were being exploited by **muttadars (village headmen hired by the colonial authority to extract rent)**.
- Strong opposition to the administration, which was supported by muttadars who were angry that the British had limited their authority, culminated in violent conflict known as the **Rampa or Manyam Rebellion in August 1922**.
 - Several police stations in the Godavari agency were attacked by several hundred tribals commanded by Raju.
 - The uprising, which took place concurrently with Mahatma Gandhi's Non-Cooperation Movement, lasted until May 1924, when charismatic "**Manyam Veerudu**" or "**Hero of the Jungle**" Raju was ultimately captured and put to death.
- **Raju lauded Mahatma Gandhi, asserted that the Non-Cooperation Movement was his inspiration**, urged people to wear khadi and refrain from drinking alcohol,

while also asserting that force, not nonviolence, was the only path to India's liberation.

Who were the other freedom fighters from Andhra Pradesh?

Pingali Venkayya

Kaneganti Hanumanthu

Kandukuri Veeresalingam (1848 - 1919)

Uyyalawada Narasimha Reddy

Komaram Bheem

Science And Technology

INDIA IS RIPE FOR THE SODIUM-ION BATTERY REVOLUTION

Context:

Recently, the scholars have analyzed the potential of the Sodium Ion Batteries (Na-ion batteries Or SIB) over the Lithium Ion Batteries (Li-Ion Batteries or LIB). Sodium is more widely accessible than lithium and is also seen as being safer. But sodium ion batteries' low energy density prevents them from being used in electric vehicles.

What is Sodium-ion batteries?

- The sodium-ion battery (NIB or SIB) is a form of rechargeable battery similar to the lithium-ion battery but employing sodium ions (Na⁺) as the charge carriers.
- While the cell design and operating theory are nearly comparable to those of commercially available lithium-ion battery types, sodium compounds are employed in place of lithium compounds.
- The vast natural availability of sodium is the main benefit of sodium-ion batteries.
- This might lower the cost of manufacturing sodium-ion batteries for commercial use compared to lithium-ion batteries.

What is Operating principle of Sodium Ion Batteries?

- Sodium-ion battery cells consist of:
 - A **cathode** based on a sodium containing material
 - An **anode** (not necessarily a sodium-based material) and
 - A **liquid electrolyte** containing dissociated sodium salts in polar protic or aprotic solvents.
- During charging, sodium ions are extracted from the cathode and inserted into the anode while the electrons travel through the external circuit.
- During discharging, the reverse process occurs.

Anode:

- **Hard carbon** is the current **preferred sodium-ion anode of choice**.
 - Hard carbon is a disordered carbon material consisting of a non-graphitizable, non-crystalline and amorphous carbon structure
- **Graphite**, as used in LIBs, **cannot be used** in sodium-ion batteries as it cannot store the larger sodium ion in appreciable quantities.

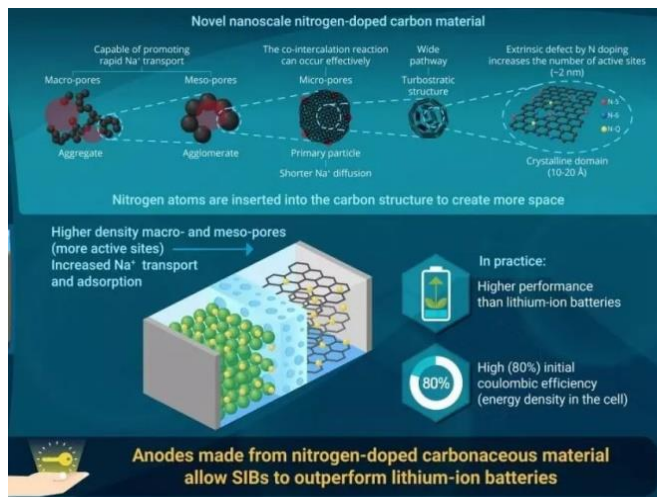
Cathode:

- **Sodium transition metal oxides** are used as cathodes.
 - These oxides have high tap density, high operating potentials and high capacities.

Features:

- SIBs are more moisture resistant, have less voltage fade, and have a better retention capacity.
- It has an energy density of up to 160 Wh/kg per watt hour.

- These batteries are more temperature-tolerant than other batteries because of their higher operating temperature



range of -30°C to 60°C.

- In order to prevent mishaps while being transported, SIBs can be discharged to zero volts, which also lowers the cost of transportation.

Advantages of Sodium-ion battery over other batteries:

- **Natural abundance of raw material:** High natural abundance of sodium. This would make commercial production of sodium-ion batteries less costly than lithium-ion batteries.
 - The low-cost Na-ion-based technologies would be cheap and are expected to reduce the cost of batteries for e-vehicle.
 - Sodium-ion batteries do not require many high cost elements required for lithium-ion batteries. Chief among these are lithium, cobalt, copper and nickel.
 - So, sodium ion offers a genuine alternative to lithium solutions and will replace lead-acid batteries.
- **Wider operating Temperature Range:** Sodium-ion batteries offer better performance and can operate at a wider temperature range. They work much more efficiently in cold environments, compared to lithium-ion batteries.
- **Non Flammable:** Another advantage of SIBs over LIBs is they are nonflammable and there is no thermal runaway.
- **Weight:** Sodium ion batteries are lightweight compared to Li-ion batteries.
- **Global Warming Potential: 45% less global warming potential than Lithium Iron Phosphate (LFP) batteries.**
- **Life Cycle: 25% less in the cradle-to-gate life cycle comparison than dry cell batteries.**
 - Cradle-to-gate is an assessment of a partial product life cycle from resource extraction (cradle) to the factory gate, i.e., before it is transported to the consumer.
- **Energy Density:** The energy density is equivalent to LFPs and about 75 per cent of Dry Cell Batteries.
- **Safety:** SIBs have higher operational safety than LIBs.

Comparison of Na-ion Batteries with Li-ion Batteries:

Properties	Li-ion Batteries	Aqueous symmetric Na-ion Battery
Toxicity of Materials	Toxic electrolyte materials	Non-Toxic materials
Flammability	Flammable (Case of EVs catching fire)	Environmental-Friendly
Explosiveness	Explosive (Case of cell phone batteries explode)	Non-Flammable
Cost	Expensive	Cheap
Complexity of Fabrication	Complex	Easy
Cycle Life	Long (dendrite growth)	Longer (no dendrite growth)

Challenges to SIBs:

- Na-ion batteries (SIBs) have slightly lower energy density, better safety characteristics, and similar power delivery characteristics compared to Li-ion Batteries (LIBs).
- Recharging Cycle:** SIBs can be **recharged 2,000 times** for 80 per cent of their life cycle, as **compared to 4,000-6,000 recharging cycles of LIBs**.
- High initial cost:** SIB has higher initial capital investment and is much higher than that of lithium batteries. This makes the SIB less attractive than LIBs.
- Degree of freedom of Shape: LIB can be made into various shapes, weights, and sizes by soft pact lamination process. This has advantage over the SIB
- Competition:** LIBs and LABs have a strong market hold due to factors like cost, recycling, energy density, etc.
 - With technological advancements, certain LIBs are reaching up to 300 Wh/kg energy density, making them a better choice for heavy and high-speed battery electric vehicles.
- High per kilowatt hour cost:** As per findings, the cost per kilowatt hour (kWh) storage of SIBs is higher than Dry Cell batteries but slightly lower than LFP variants of LIBs.

SIBs in India:

- SIBs in India: The energy storage industry is only getting started.
- Investing \$135 million, Reliance Industries bought Faradion, a major manufacturer of SIBs.
 - With an energy density similar to LIBs and unique zero-volt safe transport and storage technology, Faradion SIBs are cutting-edge batteries.
 - To make the batteries marketable, Reliance is spending an additional \$35 million.

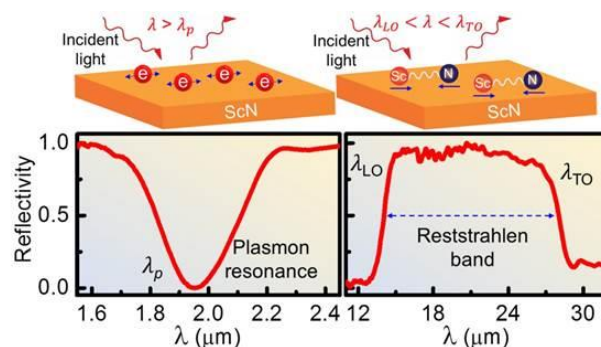
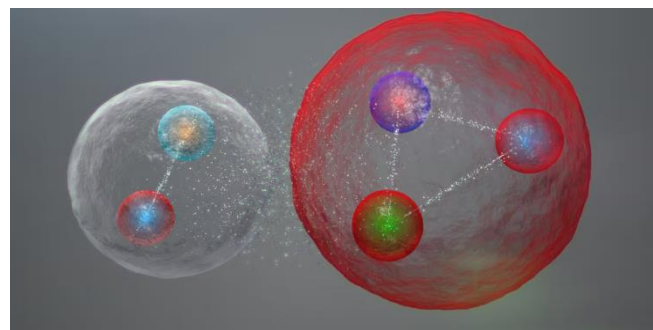
NEW MATERIAL DISCOVERED CAN CONVERT INFRARED LIGHT TO RENEWABLE ENERGY

Context:

A novel substance known as "single-crystalline scandium nitride (ScN)" has been discovered by scientists at the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) in Bengaluru that can transform infrared light into clean energy.

How was ScN discovered?

- Researchers exploited **polariton excitations**, a phenomena in customised materials where light combines with either collective free electron oscillations or polar lattice vibrations, to achieve this accomplishment.
- Beyond the range of light that the human eye can see, infrared light is between the visible light and microwave areas (the wavelength is longer than visible light).
- In addition, infrared polaritons in scandium nitride will enable its usage in a number of such devices.
- Infrared sources, emitters, and sensors are in great demand across a wide range of industries, including electronics, healthcare, military and security, and energy.



What are the Key Highlights of Single-Crystalline Scandium Nitride (ScN)?

- It works well for optical communication devices and solar and thermal energy harvesting because of its excellent efficiency in emitting, detecting, and modifying infrared light.
- In order to ignite polaritons (a quasi-particle) and achieve significant light-matter interactions in single-crystalline scandium nitride (ScN), researchers carefully managed the material's characteristics.

Significance:

- These polaritons in ScN can be easily included into on-chip optical communication devices because they are also compatible with current complementary-metal-oxide-semiconductor (CMOS) or Si-chip technology.
- The ScN's unusual polaritons can be used to capture thermal and solar energy.

Utility:

- ScN can emit, detect, and modulate infrared light with high efficiency making it useful for solar and thermal energy harvesting and for optical communication devices.
- Gallium nitride (GaN): belonging to the same family of materials as gallium nitride (GaN), scandium nitride is compatible with modern complementary-metal-oxide-semiconductor (CMOS) or Si-chip technology and, therefore, could be easily integrated for on-chip optical communication devices.

Issues:

- Not all electromagnetic waves' (light's) wavelengths are straightforward to use; in particular, infrared light is challenging to detect and control.

Significance of Electromagnetic waves:

- They serve as a source of renewable energy for the production of power, telecommunication, defence and security technology, sensors, and healthcare services.
- This new material, ScN, can be used for optical communication equipment as well as solar and thermal energy harvesting.

THE THREE NEW 'EXOTIC' SUB-ATOMIC PARTICLES DISCOVERED AT CERN

Context:

The Large Hadron Collider(LHC) has observed three never-before-seen particles: a new kind of **"pentaquark"** and the first-ever **pair of "tetraquarks"**, which includes a new type of tetraquark.

What is the Large Hadron Collider(LHC)?

- The Large Hadron Collider is a giant, complex machine built to study particles that are the smallest known building blocks of all things.
- Location:** It is a 27-km-long track-loop buried 100 meters underground on the Swiss-French border.
- Developed :** European Organization for Nuclear Research(CERN) between 1998 and 2008 in collaboration with over 10,000 scientists from hundreds of universities and laboratories.
- Significance:** It is the world's largest and most powerful particle accelerator.

Experiments conducted at LHC:

- ATLAS (A Toroidal LHC ApparatuS) is the largest general-purpose particle detector experiment at the LHC.
- The experiment's aim was to make use of the LHC's extraordinary energy to study phenomena involving tremendously large particles that are not visible with prior, lower-energy accelerators.
- The Compact Muon Solenoid(CMS) experiment is one of the largest international scientific collaborations.
- The purpose of the CMS experiment is to look at a variety of physics, such as the hunt for the Higgs boson, the discovery of extra dimensions, and the particles that might make up dark matter.

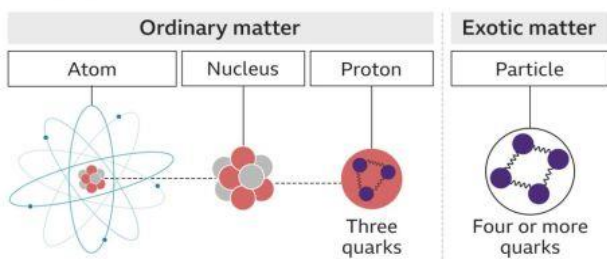
Major Discovery:

- The Higgs boson, sometimes known as the "God particle," was found during the first run of the LHC in 2012, according to CERN experts. This resulted in Peter Higgs and his associate François Englert winning the 2013 Nobel Prize in physics.

What are Quarks, Pentakquark and Tetraquark?

Ordinary and exotic matter

● Protons ● Neutrons



Source: Cern, 2022

B B C

- Quarks are elementary particles that come in six "flavours": up, down, charm, strange, top, and bottom.
- They usually combine together in groups of twos and threes to form hadrons such as the protons and neutrons that make up atomic nuclei.
- But they can also combine into four-quark and five-quark particles called **tetraquarks and pentaquarks**.
- As with normal hadrons, these exotic hadrons were predicted by theorists some 60 years ago, but it has only been in the last 20 years that LHCb and other experiments have confirmed their existence.

Do tetraquarks and pentaquarks exist?

- Tetraquarks and pentaquarks are the most exotic hadrons found in the last twenty years.
- The remaining two or three quarks are up, down, or odd quarks or their antiquarks. They contain a charm quark and a charm antiquark.

POP-FAME: ROCKET FUEL FROM BACTERIA

Context:

- Scientists at the **Lawrence Berkeley National Laboratory** in the United States have produced a bacterium-derived fuel that packs more energy than even today's rocket fuels.
- The new fuel has been dubbed **'POP-FAME,'** which stands for polycyclopropanated fatty acid methyl ester.
- According to simulation data, the fuel has an energy density of more than 50 megajoules per litre, compared to 32 MJ for gasoline and 35 MJ for RP-1, a kerosene-based rocket fuel.

What is POP-FAME?

- The molecular structure of **POP-FAME** is quite similar to that of Syntin.
- The **'three-carbon' ring** — a triangle with a carbon atom at each vertex — lies at the heart of the fuel's structure.
- Each **carbon atom** unites with two other carbon atoms as well as two additional elements, the majority of which are hydrogen.
- A cyclopropane is a structure that has potential energy in its bonds.
- The scientists first wondered if such three-carbon-ring-based chemicals, which are exceedingly combustible, might be created utilising bacteria via the bio-route.
- According to simulation data, **POP-FAME** fuel has an energy density of more than 50 megajoules per litre, compared to 32 MJ for gasoline and 35 MJ for RP-1, a kerosene-based rocket fuel.
- POP-FAME** is an abbreviation for **"Polycyclopropanated Fatty Acid Methyl Ester."**

Why is POP-FAME an effective rocket fuel?

- POP-FAME** is believed to have greater energy densities than Syntin, which implies that even a tiny amount of the fuel may pack a lot of punch, making it an excellent **rocket fuel**.
- The team's next aim is to figure out how to eliminate the two dead weight oxygen atoms in each molecule.
- The researchers are also looking at how the multi-enzyme manufacturing process may be altered to produce polycyclopropanated molecules of varying lengths.
- They discovered that **POP-FAME** has more energy than gasoline or other common rocket fuels.
- The scientists hope to eventually engineer the process into a workhorse bacteria strain capable of producing large quantities of **POP molecules** from plant waste food sources (such as inedible agricultural residue and brush cleared for wildfire prevention), potentially producing the ultimate carbon-neutral fuel.

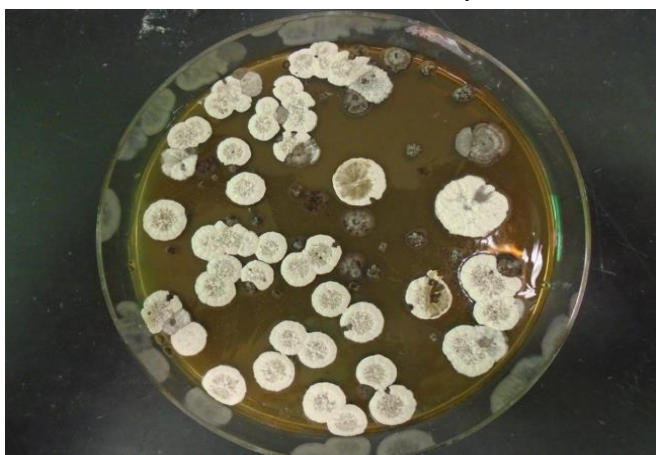
Syntin Fuel

- The **Soviet Union** developed Syntin, a petroleum-based rocket fuel, in the 1960s.
- This fuel was used to successfully launch multiple **Soyuz rockets** in the 1970s.
- However, due to the high expenses and uncomfortable procedure required, its production was halted.

- It was created by a series of synthetic processes including poisonous byproducts as well as explosive and unstable intermediates.

What do you Mean by Rocket Fuel?

- Rocket fuel is based on **Newton's Third Law of Motion**, which states that "every action has an equal and opposite reaction."
- When a rocket's fuel is fired out the back, the force drives it upwards with an acceleration equal to the force with which the fuel is discharged.
- It is nearly analogous to how a jet plane can fly through the atmosphere.
- One distinction is that jet planes use oxygen in the atmosphere to ignite their fuel, but rockets must carry their own oxidiser.
- Liquid and solid rocket fuel** are the two primary kinds of rocket fuel used on current rockets:
- Liquid propellants** separate fuel and oxidizers, which are then mixed in a combustion chamber where they burn and are launched from the rocket's base.
- Solid rocket fuels** are ones that already have the fuel



and oxidizer chemicals mixed.

Rocket Fuel and India

- The **Indian Space Research Organization (ISRO)** uses the very poisonous and corrosive fuel **UDMH (Unsymmetrical Di-Methyl Hydrazine)** in conjunction with the oxidant nitrogen Tetroxide.
- This is known as a "**dirty combo**."
- Other space programmes throughout the world have switched to a cleaner and greener fuel - liquid methane or kerosene.
- Because any gas must be stored at extremely low temperatures to be liquefied, switching to liquid methane would necessitate the deployment of a cryogenic engine.
- UDMH** is the fuel that will power the core (or the centre unit of the bottom section) of the **GSLV Mk-III**, the rocket that will be utilised in the **Chandrayaan-2** mission (**Unsymmetrical Di-Methyl Hydrazine**).

CAPSTONE

Context:

- The **Cislunar Autonomous Positioning System Technology Operations and Navigation Experiment (CAPSTONE)** Satellite was recently launched by NASA.
- launched by NASA.

What is CAPSTONE Satellite?

- It is a tiny, 55-pound CubeSat the size of a microwave oven (25 kg).

- Its **purpose** is to evaluate a special, **elliptical lunar orbit**.
- Through the validation of cutting-edge navigational technologies and the confirmation of the dynamics of the halo-shaped orbit, it seeks to assist in lowering risk for future missions.
 - A Near-Rectilinear Halo Orbit (NRHO) is the name of the orbit.
 - It is greatly extended and situated at the exact place where the gravitational pulls of the Earth and the Moon are balanced.
- According to NASA, it will acquire expertise with miniaturized dedicated CubeSat flights to destinations such as the Moon and beyond low-Earth orbit.

What are the mission objectives?

- To check the specifications of a cis-lunar orbit with a Near-Rectilinear Halo Orbit (NRHO) for future missions.
- To demonstrate arriving and remaining in this special orbit, which offers a fast route to the Moon's surface and return.
- To showcase inter-spacecraft navigation technologies so that future spacecraft can locate themselves in relation to



the Moon without relying just on tracking from Earth.

- To lay the groundwork for future lunar operations to receive commercial support.
- To learn to launch small, dedicated CubeSats to orbits other than those of the Earth and the Moon.

What benefits will future space missions receive from the CAPSTONE mission?

- The CAPSTONE will be testing a novel navigational capability and proving how to enter and operate in this unusual NRHO orbit.
 - This specific knowledge will aid in lowering the logistical uncertainty for Gateway and guaranteeing NASA and foreign partners have secure access to the Moon's surface.
- Additionally, this will serve as a stage for technological and scientific displays.
- With the help of this mission, NASA and its partners will learn crucial lessons that will aid in the exploration of the Moon and Mars.
- These lessons will include the demonstration of spacecraft-to-spacecraft navigation services, validation of future spacecraft's near-rectilinear halo orbit characteristics, experience entering this orbit via a highly effective lunar transfer, and more.

How are NASA's LRO and CAPSTONE related?

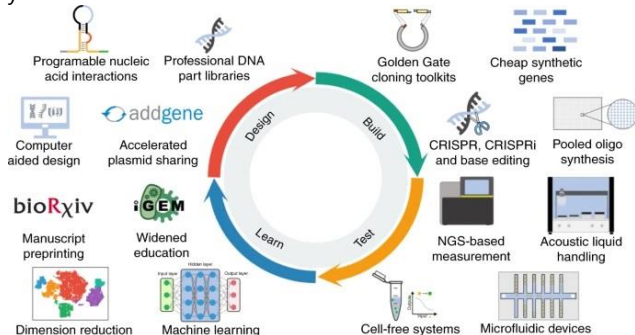
- CAPSTONE will use the Lunar Reconnaissance Orbiter (LRO) of NASA as a reference. Direct communication between CAPSTONE and LRO is the goal.
- As a result, CAPSTONE will use the information from this crosslink to calculate its position in space by measuring

how far it is from LRO and how quickly that distance is changing.

'SYNBIO' AS A POTENTIAL TOOL TO PRESERVE BIODIVERSITY

Context:

According to a USA study, one-third of all animal and plant species on the earth may go extinct by 2070 as a result of climate change. In this context synthetic biology, sometimes known as "synbio," is viewed by environmentalists as a viable tool for preserving biodiversity and reestablishing the natural ecosystem.



What is Synbio?

- Synbio is the short form of Synthetic Biology.
- In 1980, Barbara Hobomin coined the phrase "synthetic biology" to characterise bacteria that had been genetically modified using recombinant DNA technology.
- The field of study known as "synthetic biology" focuses on the use of genetic sequencing, editing, and modification to produce artificial organisms or organic compounds that can interact with living systems.
- With the use of synthetic biology, researchers may create brand-new DNA sequences from scratch.
- The phrase was used to describe the creation of synthetic organic compounds that have a biological purpose.
- The phrase has also been used more generally in this sense to refer to initiatives to "redesign life."

What is the difference between Synbio and genome editing?

- Due to the fact that both synthetic biology and genome editing require altering an organism's genetic code, they are somewhat comparable. However, there is a difference between these two, based on how that change is implemented.
- In synthetic biology, large segments of DNA are often pieced together and inserted into the genome of an organism. Genes from other creatures or altogether novel genes may be contained in these manufactured DNA fragments.
- However, in genome editing, tools are often used to make more minor adjustments to the organism's DNA. Small regions of DNA in the genome can be added or deleted using methods for genome editing.

What are the applications of synbio in preserving biodiversity?

- Synthetic biology has potential in many domains, including the development of synthetic organisms for vaccination and the production of natural products in a lab.
- Vanillin, an organic substance produced from vanilla seeds, may now be grown in yeasts with additional plant genomes.

- In the pharmaceutical sector, synthetic biology can be used to produce natural substances like artemisinin, which is used to treat malaria, and Car T cell therapy, which is used to treat cancer.

Synbio has application in areas like:

- Standardized Biological Parts to build the new biological system.
- Applied Protein Design- For example, genetically modified rice to produce beta-carotene, that prevents Vitamin A deficiency.
- Natural Product Synthesis- For example Microorganisms harnessed for bioremediation (use of living microorganisms to degrade environmental contaminants into less toxic forms) to clean pollutants from water, soil and air.
- The synbio technique may be used for the **production of biofuels, medicines, and food in a sustainable way.**
- Utilizing **synbio to absorb carbon dioxide from industrial emissions** is an intriguing application.
- With the use of synbio technology, we could tackle some of society's most pressing issues, **such as infectious disease, medicine development, and sustainability.**
- It is guiding scientists toward the path of innovation by assisting them in finding the correct solutions more quickly and effectively.

What are the issues with the synbio?

Economic issues:

- It may cause an economic boom that shifts economies toward those reliant on biotechnology.
- Rural economies and low-income tropical nations will be impacted by this.
- Natural products are typically produced and harvested in developing nations; however, advances in synthetic biology may eventually replace this.

Environmental issues:

- The activity of species and their interaction with other organisms is uncertain when a new species is born or when a species is heavily modified.

Social and ethical concerns:

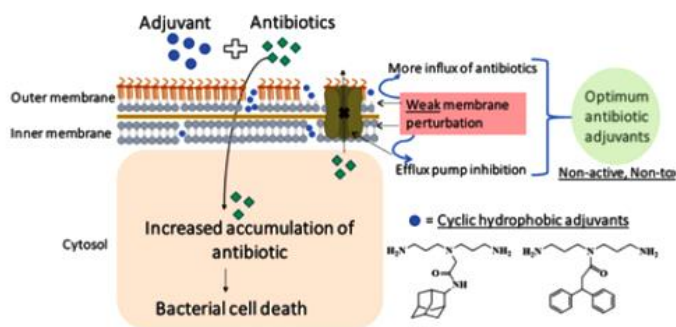
- Whole genome synthesis projects present significant ethical issues about potential negative and positive effects on society.
- 'Are humans transgressing moral bounds by redesigning organisms using synthetic biology techniques?' is one of the many ethical problems relating to synthetic biology that are similar to ethical discussions related to genome editing.
- Who in our society will have access to new medicines and cures for diseases if synthetic biology produces them?
- What effects does bringing modified species into the ecosystem have on the environment? Is also another ethical issue posed by synthetic biology.

HYDROPHOBIC INGREDIENTS IN COMBINATION WITH OBSOLETE ANTIBIOTICS CAN COUNTER MULTIDRUG-RESISTANT BACTERIA

Context:

Recently, In order to combat the growing threat of multidrug-resistant bacteria, scientists have developed a novel strategy to boost the effectiveness of currently available medicines.

What are the findings?



- Researchers combined antibiotics with adjuvants, which are substances that can be used to **combat antibiotic resistance**.
- **Adjuvants for antibiotics** are **non-antibiotic substances** that either prevent antibiotic resistance or improve the host's ability to fight infection.
- Scientists developed adjuvants that very slightly disrupted bacterial membranes by incorporating cyclic hydrophobic moieties (part of a molecule) into a product containing triamine.
- Numerous molecular processes, including reduced drug permeability, active efflux, change or bypass of the drug target, development of enzymes that modify antibiotics, and physiological conditions such as biofilms that are less responsive to antibiotic activity, can lead to resistance to antibiotics.
- When a molecule's atoms form a ring configuration, it is said to be cyclic.
- It led to the countering of membrane-associated resistance components like the permeability barrier and the efflux pumps' expulsion of antibiotics.
- Bacteria can survive at higher antibiotic doses thanks to the efflux pumps, which reduce the intracellular antibiotic concentration.
- These adjuvants enhance the antibiotics, which are efficient at killing bacteria when combined with antibiotics that had been ineffective because of such membrane-associated resistance components.

What is the relevance of the study?

- This tactic can eliminate the most dangerous germs, allowing the current antibiotic stockpile to be utilised once more for challenging diseases. It can aid in **reducing the threat of increasing antimicrobial resistance (AMR)**.
- It can aid in **restoring the efficacy** of antiquated antibiotics and allowing them to be used once more to treat difficult illnesses.

What is Antibiotic Resistance and issues with it?

- When antibiotics are overused to treat people, animals, and plants, drug resistance develops.
- A new antibiotic can have fantastic, even life-saving effects, but only temporarily. Following that, the bacteria adapts and develops resistance against the antibiotics, and eventually, antibiotics lose some of their effectiveness.
- People can be impacted by antibiotic resistance at any stage of life. The treatment of a patient who has antibiotic-resistant bacteria becomes challenging, and the bacteria may also spread to other persons when a person has antibiotic-resistant bacteria.
- When antibiotics are ineffective, the scenario may result in increasingly complex diseases, the need for stronger,

more expensive medications, and gradually increasing numbers of bacterial infection-related deaths.

- Antibiotic resistance is quickly becoming one of the major global health issues, leading to an increase in difficult-to-treat illnesses.
- For instance, the WHO has identified three diseases as the highest priority critical pathogens: *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Enterobacteriaceae*. These three pathogens are all resistant to the antibiotic carbapenems.
- This has led to the use of diverse antibiotic combinations to treat such complex infections.
- To tackle these multidrug-resistant bacteria, new therapeutic approaches were therefore required.

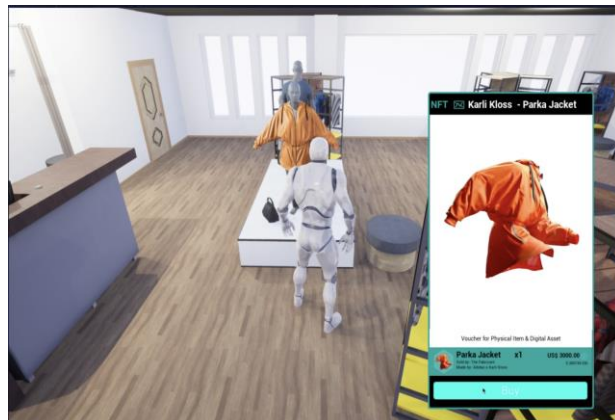
What are the initiatives taken by the Government of India for addressing drug resistance?

- **National programme on AMR containment 2012:** By constructing labs at State Medical College, this programme has strengthened the AMR Surveillance Network.
- **National AMR Action Plan:** It was introduced in April 2017 with the goal of involving numerous stakeholder ministries/departments and focuses on the One Health concept.
- **The AMR Surveillance and Research Network (AMRSN):** It was started in 2013 with the goal of gathering data and identifying national trends and patterns in drug-resistant illnesses.
- **AMR Research & International Collaboration:** To advance medical research in AMR, the Indian Council of Medical Research (ICMR) has taken steps to create novel treatments and medicines through international partnerships.
- **Antibiotic Stewardship Program:** To prevent the abuse and overuse of antibiotics in hospital wards and intensive care units (ICUs), the ICMR has launched the antibiotic stewardship programme (AMSP) as a pilot initiative across India.

METaverse HAS POTENTIAL TO REVOLUTIONIZE E-COMMERCE

Context:

- Serial entrepreneur and investor in Web3 Agam Chaudhary writes the metaverse has the ability to connect the real and virtual worlds, combining online and offline business.



What is Metaverse?

- The idea of a persistent, networked, 3D environment that combines many virtual spaces is known as the metaverse.
- It can be compared to the internet in the far future. Users will be able to collaborate, interact, mingle, and play together in these 3D places thanks to the metaverse.
- The metaverse has the ability to unite the online and offline economies by bridging the divide between them.
- This covers a range of innovations, including games, non-fungible tokens, augmented reality, and virtual reality.
- The ability to engage in several ways with digital objects, virtual worlds, and real people makes the metaverse an immersive multi-user experience that anyone with access to it anywhere in the world can enjoy.

How can Metaverse boost E-commerce?

Modernise present e-Commerce

- The metaverse has the potential to enhance and modernise present e-Commerce procedures while offering users a distinctive experience.

Tailored experiences

- The advantage of e-commerce enabled by the metaverse will be "tailored experiences," which are currently frequently just product recommendations and discounts.
- Instead of being constrained by the limitations of the real world, marketers will be able to provide their customers with hyper-personalized "browse and buy" experiences in the metaverse.

Informed decision making

- The benefit might be referred to as "lower return rates" since the increased product visualisation will assist users make educated decisions and the metaverse-powered e-commerce will enable buyers to trial things before ordering or purchasing them.

Improved conversion rates and better upsell

- Due to the tailored experience the metaverse would offer, it will be "improved conversion rates and better upsell" for traffic/visitors landing on an e-Commerce site.
- According to recent surveys, consumers are willing to pay roughly 40% more for a product that can be examined in three dimensions which will ultimately lead to "improved profitability" for brands, altering how they run.

Better consumer experience

- Customer experience, which includes strategies like "stronger engagement" and "better knowledge of customers," is the focus of the metaverse.

Increase their customer base

- Businesses would gain a lot from the metaverse because it has the potential to increase their customer base and provide feedback on new items, guiding them in the right way for the future.

Conclusion

- In conclusion, the operating model, customer experience, sales, and profitability of ecommerce businesses can all be totally transformed by the metaverse. The key will be how brands accept and use these technologies to give their customers in the future "wow" experiences.

Pros of Metaverse

Education

- Lack of infrastructure, a teacher shortage, problems with access and inclusiveness, and student dropout rates are just a few of the concerns that the metaverse in education can address.

Healthcare

- Healthcare providers will be able to deliver more integrated treatment programmes and packages because to the convergence of essential technologies enabled by the metaverse, unrestricted by the compartmentalised character of most of the current healthcare system.
- The fundamental causes of illness could be identified more quickly if practitioners shared information quickly.

Employment

- Over the next five years, it is predicted that new innovations like the metaverse would increase demand for new positions by 300 percent, revealing a significant skill gap in this industry.

Passwordless world

- Users would simply utilise biometrics to log on at the first point of entry in the metaverse. From there, they would have little trouble getting around.

Immersed E-commerce experience

- Personalized experience, which includes strategies like "stronger engagement" and "better knowledge of customers," is the focus of the metaverse.

Cons of Metaverse

- Cyberattacks like phishing and ransomware are common in the metaverse.
- Users may unintentionally give their private information to hackers, endangering their real-world valuables.

Identity theft:

- **Identity theft** is the taking of a user's avatar so that the hacker may be identified as the rightful owner and carry out the necessary destructive acts.

Cryptocurrency theft

- Users' NFT and crypto wallet passwords as well as access codes to their avatars in the metaverse may be stolen.

Mental health problems

- Metaverse "avatars" will be the next way of flaunting glitzy social media profiles; both conceal the true identity of the individual and feed narcissism, mental health problems, and insecurities.

Environment

- Each of these technologies demands a vast amount of processing power, which would have a significant environmental impact.

While metaverses have the potential to revolutionise industries like education and healthcare, the advantages are likely to be limited as long as they are operated **solely for financial gain**. Finally, metaverses will raise difficult issues of **governance and jurisdiction**.

SPECIES IN NEWS

KANNIMARA TEAK IN PARAMBUKULAM TIGER RESERVE

Context:

- The legendary Kannimara teak in Kerala's Parambikulam Tiger Reserve is still expanding in height and width.
- The centuries-old teak has expanded by 1.85 meters in height and 9 cm in width during the past five years.
- As a result, it is regarded as one of the biggest and oldest teak trees in the world.
- According to the most recent measurement, the Kannimara reached heights of 41.83 meters and girths of 7.24 meters at breast height (GBH).

Where is Parambikulam Tiger Reserve?

- Located in Kerala state's Palakkad and Thrissur districts in southern India, the 643.66 square kilometer Parambikulam Tiger Reserve also incorporates the former Parambikulam Wildlife Sanctuary.
- In 1973 and 1984, the Parambikulam Wildlife Sanctuary was created in part.
- It is located between the Anaimalai Hills and the Nelliampathy Hills in the Sungam range of hills.
- The UNESCO World Heritage Committee has designated Parambikulam Wildlife Sanctuary as a World Heritage Site.
- Four indigenous tribes, including the Kadar, Malasar, Muduvar, and Mala Malasar, who live in six colonies, consider the Tiger Reserve as their home.
- Along with a number of other initiatives from the Governments of India and Kerala, the Parambikulam Tiger Reserve carries out the Project Tiger program.

Kannimara Teak

- The Kannimara teak, treasured by the tribes of Parambikulam, continues to be a flagship of the tiger reserve and offers visitors a breathtaking panorama.
- According to tribal mythology, the tree had bled when someone attempted to cut it.
- As a result, they started guarding it and performing annual pujas in honor of the tree.
- That's why they gave it the name Kannimara (meaning virgin tree).
- The Parambikulam tribespeople still refers to it as a "virgin tree."
- In its initial year of introduction, 1994, the Kannimara tree had earned the Mahavriksha Puraskar from the Union government.

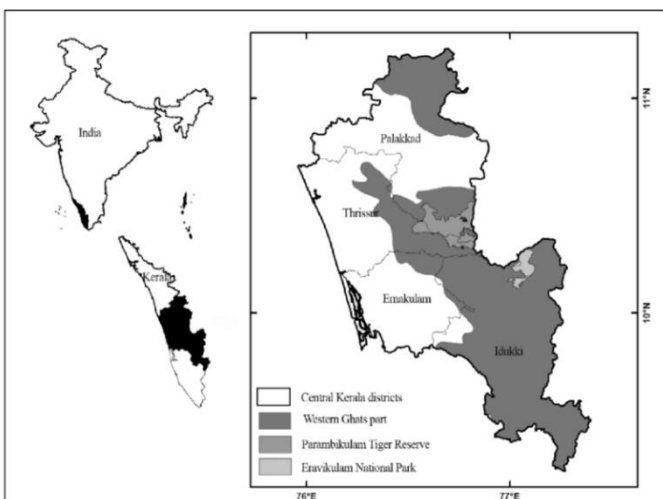
What is Mahavriksha Puraskar Award?

- The Mahavriksha Puraskar was established in 1993–1994 to honor people and organizations that have preserved and protected trees of the designated species.
- A list of the five-year-valid notified tree species has been created.
- Each award comes with a trophy, citation, and a monetary prize of Rs.25,000.

MONARCH BUTTERFLIES

Context:

- The **International Union for Conservation of Nature's (IUCN) Red List of Threatened Species** has **designated the migratory monarch butterfly**, a subspecies of the



monarch butterfly that migrates around 4,000 kilometers

across America each year, as "**endangered**" as of July 21, 2022.

What are the major threats?

- According to **IUCN Habitat destruction** and **climate change** are mainly responsible for pushing the insect towards extinction.
- IUCN stated that "considerable portions of the butterflies' winter habitat in Mexico and California have been destroyed by **legal and illegal logging and deforestation** to make space for agriculture and urban expansion."
- The most recognisable species of butterfly, the **monarch**, is a **vital pollinator** and offers numerous environmental services, including preserving the world's food web.
- Over the past ten years, their **population on the continent has decreased by 23%** to 72%.
- West of the Rocky Mountains, where they are found, the number of western monarch butterflies decreased by 99.9%, from 10 million in the 1980s to just 1,914 in 2021.
- The population of the larger group of eastern monarchs, who travel from eastern Canada and the United States, decreased by 84% between 1996 and 2014.
- Most of these **butterflies spend their winters** in the woodlands of central **Mexico and the California coast**.
- Other nations with smaller populations of the species include Australia, Hawaii, and India.
- The elimination of this nesting area by farmers because they are considered "weeds" is a major reason for the declining population.
- A common weedicide in Midwest farms in the 2000s was **glyphosate**.
- The milkweed, where the female monarchs deposit their eggs, was severely damaged as a result.

What is Unique about these butterflies?

- Twice a year, they travel the entire length and breadth of the American continent, gorging on the nectar of various plants. However, they can only reproduce in milkweeds, a specific type of plant. When they hatch, the monarch larvae feed on this species.

What are the steps necessary to prevent its extinction?

- A slight but necessary rise in the number of monarchs has been seen as a result of conservation initiatives such as conserving breeding and wintering grounds.
- The IUCN emphasised that **broad policy changes** are urgently needed to stop **deforestation, stop thoughtless urbanisation**, and keep climate change under control.
- For a major and long-lasting recovery of the monarch population, however, more targeted measures, such as "**growing native milkweed and lowering pesticide** use to assist the protection of overwintering locations," are essential.

RED PANDA'S IN SINGALILA NATIONAL PARK

Context:

- The highest-ranking protected region in West Bengal, the **Singalila National Park**, will soon be home to Red Pandas.
- The Padmaja Naidu Himalayan Zoological Park has begun an ambitious mission to release 20 of these furry mammals into the forests in around five years as part of the **first red panda (Ailurus fulgens) re-wilding programme** in India.



What is the necessity behind the move?

Even in the two national parks in **West Bengal's Singalila and Neora Valley**, where the **endangered mammal** may still be found in the wild, the number of red pandas has **been falling**.

What is the role of Padmaja Naidu Park?

- At roughly 2,000 metres above sea level, the Padmaja Naidu Park is one of the nation's high-altitude zoos and has had good success producing furry creatures in captivity.
- There are now 27 red pandas living at the Darjeeling Zoo thanks to the birth of a few babies a few weeks ago.
- With years of experience, it was the coordination zoo for red panda conservation breeding in the nation.
- The majority of other high-altitude zoos were donor-given participation zoos.

About Red panda

- Red pandas are shy, solitary, arboreal mammals that are listed as an **endangered** species on the **IUCN Red List of Threatened Species**.
- They are also thought to be an **indicator species** for ecological change. In terms of their significance for international conservation, they are also among the most iconic species.
- According to studies by **Zoological Survey of India (ZSI)**, the Siang River in Arunachal Pradesh separates the **two phylogenetic species** of red pandas, the **Himalayan red panda** (*Ailurus fulgens*) and the **Chinese red panda** (*Ailurus styani*).
- India is home to both these species.

INDIA ADDS FIVE MORE RAMSAR SITES

Context:

Recently the Minister of Environment, Forest and Climate Change has informed that 5 more Indian wetlands have got Ramsar recognition as 'wetlands of international importance', bringing the number of such sites to 54.

What are the new Ramsar Sites of India?

Pichavaram Mangrove (Tamil Nadu):

- One of the country's last remaining mangrove forests is the Pichavaram Mangrove in Tamil Nadu.
- It has an island in a wide body of water that is covered in mangrove swamps.

Pallikaranai Marsh Reserve Forest (Tamil Nadu):

- The marsh drains across a 250 square kilometer area that includes 65 wetlands, making it one of the last remaining natural wetlands.
- One of the few natural coastal water environments in India that may be classified as a wetland is the Pallikaranai Marsh.

Karikili Bird Sanctuary (Tamil Nadu):



- Cormorants, egrets, grey herons, open-billed storks, spoonbills, darters, white linnis, night herons, grebes, and grey pelicans are among the many species that call the sanctuary, which spans a belt of five kms in width, as their home.

Sakhya Sagar (Madhya Pradesh):

- Sakhya Sagar is a body of water close to Madhav National Park that was formed in 1918 from the Manier river.

Pala wetland (Mizoram):

- According to the government of Mizoram, the geographical location of wetland falls under the Indo-Burma biodiversity hotspot.
- A significant part of the Palak Wildlife Sanctuary is the lake.
- Several globally endangered species, including sambar deer, Asiatic black bear, slow loris, and Hoolock gibbon, can be found in Pala Wetland.
- Additionally, it serves as a haven and breeding ground for animals that are severely endangered and included on the IUCN Red List.
- This includes the Southeast Asian giant tortoise, the yellow tortoise, and the black softshell turtle.

What is Ramsar sites?

- A wetland site that has been given international recognition as per the Ramsar Convention is known as a Ramsar Site.
- According to the Ramsar Convention on Wetlands' stringent regulations, these wetlands are protected.
- Wetland areas are defined by the Ramsar Convention as "regions of marsh, fen, peat land or water, whether natural or manmade, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters."

What is Ramsar Convention?

- The only international agreement that focuses primarily on wetlands ecosystem is the Ramsar Convention, which was signed in 1971 in Ramsar, Iran.
- It is an international agreement for the protection and wise use of wetlands.

- Objective: Stopping the global loss of wetlands and preserving those that are still there via appropriate use and management are the goals.
- Members: The convention has been ratified by 170 nations.
- Based on the listed criteria, each contracting party commits to adding at least one wetland from its territory to the List of Wetlands of International Importance.

What is the significance of Ramsar Site designation?

- Once designated, these wetland locations are known as Ramsar sites and are included on the Convention's List of Wetlands of International Importance.
- Countries agree to construct and oversee a management structure aimed at protecting the wetland and ensuring its sensible use when they designate a wetland as a Ramsar site.
- According to the Convention, wise use is widely defined as preserving a wetland's ecological integrity.
- Wetlands' ecological, botanical, zoological, limnological, or hydrological significance qualifies them for inclusion on the List of Wetlands of International Importance.

Montreux Record:

- The Montreux Record is a list of wetland sites on the List of Wetlands of International Importance that have experienced, are experiencing, or are anticipated to experience changes in ecological character as a result of technological advancements, pollution, or other human involvement.
- It is kept up as a component of the Ramsar List.
- Recommendation of the Conference of the Contracting Parties led to the creation of the Montreux Record (1990).
- Only with the consent of the Contracting Parties in which they are located may sites be added to or removed from the Record.

Montreux Record Sites in India:

- Currently, two wetlands of India are in Montreux record: Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur).

Ramsar Sites in India:

- In February 1982, India signed the Ramsar Convention.
- Approximately 2.5 million square kms are covered by over 2,400 Ramsar Sites worldwide.
- The greatest network of Ramsar Sites in South Asia is found in India, which has 49 declared wetlands (excluding the five sites that were recently designated) spread across 10,936 sq. km in 18 states and two union territories.
- The two countries with the most Ramsar sites are Mexico (142) and the United Kingdom (175).

JUTE MARK INDIA (JMI) LOGO

Context:

- The government introduced certification for jute goods on 11th July, and UP Singh, the union textiles secretary, revealed the "Jute Mark India" logo.
- According to Singh, the goal of this project is to safeguard the uniqueness of and promote Indian jute goods.



JMI Scheme

- **Jute Mark India (JMI)** would give collective identity as well as assurance of origin and quality for traditional jute and jute products.
- As a result, JMI will be synonymous with powerful creative effort, which will define the jute product's quality. It will set it apart from the competitors and help it connect with clients.
- The accreditation is intended to increase India's local market as well as exports of jute products.
- Each Jute Mark Label will contain a unique 'QR Code' that buyers may scan to learn more about the producer.
- **The National Jute Board** is the **Union Ministry of Textiles'** nodal agency in charge of promoting jute and jute products in India and internationally.
- JMI was implemented by the Centre between FY 2022 and FY 2026 as part of an umbrella programme for the development and promotion of the jute industry, with a total budgetary investment of Rs 485.58 crore.

Other Schemes of the National Jute Board

1. Jute - Improved Cultivation and Retting Exercises (ICARE)
2. Jute Resource-Cum-Production Centre (JRCPC)
3. Jute Raw Material Bank (JRMB)
4. Scholarship Scheme for Girl Children of Workers of Jute Mills/MSME JDP Units

STUDY BY NATIONAL MISSION ON HIMALAYAN STUDIES ON SNOW LEOPARD

Context:

- Recent research on the snow leopard (*Panthera uncia*) by the **Zoological Survey of India (ZSI)** has revealed intriguing details about the elusive mountain cat and its prey species.
- The **National Mission on Himalayan Studies** study found a significant relationship between the Siberian ibex and blue sheep, two of the Snow Leopard's primary food species, and their habitat utilisation.

What does the study say?

- If the area was frequented by its **prey species, such as ibex and blue sheep**, there was a great **likelihood of spotting a snow leopard** there.
- In contrast, when the predator (snow leopard) was present and recognised in the case of the prey species, the likelihood of discovery was minimal.
- For the long-term sustainability of the snow leopard and the species that serve as its prey in the Spiti Valley ecosystem, it will be helpful to have information of the interactions among the species.
- Planning for conservation and management can benefit from maintaining areas both inside and outside of protected areas that could serve as top predator habitat.

- Snow leopards regulate the population of herbivores like blue sheep and Siberian ibex thereby protecting the depletion of grasslands higher up in the mountain.
- According to the study, habitat variables such as grassland, barren region, aspect, slope, and proximity to water were crucial determinants of the snow leopard's usage of its habitat as well as the diversity of its prey species.



Snow leopard

Habitat:

- Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyz Republic, Mongolia, Nepal, Pakistan, Russia, Tajikistan, and Uzbekistan are among the 12 Asian nations that make up the snow leopard's habitat range.
- Nearly 772,204 square miles are covered by the entire range, with 60% of the habitat being in China.

IUCN status: Vulnerable

- listed in Schedule-I species of the Indian Wildlife (Protection) Act, 1972,

What is the National Mission on Himalayan Studies (NMHS)?

- The National Mission on Himalayan Studies (NMHS), a **Central Sector Grant-in-aid Scheme**, aims to provide much-needed focus, through a comprehensive understanding of system's components and their links, in addressing the key issues relating to conservation and sustainable management of natural resources in the **Indian Himalayan Region (IHR)**.
- The ultimate objective is to raise living standards and sustain ecosystem health in the area in order to guarantee the nation's long-term ecological security.

PLACES IN NEWS

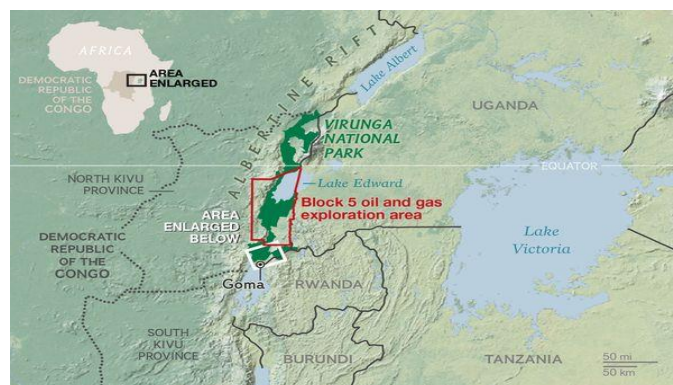
A POWERFUL 7.1 MAGNITUDE EARTHQUAKE STRIKES THE NORTHERN PHILIPPINES, STRONGLY FELT IN MANILA

The US Geological Survey reported that a significant 7.1 magnitude earthquake rocked the Philippine island of Luzon on July 27, with severe vibrations felt in numerous regions, including the capital Manila. The earthquake took place 10 km below the surface.



CONGO TO AUCTION LAND TO OIL COMPANIES: 'OUR PRIORITY IS NOT TO SAVE THE PLANET'

In an effort to become "the new destination for oil investments," the **Democratic Republic of the Congo**, which is home to one of the greatest old-growth rainforests on Earth, is auctioning off vast tracts of land. The oil and gas blocks, which will be put up for auction in late July, extend into tropical peatlands and **Virunga National Park**, the most important gorilla sanctuary in the world. These areas store a significant amount of carbon, preventing it from entering the atmosphere and causing global warming.



KARAKALPAKSTAN-UZBEKISTAN

- The government's crackdown on protesters in the autonomous province of **Karakalpakstan**, which is located in **Uzbekistan**, resulted in at least 18 fatalities and 243 injuries in July. The government's attempt to curtail the region's long-standing autonomy had sparked the protests.
- The Karakalpak people, an ethnic minority with a population of about 2 million, are the source of the name Karakalpakstan. The name Karakalpak refers to their customary cap, which means "black hat".

SAKURAJIMA VOLCANO ERUPTS ON WESTERN JAPANESE ISLAND OF KYUSHU

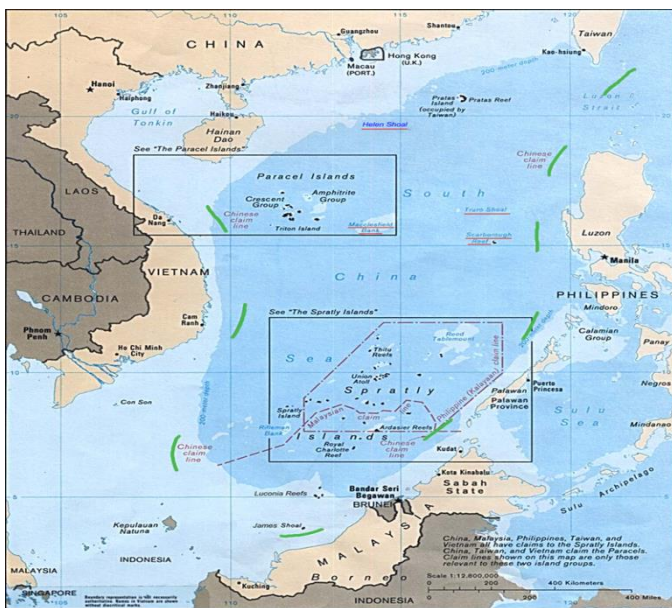
- The Sakurajima volcano on the major western island of Kyushu in Japan erupted recently.
- Sakurajima is a stratovolcano, which is the most active volcano in Japan. It often has eruptions of varying intensities. It is regarded as one of the most dangerous volcanoes because of its regular ash deposition on Kagoshima and its explosive potential.





PARACEL ISLANDS

- On July 13, a U.S. warship passed by the contentious Parcel Islands in the South China Sea, angering Beijing, which claimed its troops "drove away" the ship after it unlawfully entered territorial waters.
- In the South China Sea, the United States regularly conducts what it refers to as Freedom of Navigation Operations to contest what it claims are restrictions on lawful passage imposed by China and other claimants.



PRACTICE QUESTIONS

Q.1) Global Gender Gap Index was in news recently, it is released by:

- International Labor Organisation
- World Economic Forum
- World Bank
- United Nations Economic and Social Council

Q.2) Consider the following statements:

- "Misleading Advertisements" are defined under the Consumer Protection Act, 2019.
- Central Consumer Protection Authority's objective is to investigate consumer rights violations, file complaints, and bring legal action.

Which of the following statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.3) With reference to Foreign Contribution Regulation Act, Consider the following statements.

- It is implemented by the Ministry of Home Affairs
- It was enacted in 1992 after economic reforms amid apprehensions that foreign powers were interfering in India's affairs.
- There is a provision for compulsory filing of annual returns.

Which of the following statements given above is/are correct?

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Q.4) With reference Antarctic Treaty, consider the following statements:

- India has been a signatory since 1983.
- It prohibits the establishment of military bases or weapons testing.
- It applies to the area south of 60° South latitude

Which of the following statements given above is/are correct?

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Q.5) With reference to the Model Tenancy act, consider the following statements:

- It is only a suggestive framework and not binding for states.
- A written agreement is mandatory between the property owner and the tenant.
- It calls for the Establishment of an independent authority in every state and UT for the registration of tenancy agreements.

Which of the following statements given above is/are correct?

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Q.6) NAMASTE Scheme, is a national campaign to

- Rehabilitate the homeless and destitute persons and provide them with suitable sources of livelihood.
- Release the sex workers from their practice and provide them with alternative sources of livelihood.
- Achieve zero sanitation-related deaths in India.
- Release the bonded laborers from their bondage and rehabilitate them.

Q.7) With reference to Sodium-Ion Batteries (SIB), consider the following statements:

1. They are more moisture resistant.
2. These batteries are more temperature-tolerant than other batteries
3. SIBs have higher operational safety than Lithium Ion Batteries.

Which of the following statements given above is/are correct?

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

Q.8) Consider the following pairs:

(Ramsar Sites : States)

1. Pichavaram Mangrove : Tamil Nadu
2. Sakhya Sagar : Assam
3. Pala wetland : Mizoram
4. Pallikaraini Marsh Reserve Forest : Kerala

How many pair(s) given above is/are incorrectly matched?

- a. Only one pair
- b. Only two pairs
- c. Only three pairs
- d. All four pairs

Q.9) Consider the following statements:

1. He was a well-known Indian scientist and teacher who is referred to as the "Father of Indian Chemistry."
2. He wrote "A History of Hindu Chemistry from the Earliest Times to the Middle of Sixteenth Century"
3. He set an example of Swadeshi Movement by founding a chemical company called the Bengal Chemical and Pharmaceutical Limited.

The above statements are related to:

- a. Prafulla Chandra Ray
- b. Bipin Chandra Roy
- c. Aurobindo Ghosh
- d. Dwarkanath Tagore

Q.10) The "Youth in India 2022" Report was recently published by:

- a. Ministry of Statistics and Programme Implementation (MoSPI)
- b. Ministry of Youth Affairs and Sports
- c. Ministry of Health and Family welfare
- d. Ministry of Education

1. (b) 2. (c) 3. (c) 4. (d) 5. (d) 6. (c) 7. (d) 8. (b) 9. (a) 10. (a)