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15-16 сентября 2022 года, Самарканд



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MEETING OF THE COUNCIL OF HEADS
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SCO SUMMIT 2022



PLASTIC POLLUTION



INDIA BECAME WORLD'S 5th LARGEST ECONOMY



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A MONTHLY PERIODICAL FOR ASPIRANTS OF UPSC EXAMINATION



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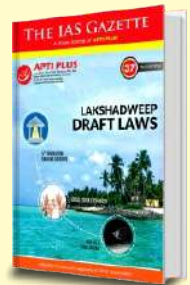
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GENERAL STUDIES - I

HINDI DIWAS

GS-I CULTURE & HERITAGE

Context

- The annual celebration of Hindi Diwas commemorates September 14, 1949, the day when the Constituent Assembly of India took the decision to make Hindi the official language of the Union government, while English was to hold the status of associate language for 15 years.

Details

- It was a compromise, famously called the Munshi-Ayyangar formula, named after the drafting committee members K M Munshi and N Gopalaswamy Ayyangar, that took into account the demands of the Hindi protagonists and the delegates from South India who wished English to have a Constitutional status.
- The debate over the predominance of Hindi was hardly new. From the mid- 1800s onwards, it was in conflict with Urdu in those parts of the subcontinent that we today call the 'Hindi belt'.

Post-1947 debate over Hindi

- The choice to make Hindi the official language of an independent India was rooted in the necessity of finding a unifying force in a country with diverse languages, scripts and dialects.
- Since Hindi was the spoken language of large parts of North India, it was seen as a safe option for the national linguistic unification of the country.
- However, large parts of the non-Hindi speaking regions of the country were unhappy with the idea.
- Between September 12 and 14, 1949, that the Constituent Assembly of India debated the status of India's languages. Among the issues that were discussed were the use of the term 'national language', instead of 'official' language; Hindi vs languages such as Bengali, Telugu, Sanskrit, or Hindustani; Devanagari script vs the Roman script; the language to be used in the higher judiciary and Parliament; international numerals vs those in Devanagari script.
- Finally a compromise was reached wherein English along with Hindi was made the official language of India for a period of 15 years. At the completion of the period, Hindi would replace English as the only language to be used for official purposes.
- Further, Article 351 of the Constitution asked for the promotion and development of the Hindi language in a way that it could serve as a means of expression in all matters.

From protests to Hindi Diwas

- When the 15 year period came to an end protests broke out over the fear of imposition of Hindi in large parts of non-Hindi speaking India, particularly in Tamil Nadu.
- Riots broke out in Madurai in January 1965 and soon spread to Madras. The resistance resulted in the Centre passing the Official Languages Act, which stated that English would continue to be upheld as official language along with Hindi.
- In the years that followed, the government has made several efforts to propagate Hindi as the unifying language of India, the celebration of Hindi Diwas being one among them.

What are the Government Initiatives to Promote Hindi?

- The Central Hindi Directorate was established in 1960 by the Government of India under the Ministry of Education to promote and propagate Hindi.
- Indian Council for Cultural Relations (ICCR) has established 'Hindi Chairs' in various foreign universities/institutions abroad to promote Hindi language in foreign countries.
- LILA-Rajbhasha (Learn Indian Languages through Artificial Intelligence) is a multimedia based intelligent self-tutoring application for learning Hindi.
- E-Saral Hindi Vakya Kosh and E-Mahashabdkosh Mobile App, both initiatives of the Department of Official Language, aim to harness information technology for the growth of Hindi.

CHOLA DYNASTY

GS-I CULTURE & HERITAGE

Context

- The Idol Wing-CID has submitted documents to U.S. officials through the Central government to retrieve six exquisite Chola-era bronze idols that went missing from the Veeracholapuram temple in Kallakurichi district in the 1960s. They were spotted at the Cleveland museum and Christie's auction house in the U.S. The temple was constructed 900 years ago by Chola king Rajendra Chola.

Cholas

- The Cholas are remembered as one of the longest ruling dynasties in the southern regions of India
- The reign of the Cholas began in the 9th century when they defeated the Pallavas to come into power.
- This rule stretched over for over five long centuries until the 13th century.
- However, around the 2nd century, the state Andhra has a Chola kingdom that flourished far and wide.
- The Early periods of the Chola rule saw the onset of the Sangam literature. Kantaman was one of the prominent rulers of this era.
- The medieval period was the era of absolute power and development for the Cholas.
- This is when kings like Aditya I and Parantaka I. From here Rajaraj Chola and Rajendra Chola further expanded the kingdom into the Tamil region. Later Kulothunga Chola took over Kalinga to establish a strong rule. This magnificence lasted until the arrival of the Pandyas in the early 13th century.

Some prominent pillars of the Chola Empire

- **Vijayalaya:** The Chola Empire was founded by Vijayalaya. He took over the Tanjore kingdom in the 8th century and led to the rise of the mighty Cholas by defeating the Pallavas. Tanjore was hence made the first capital of the eminent Chola Empire.
- **Aditya I:** Aditya I succeeded Vijayalaya to become the ruler of the empire. He defeated king Aparajita and the empire gained massive power under his reign. He conquered the Pandya Kings along with the Vadumbas and establishes control over the Pallavas power in the region.
- **Rajendra Chola:** He succeeded the mighty Rajaraja Chola. Rajendra I was the first to venture to the banks of Ganges. He was popularly called the Victor of the Ganges. His new empire capital was called the Gangaikondacholapuram where he received the title of 'Gangaikonda'. This period is referred to as the golden age of the Cholas. After his rule, the kingdom witnessed a widespread downfall.

Culture and Roots

- The society and its culture saw massive developments in the reign of the Cholas.
- In this era, the temple was the main centre for all social and religious meetings.
- The surroundings of this region became a school for the folks where Holy Scriptures and the ancient Vedas were taught to students. This also was a secure place in times of warfare and political uproar.
- The societal structure at this time was divided amongst Brahmins and Non-Brahmins. Several gods and goddesses were worshipped with Shiva being a popular source of strength for the faithful.
- There are links of the relevance of the Chola Empire with the Trimula deity at Sri Venkateshwara temple. The religious roots of the Chola Empire go far back to this time.
- The Srirangam temple stands to be a highlight from this era. It was submerged in water for centuries and was renovated later to its former glory.
- Art, religion and literature benefited greatly during this period.
- Several Shiva temples were built across the banks of the Kaveri river.
- Thanjavur still stands to be the biggest and tallest amongst all the temples in India of its time.
- The Tajore Brihadeeswara temple is adorned with natural colour paintings that are a feast for the eyes even today. Several of these sites have been classified as World Heritage Sites by UNESCO. These include the Brihadisvara temple, the Gangaikondacholisvaram and the Airavatesvara temples.
- Sculpting and art were also at an all-time high in this reign. Sculptures of gods and goddesses like Shiva, Vishnu and Lakshmi have been carved out of bronze and serve as a golden reminder of this period.
- Literature was another crucial highlight of this period. Not only did devotional literature take shape but Jain and Buddhist writings also got appreciation and recognition during this phase.
- The popular Nalayi Divya Prabandham from this period is a compilation of 4000 Tamil verses and is widely savoured by literary scholars even to this day.

Administration and Governance

- During the governance by the Cholas, the entire southern region was brought under the umbrella of a single governing force. The Cholas ruled in a sustained Monarchy.
- The Chola Empire consisted of the current day territories of Tiruchirapalli, Tiruvarur, Perambalur, Ariyalur, Nagapattinam, Pudukkottai, Vridhachalam, Pichvaram and Thanjavur districts of Tamil Nadu.
- Here the massive kingdom was divided into provinces which were known as mandalams.
- Separate governors were held in charge for each mandalam. These were further divided into districts called nadus which consisted of tehsils.
- The system of rule was such that each village acted as a self-governing unit during the era of the Cholas.
- The Cholas were ardent patrons of art, poetry, literature and drama; the administration was seen investing in the construction of several temples and complexes with sculptures and paintings.
- The king remained the central authority who would make the major decisions and carry out the governance.
- Thus, the Cholas and their reign mark a remarkable period of medieval history that saw a massive cultural spurt along with a growth in civilization and its meaning. It symbolizes not only a period of rapid advancement but also a magnificent time to look

back at and learn from.

ACCULTURATION

GS-I CULTURE & HERITAGE

About

- The concept of 'Acculturation' was **first published by John Wesley Powel, an American geologist in 1880.**
 - He **defined 'Acculturation' as the psychological changes generated in individuals due to interaction with different cultures.**
- In the Modern world, acculturation is defined as the **process in which an individual or community from one culture comes in contact with another culture**, and this interaction results in adopting the values and practices of the other culture while maintaining their own identity.
 - It is opposite to the concept of 'Assimilation' in which individuals and groups adopt a new culture that nearly replaces their native culture.
- **It is a two-way process.**
 - Example: When a minority group migrates to a new society or between a majority group, then the minority culture adopts elements of the majority to fit in and the culture of the majority is also influenced by that of the minority.
- It affects different parts of life, including dietary patterns, fashion, art, architecture, work culture, and literature.
 - It occurs at both individual and group levels, as well as between majority or minority groups in society.
- Based on the strategies adopted by individuals or groups, acculturation may result in;
 - Rejection
 - Integration
 - Marginalization
 - Transmutation
- **Rejection:** Sometimes an individual or group comes in contact with a new cultural group, but they do not embrace the new cultural elements and maintain their own identity without being 'contaminated' by the values and norms of another culture.
 - This kind of rejection of a new culture and maintaining one's traditions generally occurs in culturally or racially segregated societies.
- **Integration:** an individual or group adapts to a new culture while maintaining their native culture. Sometimes cultural adoption is believed to be important for the smooth functioning of society.
 - This strategy is used in a multicultural society.
- **Marginalization:** It occurs when individuals or groups hardly interact with a new cultural group.
 - It results in the isolation of the individual or group, pushing them to the corners of society.
- **Transmutation:** In this process value is given to both strategies, maintaining one's own culture while also adopting elements of a new culture.
 - In this case, a mix of two cultures creates a new unique culture that is accepted by both individuals and groups.
- Acculturation has become a **part of our daily lives due to the multi-cultural nature of modern society.**
 - It allows us to learn and understand various cultures and appreciate their differences.
- We need to understand that bitterness toward other cultures and the belief that one's culture is superior can result in the marginalization and separation of different cultures, this ultimately disrupts the functioning of a society.
 - Therefore a cooperative exchange of cultures between diverse groups is crucial for a peaceful society.

WOMEN FREEDOM FIGHTERS

GS-I MODERN HISTORY

About

- On 76th Independence Day, the Prime Minister of India in his 9th Independence Day address to the nation from the Red Fort hailed "Nari shakti", and urged people to protect the dignity of women.
- PM also paid tribute to women freedom fighters.

Women in Freedom struggle

- **Rani Laxmibai:** The queen of the princely state of Jhansi, she joined the uprising against the British in 1857.
- **Rani Abakka,** the Queen of Ullal, Karnataka fought and defeated the mighty Portuguese in the 16th century.
- **Velu Nachiyar,** the queen of Sivaganga was the first Indian queen to wage war against the British East India Company.
- **Jhalkari Bai** was a woman soldier who grew to become one of the key advisors to the Rani of Jhansi and a prominent figure in the First War of Indian Independence, 1857.
- **Matangini Hazra** was a brave freedom fighter from Bengal, who laid down her life while agitating against the British.
- **Gulab Kaur** was a freedom fighter who abandoned her hopes and dreams of a life abroad to fight for and mobilize the Indian people against the British Raj.

- **Chakali Ilamma** was a revolutionary woman who fought against the injustice of zamindars during the Telangana rebellion in the mid-1940s.
- **Padmaja Naidu**, the daughter of Sarojini Naidu and a freedom fighter in her own right, would later become Governor of West Bengal and a humanitarian after Independence.
- **Bishni Devi Shah** was a woman who inspired a large number of people in Uttarakhand to join the freedom movement.
- **Subhadra Kumari Chauhan** was one of the greatest Hindi poets, who was also a prominent figure in the freedom movement.
- **Durgawati Devi** was the brave woman who provided safe passage to Bhagat Singh after the killing of John Saunders and much more during her revolutionary days.
- **Sucheta Kripalani**, a prominent freedom fighter, became independent India's first woman Chief Minister of the UP Government.
- **Accamma Cheriai**, an inspirational leader of the freedom movement in Travancore, Kerala, she was given the name 'Jhansi Rani of Travancore' by Mahatma Gandhi.
- **Aruna Asaf Ali** was an inspirational freedom fighter who is perhaps best remembered for hoisting the Indian National flag in Mumbai during the Quit India Movement in 1942.
- **Durgabai Deshmukh**, a tireless worker for the emancipation of women in Andhra Pradesh, was also an eminent freedom fighter and member of the Constituent Assembly.
- **Rani Gaidinliu**, the Naga spiritual and political leader, led an armed uprising against the British in Manipur, Nagaland, and Assam.
- **Usha Mehta** was a freedom fighter from a very young age, who is remembered for organizing an underground radio station during the Quit India Movement of 1942.
- **Parbati Giri**: one of Odisha's most prominent women freedom fighters, was called the Mother Teresa of Western Odisha for her work in the upliftment of her people.
- **Tarkeshwari Sinha**, a prominent freedom fighter during the Quit India Movement, went on to become an eminent politician in the early decades of independent India.
- **Snehlata Varma**: a freedom fighter and tireless worker for the education and upliftment of women in Mewar, Rajasthan.
- **Tileshwari Baruah**: one of India's youngest martyrs, was shot at the age of 12 by the British, during the Quit India Movement, when she and some freedom fighters tried to unfurl the Tricolour atop a police station.

LORD CURZON

GS-I MODERN HISTORY

Context

- The **119-year-old Curzon Gate in Bardhaman in West Bengal is at the centre of a political row** after it emerged earlier this week that the Trinamool Congress (TMC)-run Bardhaman municipality has decided to erect a statue of Bardhaman's Maharaja Bijay Chand Mahatab and his wife Radharani in front of the city's prominent landmark.

Details

- Politicians, historians, and heritage experts have questioned the ruling party's decision, with some claiming that the statues would **block the view of the structure, which was built by Mahatab in 1903, when Lord Curzon, then Viceroy of India, visited Bardhaman.**
- Of all the Viceroy of India, **Curzon is possibly the most criticised – he is the man who partitioned Bengal in 1905, and triggered a wave of Bengali nationalism that contributed to the wider Indian national movement.**
- He was also one of the more openly imperialist of viceroys, and a man who saw Britain's rule over India as critical to the survival of empire.
- In 1900, Curzon famously stated, **"We could lose all our [white settlement] dominions and still survive, but if we lost India, our sun would sink to its setting."**

Who was Lord Curzon?

- George Nathaniel Curzon was a British conservative politician who was educated at the elite institutions of Eton and Oxford.
- He served as **Under-Secretary of State for India (1891-1892), and for Foreign Affairs (1895-1898), before being appointed Viceroy of India in 1899.**
- As viceroy, his administration was known for intense activity and emphasis on efficiency.
- **Curzon created a separate Muslim majority province of the North-West Frontier Province, sent a British expedition to Tibet, established a separate police service, and established the Archaeological Survey of India, in order to study and protect historical monuments.**
- Early on in his career, Curzon earned some praise from his colonial subjects, notes Sumit Sarkar, for taking action against Europeans in a number of high-profile racist attacks against Indians.
- In 1899, he punished white soldiers for raping a woman in Rangoon; he disciplined soldiers of the 9th Lancers for beating an

Indian cook in Sialkot to death in 1902; and he tried unsuccessfully to get the Calcutta High Court to change the meagre punishment given to an Assam tea manager for murdering a “coolie”.

- Curzon was both vexed and enraged by the growing nationalist movement in India and **he sought to throttle the growing aspirations of the educated Indian middle class.**
- A staunch imperialist, he took a series of extremely unpopular measures, including **passing, in 1899, the Calcutta Municipal Amendment Act which reduced the number of elected representatives in the Calcutta Corporation; the Indian Universities Act (1904), that placed Calcutta University under government control, and the Indian Official Secrets Amendment Act (1904) that reduced the freedom of the press even further.**
- Curzon believed that the Indian National Congress had lost its influence and appeal amongst the Indians, and in 1900 declared that the **organisation was “tottering to its fall”.**
- Ironically though, it was his biggest and most reviled decision – to partition Bengal in 1905 – that led to a spurt in nationalist sentiment and revitalized the Congress.

How and why did the partition of Bengal take place?

- Calcutta was the capital of the British Raj, and Bengal Presidency was one of the largest provinces in India, populated by more than 78 million people, encompassing present day West Bengal, Bangladesh, Bihar, parts of Chhattisgarh, Odisha, and Assam.
- For long, the British had maintained that Bengal was too large to efficiently manage and administer; it was also believed that with Calcutta as the nerve centre of the educated nationalists, the resistance to colonial rule would only increase.
- In July 1905, Curzon announced the partition of Bengal into two provinces. East Bengal and Assam, with a population of 38 million, was predominately Muslim, while the western province, called Bengal, was reduced to 55 million people, primarily Hindus.
- Protests began almost immediately after the announcement, with meetings taking place in more than 300 cities, towns, and villages across Bengal.
- The educated Bengali bhadralok saw this move as an attempt to break apart their homeland, and curb their influence in the region, while later nationalists would argue that it was indicative of the British’s divide and rule policy.

What were the consequences of the partition?

- Popular anger against partition had been brewing since the British announced their scheme, but grew into a stronger and more organized movement after it was implemented in 1905.
- In opposition to the partition, nationalist leaders organized a campaign of boycott of British goods and institutions and encouraged the use of local products.
- **After a formal resolution was passed at a meeting in Calcutta in August 1905, the Swadeshi movement began.**
- Students were at the forefront of the movement, which was characterized by boycotts of British educational institutions and law courts, and large bonfires of imported cotton textiles.
- There was a surge in nationalist rhetoric, and the song ‘Bande Mataram’, set to music by Rabindranath Tagore, became the informal anthem of the movement.
- The Swadeshi movement and boycott was not restricted to Bengal, and spread to other parts of the country, including Punjab, Maharashtra, and parts of the Madras Presidency.
- A number of secret societies, such as the Anushilan Samiti of Bengal, sought to overthrow British rule through violent means. Revolutionary groups used bombs, attempted to assassinate colonial officials, and engaged in armed robberies to finance their activities.
- In 1905, Curzon resigned and returned to England after losing a power struggle with the commander-in-chief of the British Army, Lord Kitchener.
- The protests continued after his exit, and the colonial government in 1911 announced the reunification of Bengal, and the capital of the Raj was shifted from Calcutta to Delhi

TIRANGA UTSAV

GS-I CULTURE & HERITAGE

Context

- Ministry of Culture organizes ‘Tiranga Utsav’ to celebrate Pingali Venkayya’s 146th Birth Anniversary
- PM tweeted, “I pay homage to the great Pingali Venkayya on his birth anniversary. Our nation will forever be indebted to him for his efforts in giving us the Tricolour, which we are very proud of. Taking strength and inspiration from the Tricolour, may we keep working for national progress.”
- **Born on August 2, 1876, he was a freedom fighter, educationist, writer and polyglot besides being a nationalist and true patriot. Such was his patriotism that he reportedly said that his last wish was to be draped in the Indian flag**

Who was Pingali Venkayya?

- Pingali Venkayya belonged to a traditional Telugu Brahmin family.
- Born in a small village near Machilipatnam, Venkayya studied in a Hindu high school in Madras. He would go on to pursue his further education at the University of Cambridge in England.
- He developed a taste for geology and agriculture but was keenly interested in being an educationist, linguist and writer.
- In fact, Venkayya was fluent in many languages, including Sanskrit, Urdu and Japanese. His fluency in Japanese earned him the name of "Japan Venkayya."
- At the age of 19, Venkayya joined the army during the Boer war. It was during this stint in the British Army that Venkayya met Gandhi Africa. Their association would last over 50 years.

The evolution of the Indian flag's design

- From 1913 onwards, Venkayya used to regularly attend Congress sessions and actively participate in them. He even presented the leaders with a possible design of what would eventually become the Indian national flag.
- He wrote a book titled "National Flag for India," which was published in 1916. The book showcased thirty designs of what could make the Indian flag.
- Throughout all Congress sessions between 1918 and 1921, he relentlessly put forth the idea of having a flag of our own since that would resonate with the people and develop our own identity. Back in the days of the freedom struggle, the flag would also give rise to the spirit of independence.
- In 1921, Venkayya presented the first draft design of the flag to Mahatma Gandhi at the AICC session held at Bezwada. Besides Gandhi, several other national leaders attended the event, which is often described as a turning point in the history of India's freedom movement.
- After a few rounds of changes, Venkayya's design was adopted as the final Indian national flag just before independence in 1947.
- The first draft designed by Venkayya had two predominant colours: green and red. On top of them was a spinning wheel of the Gandhi Chakra in blue. Before being accepted as the Congress party's flag, the colour red was replaced with saffron and the colour white was also added. The design of the Chakra was also changed, and it now sat on the white strip between the saffron and green bands.
- Later, the Gandhi Chakra was replaced by the Ashoka Chakra when the design for the tricolour was finalised.

The legacy

- Venkayya was posthumously honoured with a postage stamp in 2009 for his contribution to the Indian freedom struggle.
- In 2014, his name was also brought up for the Bharat Ratna. In 2015, the then Urban Development Minister, M Venkaiah Naidu, renamed the AIR Vijaywada after Venkayya and unveiled a statue on its premises.



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Context

- The strongest tropical storm of 2022, dubbed Super Typhoon 'Hinnamnor', has been barrelling across the western Pacific Ocean.

Details






- The category 5 typhoon — the highest classification on the scale — was about 230 km away from Japan's Okinawa. The storm moved over parts of Southwestern Japan, Eastern China and South Korea.

Typhoon

- A typhoon is a mature tropical cyclone that **develops between 180° and 100°E in the Northern Hemisphere**. This region is referred to as the Northwestern Pacific Basin. **Note:** For organizational purposes, the northern Pacific Ocean is divided into three regions: the eastern (North America to 140°W), central (140°W to 180°), and western (180° to 100°E).

Tropical Storms

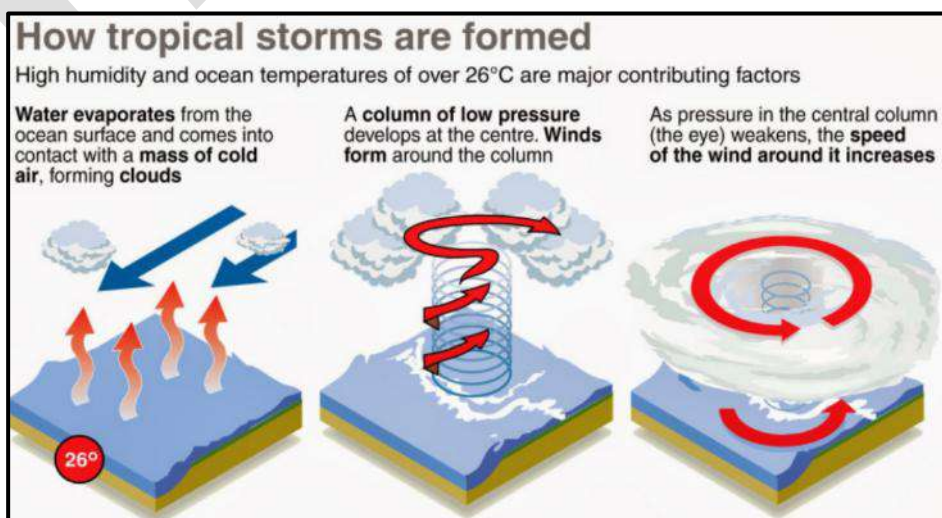
- Hurricanes, cyclones and typhoons are all types of tropical storms. But are given different names depending on where they appear.
- Hurricanes** are tropical storms that form over the **North Atlantic Ocean and Northeast Pacific**.
- Cyclones** are formed over the **South Pacific and Indian Ocean**.
- Typhoons** are formed over the **Northwest Pacific Ocean**.

Tropical cyclone categories		
Category		Sustained winds
 Super Typhoon		>220 km/h >119 knots
 Typhoon		>118–220 km/h >64–119 knots
 Severe tropical storm		>89–117 km/h >48–63 knots
 Tropical storm		>62–88 km/h >34–47 knots
 Tropical depression		>62–88 km/h >34–47 knots

Conditions for development of Tropical Cyclones

There are six main requirements for tropical cyclogenesis:

- Sufficiently warm sea surface temperatures (higher than 26° C),
- Atmospheric instability,
- High humidity in the lower to middle levels of the troposphere,
- Enough Coriolis force to sustain a low pressure center,
- A pre-existing low-level focus or disturbance, and
- Low vertical wind shear





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GENERAL STUDIES - II

NDPS ACT

GS-II POLITY

In News

- Recently the **Karnataka High Court** highlighted that nowhere 'Bhang' is referred to as a prohibited drink or prohibited drug in the **Narcotic Drugs and Psychotropic Substances (NDPS) Act**.
 - The court mentioned that bhang is not ganja and is therefore not covered under the NDPS Act.

Details

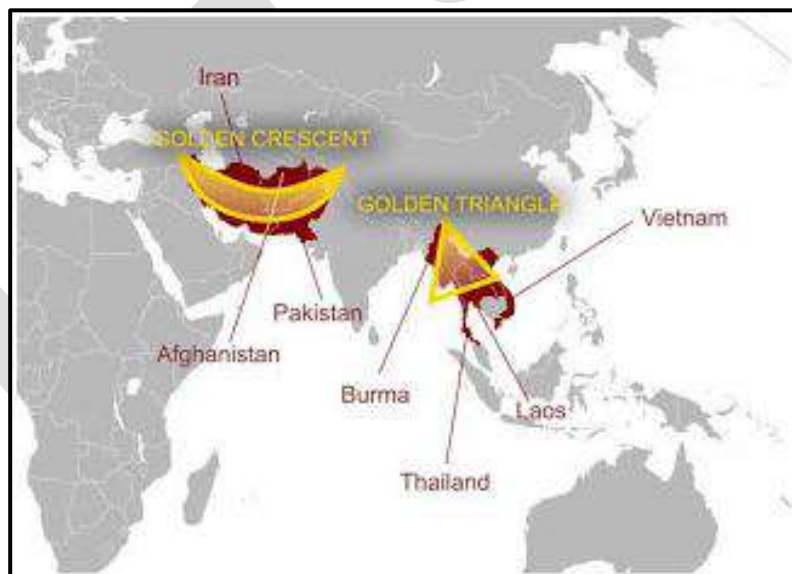
- Bhang is made from the leaves of the cannabis plant**, usually mixed into drinks such as thandai and lassi, along with various foods.
 - Bhang has been consumed in the Indian subcontinent for centuries and is frequently consumed during the festivals of Holi and Mahashivratri.

Narcotic Drugs and Psychotropic Substances (NDPS) Act

- The NDPS Act was enacted in 1985; it deals with drugs and their trafficking.
- The Act **punishes the production, manufacture, sale, possession, consumption, purchase, transport, and use of banned drugs, except for medical and scientific purposes**.

Drug Menace in India

- Drug addiction is **spreading fast among Indian youth**. According to a survey by the Ministry of Social Justice and Empowerment, India has more than 70 million drug addicts.
- It is a **serious health problem** which not only destroys the person involved but his entire family, the society and the nation.
 - It promotes **anti-social behavior** such as stealing, crime and violence.
- It affects the **economic growth of a country by generating unaccounted money** that is also used for terror funding and anti-national activities.
 - Therefore it is also a **serious threat to national security**.
- India is located between the **two largest Opium producing regions of the world**;
 - Golden triangle on the eastern side:** Thailand, Myanmar, Vietnam and Laos.
 - Golden crescent on the North-Western side:** Pakistan, Afghanistan and Iran.



As per the report released by the All India Institute Of Medical Science (AIIMS)

- More than 5 crore Indians have reported using cannabis and opioids.
- Nearly 8.5 lakh people inject drugs.
- More than half of the total registered cases are from Punjab, Assam, Delhi, Haryana, Manipur, Mizoram, Sikkim and Uttar Pradesh.

Steps taken by the Government

- The Indian government is Coordinating with Various International Organizations including BRICS, SAARC, ASIAN, etc, for sharing information and intelligence to combat transnational drug trafficking.
- Coordinating among Various Central and State Agencies:
- The Union Ministry of Home Affairs has launched the **SIMS**



(Seizure Information Management System) Portal for the digitization of pan-India drug seizure data.

- **National Fund for Control of Drug Abuse** was constituted to meet the expenditure incurred in connection with combating illicit traffic in Narcotic Drugs; rehabilitating addicts, educating the public against drug abuse, etc.
- Project Sunrise was launched by the Ministry of Health and Family Welfare to tackle the rising HIV prevalence in north-eastern states in India, especially among people injecting drugs.
- 'Nasha Mukht Bharat' or Drug-Free India Campaign with a focus on community outreach programs.
- India is a **signatory of the following International treaties and conventions**;
 - United Nations (UN) Convention on Narcotic Drugs (1961).
 - UN Convention on Psychotropic Substances (1971).
 - UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988).
 - UN Convention against Transnational Organized Crime (UNTOC) 2000.

Way Forward

- **Article 47 of the Directive Principles of State Policy** of the Constitution of India directs the state to improve public health and endeavour to bring about the prohibition of the consumption of intoxicating drinks and drugs which are injurious to health.
- Steps need to be taken to stop cross-border trafficking and improve the enforcement of law in India.
- The stigma associated with drug taking needs to be reduced.
 - Society needs to understand that drug addicts are victims and not criminals.
 - Proper Counseling is another alternative.
- **The education curriculum should include topics on drug addiction**, its impact and also on de-addiction.
- Enhancing skills of care providers.
- Funding for evidence-based interventions.
- Developing programmes for vulnerable groups like youth, street children, women, prisons, etc

PREVENTIVE DETENTION

GS-II POLITY

In News

- According to the data released by the National Crime Records Bureau (NCRB), in 2021 over 1.1 lakh people were placed under preventive detention, this number is 23.7% higher compared with 2020 data.

Preventive Detention

- Article 22 of the Indian Constitution grants protection to persons who are arrested or detained. **Detention is of two types**:
 - Punitive detention
 - Preventive detention
- **Punitive detention is to punish a person for an offence committed by him** after trial and conviction in a court.
- Preventive detention means the detention of a person without trial and conviction by a court.
 - Its purpose is not to punish a person for a past offence but to **prevent him from committing an offence in the near future**. Thus, preventive detention is only a precautionary measure and it is based on suspicion.
- **Article 22 of the Indian Constitution has two parts**;
 - One Part deals with the cases of ordinary law.
 - The second part deals with the cases of preventive detention law.
- A person who is arrested or detained **under ordinary law has the following rights**:
 - Right to be informed of the grounds of arrest.
 - Right to consult and be defended by a legal practitioner.
 - Right to be produced before a magistrate within 24 hours including the journey time.
 - Right to be released after 24 hours unless the magistrate authorizes further detention.
- **These above safeguards are not available to an enemy alien or a person arrested or detained under a preventive detention law.**
- Article 22 also grants protection to persons who are arrested or detained under a preventive detention law. **This protection is available to both citizens as well as aliens and includes the following**:
 - The detention of a person **cannot exceed three months unless the advisory board reports sufficient cause for extended detention**. The board is to consist of judges of a high court.
 - The grounds of detention should be conveyed to the detained person However; the facts considered to be against the public interest need not be disclosed.
 - The detained person should be allowed to make representation against the detention order.
- The **Constitution authorized the Parliament to prescribe**;
 - The circumstances and the classes of cases in which a person can be detained for more than three months under a

- preventive detention law without obtaining the opinion of an advisory board.
 - The maximum period for which a person can be detained in any case under a preventive detention law.
 - Procedure to be followed by an advisory board in an inquiry.
- The Constitution has divided the legislative power related to preventive detention between the Parliament and the state legislatures.
 - Both the Parliament and state legislatures can concurrently make a law on preventive detention.**
 - The Parliament has exclusive authority to make a law of preventive detention related to defence, foreign affairs and the security of India.
 - State legislatures can make a law of preventive detention for reasons connected with the security of a state, the maintenance of public order and the maintenance of supplies and services essential to the community.

SECTION 66A OF IT ACT

GS-II POLITY

In News

- The Supreme Court of India has asked the chief secretaries of states to withdraw the cases registered under Section 66A of the Information Technology Act 2000 within three weeks.
 - Under section 66A of the IT Act, a person posting offensive content could be imprisoned for up to 3 years and also fined.
 - The court struck down the provision as **unconstitutional** and a **violation of free speech** in the **Shreya Singhal Case in 2015**.
- The Supreme Court has scrapped the registration of FIRs under Section 66A of the Information Technology Act.
 - The court highlighted that "the public's right to know is directly affected by Section 66A of the Information Technology Act.
 - The section conflict with the rights granted under Articles 19 (free speech) and 21 (right to life) of the Indian Constitution.**
 - Local authorities could proceed arbitrarily on the order of their political masters.
- The Supreme court **did not strike down section 69A of the Information Technology Act** and stated that it can remain enforced with certain restrictions.

Section 69A of the IT Act 2000

- Section 69A of the Information Technology (IT) Act empowers the government to restrict access to any online content to protect the interest of;**
 - Sovereignty and Integrity of the Nation.
 - Security of the State.
 - Friendly relations with foreign states.
 - Public order.
- All orders to restrict information or content **must be recorded in writing**.
- Social media intermediaries failing to comply with the rules and regulations are liable to be **monetarily penalized along with an imprisonment term which may extend up to 7 years**.
- The procedures for executing the provisions of the act are mentioned in the Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009.
 - Step 1:** It mentioned that an officer along with an examination committee reviews the content in question within 48 hours of receiving the takedown request.
 - Step 2:** Provide an opportunity to the author or originator of the content for clarification.
 - Step 3:** The recommendations are then sent to the Secretary of the Dept of Information Technology for approval and then a request is forwarded to the social media intermediary for restricting access.
- Emergency provisions specify that clarification is required within 48 hours after the content has been blocked for specified reasons.
 - Blocking Orders can be revoked after review or examination.**
- Rule 16 of the act states that strict **confidentiality should be maintained on all requests and actions taken**, but without compromising transparency and accountability.
- The Act complies with Article 19 of the Indian Constitution** which guarantees freedom of speech and expression. However, **Clause 2 of the article allows the state to impose reasonable restrictions for the same reasons as those for Section 69A.**

Concern

- The **Confidentiality Clause** under the act is preventing legal challenges to content blocking orders; it is difficult to understand the Governments reasoning.
- It **doesn't come under the purview of Right to Information (RTI)**, recently Bharat Sanchar Nigam Limited (BSNL) rejected many RTI requests that asked for the list of blocked websites.

- The lack of transparency, Clear guidelines and a monitoring mechanism under the act means that there are various forms of arbitrary behavior involved.
- The concerns are raised mainly when the orders are aimed at blocking individual accounts and not the specific content.

Way Forward

- The Supreme Court in the Superintendent, Central Prison, Fatehgarh vs Ram Manohar Lohia (1960) case has stated **that restrictions made in the public interest must include a reasonable connection with the purpose being achieved.**
- In Shreya Singhal vs Union of India (2012) the **Supreme Court has stated a mandatory hearing for the author of the content as well as the intermediary.** It is also guaranteed under Rule 8 of the act.
- **India needs clarity about the rationality behind limitations and restrictions of free speech** which may also guide legislative drafting and judicial decisions in the future.
- We need to **balance the National security concerns and Fundamental Rights of our Citizens.**

BAIL PROVISIONS

GS-II POLITY

About

- The Supreme Court of India highlighted that **under Section 437 of the Code of Criminal Procedure (CrPC), a woman is entitled to favorable treatment.**
- Section 437 of the CrPC deals with bail in matters of non-bailable offences. It says a person shall not be released on bail if;
 - There is **reasonable ground to believe that he has committed an offence punishable with death or life imprisonment.**
 - If he has been previously been convicted for an offence punishable with death, life imprisonment, or for a term of seven years or more.
 - Convicted on two or more occasions on other offences with a term between three and seven years.
- However, **Section 437 of the CrPC also has exceptions in a provision that says the court may grant bail "if such person is under the age of 16 or is a woman or is sick".**
- In criminal law, several provisions give special treatment to women when they are victims of offences, including sexual offences.
- There are several special provisions relating to women when they are made accused, and arrested;
 - A Person has to appear before the investigative officer. However, no woman shall be required to do so; meaning that the officer has to visit the place of residence to make enquiries.
 - When a woman is to be arrested, only a female police officer may touch the woman, unless circumstances otherwise require.

Background

- The Code of Criminal Procedure (CrPC) was drafted in 1882 and it continues to be in use with amendments from time to time.
- The CrPC **does not define the word bail in the draft but only categorises offences under the Indian Penal Code (IPC) as 'bailable' and 'non-bailable'.**

Bail Provisions under the Indian Law

- Bail is the **temporary release of the accused** in a criminal case in which the court has a trial pending and is yet to announce the judgement.
- Bail is granted to the convicted person **after submitting a personal bond** or assurance to follow the conditions imposed by the court.
- A person can apply for bail, at the moment he/she is arrested.
- The accused can get bail for a non-bailable offence.
 - **Bail can be obtained from Sessions Court or High Court,** depending upon the seriousness of the offence the accused is charged with and the discretion of the court.
- **For a bailable offence:** A person doesn't need to go to court, as it is given by the Police Officer.

BAILABLE	NON-BAILABLE
Right to get bail while the trial is pending.	Serious offence-Bail can be obtained only by court's discretion.
COGNIZABLE	NON-COGNIZABLE
Serious offence- accused can be arrested without warrant.	Police has to wait for warrant from court.
COMPOUNDABLE	NON-COMPOUNDABLE
Accused can come to an arrangement with the state prosecution. E.g. Caught travelling without ticket on a bus/train.	Serious offences- convicts of crime such as murderers, thieves, frauds, etc... cannot compound their crimes.

Types of bails in India

- **Regular Bail** is granted to the person who has been arrested or is in police custody.
- **Interim Bail** is a short-term bail granted for a short period.
 - It is granted before the hearing for the grant of anticipatory bail.
- **Anticipatory Bail**; A person can apply for anticipatory bail when he/she finds out that he or could be arrested for a non-bailable offence.
 - At the time of granting anticipatory bail the Court imposes certain terms and conditions which if violated, the Court may cancel the anticipatory bail.

Basis for comparison	BAIL	PAROLE	PROBATION
Meaning	The term bail refers to paying a certain amount to the government in return of freedom before the date of the trial. A parole is really different from a bail.	A parole is when a person gets some time off from their jail sentence in order to fulfill some requirements	Probation is the suspension of sentence of an offender and allowing them to stay in the community while inculcating good behavior, under the supervision of an officer.
What is it	Conditional Release from jail	Conditional release from jail	It is an alternative to jail
Act Applicable	Criminal Procedure Code, 1973	Prison Act, 1894 Prisoner Act, 1900 The Prisons (Bombay Furlough and Parole) Rules, 1959	The Probation Offenders Act, 1958. Criminal Procedure Code, 1973
Awarded by	Judge	A Parole Board	Judge
When granted	at the beginning of the trial before going to jail or while serving a prison sentence	Parole is granted to the accused after serving a specific period of imprisonment	Probation is granted to the offender before going to jail
Grant to Whom	It is granted to the Accused before trial of the matter or accused already serving the jail term	It is granted to convicts that are already serving the jail term	It is granted to first time offenders and crimes that do not involve violence.
Payment/Cost	Required to Pay Bail Amount before the Court	Not required	Court May be imposed cost at the time of release or may release the offender after giving instruction.
Supervision	Requires no supervision, but the Accused is expected to show up at the trial.	supervision is required,	supervision is required,

Significance of Bail Provisions

- Bail is an **essential element** of any criminal justice system, as it **guarantees the right to a fair trial** for the accused.
- It is needed to **safeguard the fundamental right to liberty**, as mentioned under Article 21 "No person shall be deprived of their liberty unless prescribed so by a reasonable, fair, and just procedure".
- According to the Supreme Court of India, Bail is a measure to **balance the personal freedom of the accused and the public interest**. Therefore the release is conditional.

Way Forward

- The Indian Constitution under **Article 21 guarantees the right to life and personal liberty to every individual**. A person is assumed to be innocent unless proven guilty. Therefore he/she shall not be deprived of personal liberty unless specified by a fair and just procedure.
- Bail is a mechanism that **secures liberty to the accused without providing any unjustified benefit to them**. However, it has been scrutinized that the practice of granting bail is quite irregular and unclear.
- There are several judgments where the Supreme Court has observed that **each case needs to be examined for its facts and circumstance before granting bail**.
- The rationality behind granting or refusing bail petitions must be to **establish a balance between individual rights and the interest of society**.

REVIEWING OF EWS QUOTA

GS-II POLITY

In News

- The **Supreme Court** to examine whether the 103rd Constitutional Amendment Act violates the basic structure of the Constitution.
 - 103rd Constitutional Amendment Act introduced a 10% quota for **Economically Weaker Sections (EWS)** in government jobs and educational institutions.

Details

- The Constitution Bench led by the Chief Justice of India (CJI) **has decided to examine three key issues to verify the validity of the 103rd amendment.**
 - Whether the 103rd Constitution Amendment breach the **basic structure of the Constitution** by making special provisions, including reservation, based on economic criteria.
 - Whether the amendment can be said to breach the basic structure...by making special provisions in relation to admission to private unaided institutions.
 - Whether the basic structure is violated by "excluding the SEBCs (Socially and Educationally Backward Classes)/ OBCs (Other Backward Classes)/ SCs (Scheduled Castes)/ STs (Scheduled Tribes) from the scope of EWS reservation".
- The primary argument, in this case, is that the amendment violates the basic structure of the Constitution. However, there is no clear definition of basic structure.
 - It violates the Supreme Court's 1992 ruling in **Indra Sawhney & Ors v Union of India**, which restricted reservations at 50%. **The court held that economic backwardness cannot be the sole criterion for identifying a backward class.**
- The Ministry of Social Justice and Empowerment argued that under **Article 46 of the Indian Constitution**, the state has a duty to protect the interests of economically weaker sections: "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."

About Economically Weaker Section (EWS)

- **Economically Weaker Section (EWS) in India is a subcategory of people belonging to the Economy Based Un-Reserved Category** having an annual family income less than ₹8 lakh and who do not belong to any category such as SC/ST/OBC across India.
 - Candidates who do not fall under SC/ST/OBC and fulfil the EWS economic criteria are to be part of the EWS category.
- In January 2019, the Union Council of Ministers approved a 10% reservation in government jobs and educational institutions for the Economically Weaker Section (EWS) in the General category.
 - The cabinet decided that this would be over and above the existing 50% reservation for SC/ST/OBC categories.
- In January 2019, The Constitution (124th Amendment) Bill, 2019, was tabled in the Lok Sabha and it was passed on the same day.
- President Ramnath Kovind gave assent to the bill on 12 January 2019, and a gazette was released on the bill, which turned it into law.
- **The 103rd Amendment of the Constitution of India amended articles 15(6) and 16(6) of the Constitution of India to permit 10% reservations to the EWS category students among the unreserved category or General category students.**
 - **Several state cabinets approved the law and announced their intention to implement the 10% EWS reservations.**

Eligibility Criteria under EWS Reservation

- The eligibility to get the EWS certificate is not only purely based on annual family income but also based on the held property.
- The central government has set the income limit for admission to central government-owned colleges and jobs offered by the central government.
 - State governments are given the authority to change the eligibility criteria and also to extend the income limit further for candidates seeking reservation under the EWS category, which will be valid only in state-owned colleges and state government jobs as deemed fit for the respective states.
- **Criteria for identifying EWS quota;**
 - The candidate's annual family income must be less than Rs. 8 lakhs per annum.
 - Their family must not own more than 5 acres of agricultural land.
 - The residential flat area should be below 1000 sq ft.
 - The residential plot's area should be below 100 square yards if in a notified municipality sector.
 - The residential plot's area should be below 200 square yards if in a non-notified municipality sector.

Significance of EWS Reservation

- People belonging to the Economically Weaker Section now get 10% reservation in education and government jobs in India (vertical reservations) similar to OBC, SC, and ST.
- **This reservation weakened the pace of many reservation agitations such as the Jat reservation movement, the Patidar reservation movement, and the Kapu reservation movement.**

Concern

- Aspirants from the EWS category are not fully satisfied with this reservation because it does not include many benefits like age relaxation, fee relaxation, etc.
- **In Indra Sawhney's Judgement, a nine-judge bench had struck down a provision that provided 10% reservation for the economically backward on the ground that economic Criteria Cannot be the Sole basis to determine backwardness.**
- **In Nagaraj's judgment, a Constitution Bench ruled that equality is part of the basic structure of the Constitution.** It is said the 50% ceiling, among other things, was a constitutional requirement without which the Structure of equality of opportunity would Collapse.
- Another issue is whether reservations can go to a Section that is already adequately represented in Public Employment.
- One of the Criteria has an income limit of less than 8 lakh Per Annum, National Sample Survey Shows that the annual per Capita expenditure for 99% of households fall under this limit, even if we apply all the other Criteria for exclusion the bill would Still Cover over 95% of households.

Way Forward

- **Future economic growth in India is going to come from the Private Sector and entrepreneurship. To ensure that all Indians, regardless of caste, class and religion, can take part in economic growth, we must focus on basic skills.** We need to focus on reducing inequalities where they 1st emerge, within primary Schools.

CONSTITUTIONAL BENCH

GS-II POLITY

In News

- Recently the Chief Justice of India has taken steps to create constitutional benches for hearing important cases.

About Constitution Bench

- **A Constitution Bench is a special bench of the Supreme Court having 5 or more judges on it.**
- These benches are not a common phenomenon. Constitution Benches are exceptions, set up only if ;
 - The case involves a significant question of law pertaining to the interpretation of Article 145(3) of the Indian Constitution, which mandates that such matters be heard by a bench of not less than five judges.
 - Two or more benches of the Supreme Court have delivered conflicting judgments on the same point of law.
- The Constitution Benches are set up on an *ad hoc* basis and when the need arises.
 - **Constitution Bench is constituted in rare cases to decide** important questions of fact or legal and/or constitutional interpretation.
- **Article 130 says that the Supreme Court shall sit in Delhi or such other place or places,** as the Chief Justice of India may, with the approval of the President, from time to time, appoint.

Why the Constitutional bench?

- **The most important reason is the huge pendency of Constitutional cases in the Court.**
- Under Article 145(3), **"any case involving a substantial question of law as to the interpretation of the Constitution" must be decided by a Bench of at least five judges. Such a Bench is called a Constitution Bench.**
 - The Supreme Court of India during the early period mainly functioned as a constitutional court.
- The Supreme Court also hears matters between the Centre and states, and between two or more states; rules on civil and criminal appeals; and advises the President on questions of law and fact.
- Anyone can approach the Supreme Court directly on the question of violation of Fundamental Rights.
- This resulted in an increased workload on the Supreme Court and at present more than 65,000 cases are pending in the Supreme Court, and disposal of appeals takes many years.

Law Commission Recommendation

- **In 1984, the 10th Law Commission of India recommended that "the Supreme Court should consist of two Divisions;**
 - Constitutional Division
 - Legal Division
- **The 18th Law Commission recommended that "a Constitution Bench be set up at Delhi to deal with constitutional and other**

allied issues”.

- It also recommended 4 Benches with all appellate work arising out of the orders/judgments of the High Courts of the particular region.

Way Forward

- Article 39A of the Indian Constitution says that **the state shall secure that the operation of the legal system promotes justice, on a basis of equal opportunity.**
 - It must be ensured that the opportunities for securing justice are not denied to any citizen due to economic or other disabilities.

KARNATAKA'S ANTI-CONVERSION BILL

GS-II POLITY

In News

- The **Karnataka Legislative Assembly has recently passed the Karnataka Protection of Right to Freedom of Religion Bill, 2022, (popularly called the anti-conversion Bill).**
- The State Government stated that the Right to Freedom of Religion is guaranteed under Article 25 of the Indian Constitution are subject to public order, morality and health and to other provisions of part III of the Constitution.
 - The State government highlighted that the Supreme Court had held that the “right to propagate” under Article 25 did not include the right to convert to another person.

Details

- The legislation envisages stringent provisions for “forced” or “induced” conversions.
- It prohibits conversion by “misrepresentation, force, allurement, fraudulent means, or marriage”.
- It proposes maximum imprisonment of 10 years for the forcible conversion of persons from Scheduled Caste or Scheduled Tribe communities, minors, and women to another religion.

Lawmaking process at the State level

- **Step 1** - The State cabinet approves the draft of the Bill.
- **Step 2** - The State government introduces the bill in the State Assembly or Vidhan Sabha.
- **Step 3** - Discussion on the bill in the state assembly, members give their suggestions, and at the end, voting is done.
- **Step 4** - Once the state assembly passes a bill, it is sent to the Governor for his final assent. Once the Governor gives his assent, it shall be enacted as law and implemented across the state.

Arguments in Favor of anti-conversion bill

- These laws **only ban and punish forceful religious conversion.**
- **Fundamental rights under Article 25 ‘Right to propagate a religion’ did not extend to forced conversions.**
- There is no fundamental right to convert another person to one's religion.

Arguments against the anti-conversion bill

- According to some activists “, **such laws are used to target religious minorities and interfaith couples”.**
- These laws would be used to target even voluntary conversions and curb the fundamental rights of “**Freedom of conscience**” under Article 25.
- **These Acts do not satisfy the test of reasonableness and fairness and also go against the fundamental rights under Article 14 and Article 21” of the Constitution.**

Way forward

- Anti-conversion laws have been challenged in courts ever since Odisha moved the first such legislation in 1967. However, **the courts have a mixed record defending the freedom of choice with regard to religion, ruling in favour of individual liberty in some cases but not in others.**
- The High Court on many occasions clearly said that while a person has the right to belief and the right to change their beliefs, they also have a right to keep their ideas secret.

SCHEDULE TRIBES

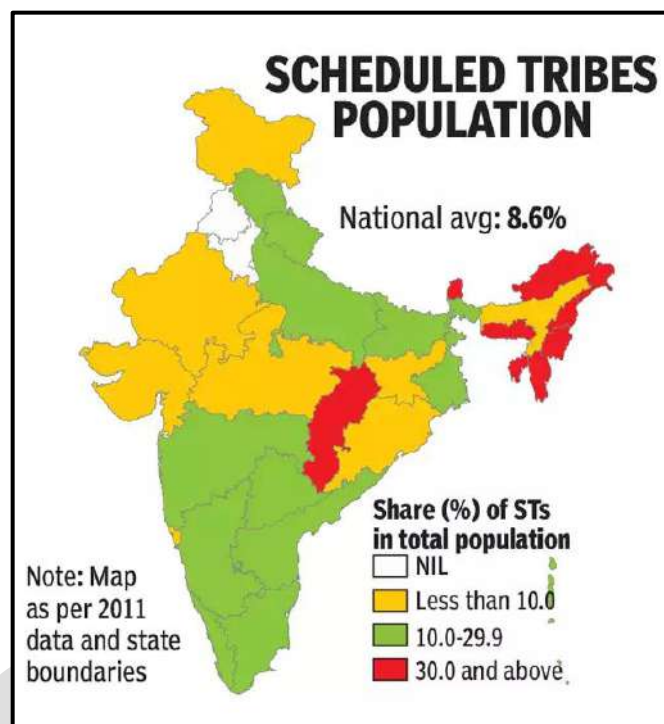
GS-II POLITY

In News

- The Union Cabinet has approved the addition of four tribes to the list of Scheduled Tribes (ST);
 - The Hatti tribe in the Trans-Giri area in Himachal Pradesh.
 - The Narikoravan and Kurivikkaran hill tribes of Tamil Nadu.
 - The Binjhia tribe in Chhattisgarh.
- The Cabinet also approved a proposal to bring the **Gond community (Uttar Pradesh) under the ST list from the current Scheduled Caste list.**
 - This includes the five subcategories of the Gond community: Dhuria, Nayak, Ojha, Pathari and Rajgond.

Hatti Tribe in Himachal Pradesh

- The Hattis are a close-knit community.
- Harris people take their name from their traditional occupation** of selling home-grown crops, vegetables, meat, and wool at small-town markets known as 'haats'.
- Hatti men traditionally dress in distinctive white headgear on ceremonial occasions.
- In Himachal Pradesh, Hattis people live in 154 panchayat areas, and according to the 2011 census; members of the community are around 2.5 lakh.
 - The present-day population of the Hattis is around 3 lakh.
- They live near the Himachal-Uttarakhand border area in the basin of the Giri and Tons rivers,** both these rivers are tributaries of the Yamuna.
- The Tons River marks the border between the two states.**
 - Hattis live in the Trans-Giri area in Himachal Pradesh and Jaunsar Bawar in Uttarakhand.
 - Both have a similar tradition, and inter-marriages are common among them.
- A rigid caste system operates in the community;**
 - The Bhat and Khash are so-called upper caste people.
 - The Badhois are so-called lower caste people.
 - Inter-caste marriages between these 2 castes are discouraged.
- The Hattis people are governed by a traditional council called 'khumbli' which is similar to the 'khaps' of Haryana, they decide community matters.



Narikoravan and Kurivikkaran hill tribes of Tamil Nadu.

- The Narikuravar is an **indigenous community in Tamil Nadu.**
- The **main occupation of the people is hunting**, but as they were prohibited entry into the forests, they were forced to take up other alternatives such as selling beaded ornaments to survive.
 - They migrate from place to place to find a market for their beads.
- Children follow the adults wherever they go, which means they never get to attend school.**
- During British rule, they were placed under the Criminal Tribes Act of 1871 and hence stigmatized for a long time. However, they were denotified in 1952, but the stigma continues.
- Their original name is Kuruvikkaran or Nakkale or Akkibikki but wrongly named Narikurava.
- They **speak the unclassified Indo-Aryan language called Vaagri Booli.**
- Almost all Narikuravas are well-versed in Tamil.
- Although all they come under one roof based on their common clan they were broadly sub-divided into two sub-divisions: the buffalo-sacrificers and goat-sacrificers.

Binjhia tribe in Chhattisgarh

- The Binjhia is an ethnic group found in Chhattisgarh, Odisha and Jharkhand.
- According to some sources, the **name Binjhia is derived from the word Vindhya meaning Vindhya Hills.**
 - The Binjhias believe that their original home was Kolanagari in the Vindhya valley.

- From Vindhya hills, they moved eastwards to Chhotnagpur, Keonjhar, Sundargarh and Barasombar.
- A long time ago they called themselves Vindhyanis. But after settling down at Chhotnagpur, gradually they were called Binjhia by the local people.
- **The Binjhia settlements are large and homogeneous. They do not practice clan exogamy.**
- They also **allow cross-cousin marriage, levirate, sorority, and remarriage of widows and divorcees.**
- They **practice both burial and burning of the dead.**
- They worship several benevolent and malevolent spirits along with Hindu gods and goddesses Such as Jagannath.
- They still use barter systems at the village community level and the weekly markets.
- Women are an important part of all forms of socio-economic transactions.

Constitutional Safeguards for STs

- **Article 15**, Special provisions for the advancement of other backward classes(which includes STs).
- **Article 23**, Prohibition of traffic in human beings and beggars and other similar forms of forced labour.
- **Article 24**, Forbidding Child Labour.
- **Article 29**, Protection of Interests of Minorities (which includes STs).
- **Article 46**, State shall promote, with Special care, the educational and economic interests of the weaker sections of the people, and in particular, of SCs, and the STs, and shall protect them from social injustice and all forms of exploitation.
- **Article 164**, Provides for Tribal Affairs Ministers in Bihar, MP and Orissa.
- **Article 243**, Reservation of seats in Panchayats.
- **Article 244**, Provisions of the 5th 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 the 6th Schedule.
- **Article 275**, Grants in-Aid to specified States (STs and SCs) covered under 5th and 6th Schedules.
- **Article 330**, Reservation of seats for STs in Lok Sabha.
- **Article 337**, Reservation of seats for STs in State Legislatures.
- **Article 334**, 10 years period for reservation (Amended several times to extend the period).
- **Article 350**, Right to conserve distinct Language, Script or Culture.
- **Article 350**, Instruction in Mother Tongue.
- **Article 371**, Special provisions in respect of the NE States and Sikkim.
- Service Safeguards under Art 16, 335, and 320.
- **Safeguards under Various laws:**
 - SCs & STs (Prevention of Atrocities) Act.
 - Bonded Labour System (Abolition) Act.
 - Child Labour (Prohibition and Regulation) Act.
 - Forest Conservation Act, Panchayati raj (Extension to Scheduled Areas) Act.
 - Minimum Wages Act 1948.

DOCTRINE OF THE BASIC STRUCTURE

GS-II POLITY

In News

- The Supreme Court of India hearing the constitutional validity of reservation for Economically Weaker Sections (EWS).
- The Constitution Bench led by the Chief Justice of India (CJI) **has decided to examine three key issues to verify the validity of the 103rd amendment.**
 - Whether the 103rd Constitution Amendment breach the **basic structure of the Constitution** by making special provisions, including reservation, based on economic criteria.
 - Whether the amendment can be said to breach the basic structure...by making special provisions in relation to admission to private unaided institutions.
 - Whether the basic structure is violated by "excluding the SEBCs (Socially and Educationally Backward Classes)/ OBCs (Other Backward Classes)/ SCs (Scheduled Castes)/ STs (Scheduled Tribes) from the scope of EWS reservation".
- The primary argument, in this case, is that the amendment violates the basic structure of the Constitution. However, there is no clear definition of basic structure.
 - It violates the Supreme Court's 1992 ruling in **Indra Sawhney & Ors v Union of India**, which restricted reservations at 50%. **The court held that economic backwardness cannot be the sole criterion for identifying a backward class.**
- The Ministry of Social Justice and Empowerment argued that under **Article 46 of the Indian Constitution**, the state has a duty to protect the interests of economically weaker sections: "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."

Details

- Under the Indian Constitution, Courts are empowered to invalidate executive orders and also legislative enactments that violate any part of the Fundamental Rights guaranteed in Part III of the Constitution.
- **In 1973 in *Kesavananda Bharati*, a Bench of 13 judges held that Parliament has the power to amend the Constitution under Article 368, but no amendment would be permissible if it altered “the basic structure or framework of the Constitution”.**

Basic Structure of the Constitution

- **In the *Shankari Prasad case (1951)***, the constitutional validity of the 1st Amendment Act (1951), which trimmed the right to property, was challenged.
 - The Supreme Court ruled that the Parliament’s power to amend the Constitution under Article 368 also includes the power to amend Fundamental Rights.
 - Therefore, the Parliament can shorten or take away any of the Fundamental Rights by enacting a constitutional amendment act.
- **In the *Golak Nath case (1967)***, the constitutional validity of the 17th Amendment Act (1964), which inserted certain state acts in the 9th Schedule, was challenged.
 - The Supreme Court ruled that the Fundamental Rights are given a ‘transcendental and immutable’ position and hence, the Parliament cannot shorten or take away any of these rights.
- **The Parliament reacted to the Supreme Court’s judgement in the *Golak Nath case (1967)* by enacting the 24th Amendment Act (1971).**
 - It declared that the Parliament has the power to shorten or take away any of the Fundamental Rights under Article 368.
- **In the *Kesavananda Bharati case (1973)***, the Supreme Court overruled its judgment in the *Golak Nath case (1967)*.
 - The Court stated that Parliament is empowered to shorten or take away any of the Fundamental Rights. At the same time, it laid down a new doctrine of the ‘basic structure’ (or ‘basic features’) of the Constitution.
 - It ruled that the power of Parliament under Article 368 does not allow it to alter the ‘basic structure’ of the Constitution.
- **In the *Minerva Mills case (1980)***, the court held that: “Since the Constitution had conferred a limited amending power on the Parliament, the Parliament cannot under the exercise of that limited power enlarge that very power into absolute power.
- The current position is that the **Parliament under Article 368 can amend any part of the Constitution including the Fundamental Rights but without affecting the ‘basic structure’ of the Constitution.**

Elements of the Basic Structure

- The Supreme Court is yet to define or clarify what constitutes the ‘basic structure’ of the Constitution.
- **From the various judgments, the following have emerged as ‘basic features’ of the Constitution:**
 - Supremacy of the Constitution.
 - Sovereign, democratic and republican nature of the Indian polity.
 - Secular character of the Constitution.
 - Separation of powers between the legislature, the executive and the judiciary.
 - Federal character of the Constitution.
 - Unity and integrity of the nation.
 - Welfare state (socio-economic justice).
 - Judicial review.
 - Freedom and dignity of the individual.
 - Parliamentary system.
 - Rule of law.
 - Harmony and balance between Fundamental Rights and Directive Principles.
 - Principle of equality.
 - Free and fair elections.
 - Independence of Judiciary.
 - Limited power of Parliament to amend the Constitution.
 - Effective access to justice.
 - Principles (or essence) underlying fundamental rights.
 - Powers of the Supreme Court under Articles 32, 136, 141 and 142.
 - Powers of the High Courts under Articles 226 and 227.

PRADHAN MANTRI AWAS YOJANA

GS-II GOVERNANCE

In News

- The Union Ministry of Rural Development has decided to impose penalties on the State governments for the delay in the completion of the Pradhan Mantri Awas Yojana (Gramin).
- According to a recent report, West Bengal, Chhattisgarh, Odisha, and Assam, are the leading four States who are far behind their targets.
 - The initial deadline for the scheme was March 2022, which was extended by another two years till March 2024 due to the COVID-19 pandemic.
- The Ministry sent a circular to all States listing that if a house construction is delayed for more than one month from the date of issue of the target, the State government will be penalized Rs 10 per house for the first month of delay and Rs 20 per house for each subsequent month of delay.

Pradhan Mantri Awas Yojana

- The Ministry of Housing and Urban Poverty Alleviation launched Pradhan Mantri Awas Yojana in 2015.
- The Programme was initiated with the objective of 'Housing for All by 2022'.
- Providing housing Facilities to rural poor and urban poor including slum dwellers
- Financial assistance is provided to eligible beneficiaries for the construction of pucca houses.
- The Centre and States share the Cost of the houses made under the scheme.
- The mission has 2 Components: Pradhan Mantri Awas Yojana (Urban) and Pradhan Mantri Awas Yojana (Rural).
- Pradhan Mantri Awas Yojana Gramin (PMAY-G) was formerly called the Indira Awas Yojana and was renamed in March 2016.
 - It is targeted at promoting accessibility and affordability of housing for all of rural India with the exceptions of Delhi and Chandigarh.
- Pradhan Mantri Awas Yojana (Urban) Programme
 - In Situ Slum Redevelopment:** A slum rehabilitation grant of Rs. 1 lakh per house, on average, would be admissible for all houses built for eligible slum dwellers in all such projects. Slums so redeveloped should compulsorily be denotified.
 - Affordable Housing through Credit Linked Subsidy:** Under Credit Linked Subsidy, beneficiaries of Economically Weaker Section (EWS) and Low Income Group (LIG) can seek housing loans from Banks, Housing Finance Companies and other such institutions for new construction and enhancement of existing dwellings as incremental housing.
 - Affordable Rental Housing Complexes:** It will be a mix of single/double bedroom Dwelling Units and a Dormitory of 4/6 beds including all common facilities which will be exclusively used for rental housing for a minimum period of 25 years.
- Aadhar Card is mandatory to take benefit of the scheme.
- Economically weaker sections and Middle-Income Groups are also eligible for financial assistance under the Missions.
- Priority is given to SCs, STs, OBSs, differently-abled persons, senior citizens, minorities, single women, transgender and other Socio-economic weaker sections of the society.
- Identifying beneficiaries eligible for assistance and their prioritisation to be done using information from the Socio-Economic and Caste Census (SECC) ensures total transparency and objectivity.
- The ownership of houses is provided in the name of female members or joint names.
- Houses made under the scheme would ensure basic facilities like salutation, tap water connection, etc.
- Under the scheme, the Government promoted Training to Rural Masons under Rural Mason Training (RMT) programme to make a pool of trained rural masons available for faster construction of quality houses.

Present Status

- The Prime Minister has said that the Government has provided pucca houses to 2.5 crore families across the country — of these, 2 crore houses are in rural areas.
- To achieve the target of "Housing for All", the Union Government is implementing Pradhan Mantri Awas Yojana.
- It aims to assist eligible rural households with an overall target to construct 2.95 crore pucca houses with basic amenities by March 2024.

Objectives of Pradhan Mantri Awas Yojana

- To promote the empowerment of citizens, the Ownership of a house is one of the key indicators of socio-economic development.
- They are ensuring Women's empowerment through the Scheme, as the ownership of the house is provided in the name of a female member or joint ownership.
- To Promote Cooperative Federalism, Autonomy is given to States/UTs to decide the list of beneficiaries and adopt innovative

methods to implement housing projects.

INDIRA GANDHI URBAN EMPLOYMENT SCHEME

GS-II GOVERNANCE

In News

- The State government of Rajasthan has launched an urban employment guarantee scheme.
- The scheme is inspired by the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA), and it would provide guaranteed work to people in distress.

Details

- The main objective of the scheme is to provide economic support to the poor and needy families living in the cities through the work on-demand principles for 100 days a year.
 - Work for people aged between 18 and 60 years in eligible families.
- A Janaadhar card or its registration slip would be necessary for the registration, which will be done at e-Mitracentres.
- More than 3.5 lakh people across the State got themselves registered under the scheme and the job cards were issued to 2.25 lakh of them.
- The State government had appointed several committees at various levels for the effective implementation of the scheme.
- It would provide livelihood opportunities to the pandemic-affected families and also ease the burden of high inflation.
- It will reduce the unemployment rate in urban areas.
- Eligible people would get employment in areas such as;
 - Environment and water conservation.
 - Cleanliness and sanitation.
 - Stopping defacement of property.
 - Service-related works.
 - Convergence work and heritage conservation.
 - Tree plantations.
 - Cleaning ponds.
 - Collecting garbage.
 - Catching stray animals.
- The programme will provide economic security and also create urban assets.
- It will also help in protecting the environment, reducing migration and promoting social equity, etc.
- It focuses on the economic and social empowerment of women.
- It provides "Green" and "Decent" work.
- Works under the scheme would help to address the climate change vulnerability and protect the urban area from such risks and conserve natural resources.

Significance of the Step

- It will provide a 'right to work' in accordance with Article 41 which directs the State to secure for all citizens the right to work.
- It also protects the environment through sustainable urban works, which is consistent with Article 48A which directs the State to protect the environment.
- Article 21 guarantees the right to life with dignity to every citizen of India, this act promotes dignity among the rural people through an assurance of livelihood security.
- Article 16 guarantees equality of opportunity in matters of public employment and prevents the State from discriminating against anyone in matters of employment on the grounds only of religion, race, caste, sex, descent, place of birth, place of residence or any of them.
- It will also follow Article 46 which requires the State to promote the interests of and work for the economic uplift of the scheduled castes and scheduled tribes and protect them from discrimination and exploitation.
- Article 40 mandates the State to organize village panchayats and award them with such powers and authority as may be necessary to enable them to function as units of self-government.

100 DAYS OF EMPLOYMENT IN A YEAR TO INTERESTED FAMILIES

Get registered today at your urban body or any E-Mitra centre

Register your family through Jan Aadhar card

People aged 18 to 60 years are eligible

So far, more than 2.25 lakh families are registered

WORKS TO BE CARRIED OUT UNDER THE SCHEME

- Environmental Protection • Water Conservation
- Heritage Conservation • Maintenance of Parks
- Removal of encroachment and illegal boards, hoardings, banners etc.
- Cleanliness and Sanitation and other works

Way Forward

- The major problem right now is low consumption demand due to a decline in income, and businesses cannot sell their goods, which means that they have no reason to hire. The less consumer demand results in less job generation. And less job generation results in less demand.

- The government tries to increase spending, by supporting businesses, promoting ease of doing business, increasing capital expenditure, and providing several socio-economic benefits through several schemes such as UJJWALA, PM-KISAN, PM-Garib Kalyan etc. By doing this the government creates demand in the economy, which in turn expands business and creates new jobs.
- Employment programs play an important role in the economy by protecting workers' incomes, improving their standard of living, and supporting the economy during recessions.

LIVE STREAMING OF SUPREME COURT PROCEEDING

GS-II GOVERNANCE

In News

- The Supreme Court of India has decided to live stream its proceedings in important Constitution Bench cases.

Present status of live streaming of judicial proceedings in India

- In 2018, a Supreme Court bench had agreed to hear a PIL (Public Interest Litigation) aspiring live streaming of judicial proceedings on important matters of constitutional and national importance.
- The Supreme Court approved a set of guidelines and also did not allow live streaming in the cases involving:
 - Matrimonial matters.
 - Matters involving juveniles or the protection and safety of the private life of young offenders.
 - Matters of National security.
 - To ensure that victims, witnesses or defendants can depose truthfully and without any fear. Special protection must be given to vulnerable or intimidated witnesses.
 - ✓ It may provide for face distortion of the witness if she/he consents to the broadcast anonymously.
 - ✓ To protect confidential or sensitive information, including all matters relating to sexual assault and rape.
 - Cases which may provoke sentiments and arouse passion and provoke enmity among communities.
- Currently, the Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Orissa, and Patna High Courts live stream their proceedings.

Live streaming of judicial proceedings around the Globe

- **In USA:** The US Supreme Court has rejected appeals for the broadcast of its proceedings, but since 1955 allowed audio recording of oral arguments.
- **In Australia:** Live or delayed broadcasting is allowed but the practices differ across courts.
- **In Brazil:** Since 2002, live video and audio broadcasts of court proceedings are allowed.
- **In Canada:** Court Proceedings are broadcast live on Parliamentary Affairs Channel.
- **In United Kingdom:** Court Proceedings are broadcast live with a one-minute delay on the court's website, but coverage can be withdrawn in sensitive appeals.

Significance of the step

- Broadcasting court proceedings will ensure transparency and greater access to the justice system.
- Citizens have a right to know what arguments are made and the responses of the judges as their judgements bind us all.
- The principle "justice should not only be done but seen to be done".
- Live Streaming would empower, and provide access to citizens who cannot personally come to court due to social, economic, health, or physical disability-related limitations.
- It would enable citizens to have first-hand information on case proceedings on issues of constitutional importance that affect them directly or indirectly.

Concern

- The individuality of judges is more likely to become a subject of public debate through live-streaming, creating problems of its own.
- Lawyers aspiring to publicize themselves through their addresses to the Bench.
- It will affect the normalcy of the proceedings.
- Video clips of court proceedings are already on social media platforms with sensational titles and little context, such as "HIGH COURT super angry on IAS/IPS officer". This irresponsible use of content could spread disinformation among citizens.

Way Forward

- Live streaming is neither required in all types of matters nor in all courts.
- Live streaming or videography could be avoided in the matters which have a privacy dimension, such as family matters or criminal matters.
- Any Kind of Misuse of court proceedings video must be dealt with strict law and also need to formulate guidelines to promote the positive impact while curbing the negative one.

NCRB DATA ON HUMAN TRAFFICKING

GS-II SOCIAL JUSTICE

In News

- According to the latest report released by the National Crime Records Bureau (NCRB), the **conviction rate in human trafficking cases across the country is only 16%**.
 - No data on convictions was available for 11 states, as many as 8 states and 3 Union territories saw no convictions.
 - Jharkhand was the top performer with a conviction rate of 84.2%.**
- The **highest number of human trafficking cases was registered in Telangana** (347 cases), Maharashtra (320 cases), and Assam (203 cases).

Human Trafficking

- Human trafficking is defined as the **forceful exploitation of a person**.
- It is the trade of humans for the purpose of forced labour, Prostitution, etc.
- According to the data released by National Crime Records Bureau, the **highest number of persons was trafficked for forced labour, followed by prostitution**.



Root causes of human trafficking

- The Reasons behind increasing trafficking vary from country to country and often differ from one country to another.
- Social, political, economical, cultural and other factors play a key role in Promoting Trafficking.** Women and children are extremely vulnerable to trafficking.
- Socio-economic conditions like poverty, caste discrimination or violence, lack of economic opportunity, Political violence, Climate change, and natural disasters influence trafficking.**
 - Displacement of populations increases their vulnerability to becoming a victim of trafficking.**
- Increasing penetration of broadcast and telecommunication services and social media in rural areas has increased the desire of people to migrate to the city and, with that; they are becoming easy targets for traffickers.
- In Some Poor families, Parents sell their children due to their weak financial condition, and also in the hope that their children would get a better standard of living and more opportunities in life.
- Other factors like porous borders, corruption among Government officials, and weak enforcement of Anti-trafficking laws.**

Major Steps by Government

- The government enacted the **Immoral Traffic (Prevention) Act, of 1956** to deal with trafficking for the purpose of sexual exploitation.
- Bonded Labour Regulation Act, 1986 and Child Labour Regulation Act, 1986** deal with the exploitation of bonded labour.
- India is part of the United Nations Convention against Transnational Organized Crimes, and its Protocol to Prevent, Suppress and Punish Trafficking.**
- The Trafficking of Persons (Prevention, Protection and Rehabilitation) Bill, 2018 was introduced in Parliament. It contains provisions for the prevention, rescue, and rehabilitation of trafficked persons.
- The Union government created a **National Anti-Trafficking Bureau** to monitor the investigation of cases at the national level.

Way forward

- Human Trafficking is an organized crime and operated across domestic and international borders, the nature of the crime needs strong cooperation and intelligence sharing between different investigating agencies.**
- Steps must be taken for the socio-economic development of potential victims to reduce their vulnerability.
- Focus on improving children's access to educational and vocational training, especially among girls and minority groups.
- Promoting job opportunities for women by supporting Self Help Groups (SHGs) and organizing training courses to empower them.

- Prohibiting the services provided through trafficked persons, like child labour, prostitution, etc.
- **Need to ensure a minimum standard of living for all people, Strict Border control through proper fencing and regular patrolling, Prevent corruption in bureaucracy, etc, to curb the menace of trafficking.**
- **Steps should be taken to set up Protection Homes across the country, to provide shelter, food, counselling, and medical services to victims.**
- Our development goals must include both economic development and social inclusion.

PM SHRI SCHEME

GS-II SOCIAL JUSTICE

In News

- On the occasion of Teacher's Day, the **Prime Minister highlighted that under the Pradhan Mantri Schools For Rising India (PM-SHRI) Yojana, the government will develop and upgrade 14, 500 schools across India.**
- The Prime Minister stated that the PM-SHRI Yojana **would benefit lakhs of students across India and also support the implementation of the National Education Policy (NEP).**

New Education Policy-2020

- The National Education Policy (NEP) 2020 was released in July 2020.
- NEP 2020 will **replace the National Policy on Education, 1986.**
- It aims at **ensuring Universal Access at All Levels of schooling** from pre-primary school to Grade 12.
- It Ensures quality early childhood care and education for all children between 3-6 years.
- **It introduced a New Curricular and Pedagogical Structure (5+3+3+4).**
 - 5 years of foundational stage (for ages 3 to 8).
 - 3 years of preparatory stage (for ages 8 to 11 or classes 3 to 5).
 - 3 years of middle stage (for ages 11 to 14 or classes 6 to 8).
 - 4 years of secondary stage (for ages 14 to 18 or classes 9 to 12).
- No strict separations between arts and sciences, between curricular and extracurricular activities, and between vocational and academic streams.
- To establish a **National Mission on Foundational Literacy and Numeracy.**
- Reform in Assessment of Board Exams. Setting up a new National Assessment Centre, PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development).
- Special priority is given to socially and Economically Disadvantaged Groups.
- A **separate Gender Inclusion fund and Special Education Zones** for disadvantaged regions and groups;
- A transparent process for recruitment of teachers and merit-based performance assessment.
- Ensuring availability of all resources through school complexes and clusters. Setting up of the State School Standards Authority. Promoting Vocational education in school and higher education systems.
- **Increasing Gross Enrolment Ratio (GER) in higher education to 50%.** Multidisciplinary Education with multiple entry/exit options. Establishment of Academic Bank of Credit
- All higher education institutions (HEIs) will be **restructured into 3 categories:**
 - Research universities focus equally on research and teaching.
 - Teaching universities focus primarily on teaching.
 - Degree-granting colleges primarily focused on undergraduate teaching.
- Multiple mechanisms with checks and balances will combat and stop the commercialization of higher education.
- All education institutions will be held to similar standards of audit and disclosure as not-for-profit entities.
- The Centre and the States will work together to increase the public investment in the Education sector to **reach 6% of GDP** at the earliest.
- Strengthening of the Central Advisory Board of Education to ensure coordination to bring overall focus on quality education.

Challenges in Indian Education System

- India has achieved universal enrolment at the elementary level. This is a great achievement, but getting Students to School is only the beginning of human Capital formation.
- Poor quality of facilities, Shortage of qualified faculty.
- **Out of date Curriculum, Limited university-industry Partnership.**
- Indian-origin Scientists have won the Nobel Prize, but post-independence work done in India has not led to a Science novel. If Indians Studying and working abroad can have a great impact, then obviously the problem has to do with our Systems of education and research.
- Broken Governance System. There are few rewards for being a good teacher and few Punishments for being a Careless one. Need more effective and accountable governance Systems.

- The greed of Private Colleges to earn the maximum from every Student puts traumatic Pressure on Students which results in mental breakdown.
- **More girls than boys drop out of School. While boys drop out to work, girls usually Stay at home and help with domestic Work.** Social Conception of gender roles is an important factor.
- Learning loss due to pandemics and the digital divide.

Steps taken by the Government

- **The 86th Constitution Amendment provides the Fundamental right to free and compulsory education under Article 21A** includes a Common education System where the "rich and Poor are educated under one roof". **Rashtriya Uchchatar Shiksha Abhiyan** provides funding to eligible State higher educational institutions.
- Declaration of Educational Institutions as **institutions of Eminence**, to provide world-class education to Indian Students within the Country.
- Creation of **Higher Education Financing Agency**, for high-quality infrastructure in Premier educational institutions. **National Institution Ranking Framework** for ranking our higher education institutions.
- **GIAN Initiative** invites distinguished academicians, entrepreneurs, scientists, and experts from premier institutions across the world to teach in higher educational institutions in India.
- Artificial Intelligence (AI) can be used to Provide Personalised instructions based on Student needs. The government needs to work on **improving digital infrastructure and ensure that students have access to mobile phones or laptops.**
- **SWAYAM Prabha** Provide HD educational Channels through DTH on a 24X7 basis.
- Sodhganga to develop a national repository of universities in India, and digital Study material for higher education.
- **SamagraShiksha Scheme to ensure inclusive and equitable quality education at all levels of school education.**
- The government is encouraging Open Online Courses via Swayam Platforms So that Students Can have access to quality lectures online.

POSHAN MAAH

GS-II SOCIAL JUSTICE

In News

- The Union Ministry of Women and Child Development is observing the 5th Rashtriya **Poshan Maah 2022 from 1st to 30th September 2022.**
- The objective of the month-long event is to institute Poshan Panchayats through Gram Panchayats with a focus on **"MahilaaurSwasthya" and "Bacha aurShiksha"**.
- Awareness programme to be organised across the nation through identification drives, camps and fairs with a special focus on pregnant and lactating women, children below 6 years and adolescent girls.

Related News

- Recently a guideline released by the Women and Child Development (WCD) Ministry has clarified that the **Aadhaar Card details of children are not mandatory under the PM-Poshan scheme.**
- The Ministry highlighted that it will **ensure that the benefits under the Poshan scheme are delivered using the mother's Aadhaar ID.**

Poshan Schemes

- POSHAN (Prime Minister's Overarching Scheme for Holistic Nutrition) Abhiyaan was launched by the Prime Minister of India in 2018 to improve nutritional outcomes for children under 6 years of age, pregnant women and lactating mothers.
 - Recently Mission Poshan 2.0 (SakshamAnganwadi and Poshan 2.0) has been launched as an integrated nutrition support program to strengthen nutritional content, delivery and outcomes with a principle of expanding practices that facilitate health, wellness and immunity and malnutrition.
- **The name of the Midday Meal Scheme was changed to PM-POSHAN (Pradhan MantriPoshan Shakti Nirman) Scheme, in September 2021, by the Ministry of Education.**
 - The Central Government also announced that an additional 24 lakh students receiving pre-primary education at government & government-aided schools would also be included under the scheme by 2022.
- The **Midday Meal Scheme** is a school meal programme in India designed to better the nutritional standing of school-age children nationwide, under the Ministry of Education.
 - **The programme supplies free lunches on working days for children in primary and upper primary classes** in government, government-aided, local body, Education Guarantee Scheme, and alternate innovative education centres, *Madarsa* and *Maqtabs* supported under SarvaShikshaAbhiyan, and National Child Labour Project schools run by the ministry of labour.
 - Serving 120 million children in over 1.27 million schools and Education Guarantee Scheme centres, the Midday Meal

Scheme is the largest of its kind in the world.

- The Midday Meal Scheme is covered by the National Food Security Act, 2013.

National Food Security Act, 2013

- The National Food Security Act, 2013 was notified to **provide food and nutritional security**.
- The **objective of the Act is to provide food and nutritional security** in the human life cycle approach, by ensuring access to an adequate quantity of quality food at affordable prices for people to live a life with dignity.
- The Act **provides for coverage of up to 75% of the rural population and up to 50% of the urban population** for receiving subsidized food grains under the Targeted Public Distribution System (TPDS), thus covering about two-thirds of the population.
- The eligible persons will be entitled to receive 5 Kg of foodgrains per person per month at subsidised prices of Rs. 3/2/1 per Kg for rice/wheat/coarse grains.
- The existing Antyodaya Anna Yojana (AAY) households, which constitute the poorest of the poor, will continue to receive 35 Kg of foodgrains per household per month.
- Corresponding to the all-India coverage of 75% and 50% in the rural and urban areas, **State-wise coverage is determined by the Central Government**.
- The work of identification of eligible households is to be done by States/UTs.
- Pregnant women and lactating mothers and children in the age group of 6 months to 14 years are entitled to meals as per prescribed nutritional norms **under Integrated Child Development Services (ICDS) and Mid-Day Meal (MDM) schemes**.
- Children up to 14 years of age are entitled to nutritious meals as per the prescribed nutritional standards. In case of non-supply of entitled food grains or meals, the beneficiaries will receive a food security allowance.
- Besides meals to pregnant women and lactating mothers during pregnancy and six months after childbirth, such **women are entitled to receive maternity benefits of not less than Rs. 6,000**.
- The eldest woman of the household age 18 years or above be the head of the household to issue ration cards.
- Grievance redressal mechanism at the District and State levels. States will have the flexibility to use the existing machinery or set up separate mechanisms.

JOB POLICY FOR TRANSGENDERS

GS-II SOCIAL JUSTICE

In News

- The Supreme Court of India provided 3 month time period to the Union Government to frame a policy for the employment of transgender persons.
- The Court order was the outcome of a petition filed by Shanavi Ponnusamy, a transgender person.
 - The court said that the case raised wider issues about the formulation of government policy to ensure the guarantee of non-discrimination against transgender people.
- The **court highlighted that the government should follow the provisions of the Transgender Persons (Protection of Rights) Act of 2019 in "letter and spirit"**.

Transgender Persons (Protection of Rights) Act of 2019

- The Act describes a transgender person as one whose gender does not match the gender entrusted at birth.
 - It includes transmen and trans-women, gender-queers, persons with intersex variations, and persons with socio-cultural identities, such as kinnar and hijra.
- It prohibits discrimination against a transgender person, including refusal of service or unfair treatment with respect to:
 - Education
 - Employment
 - Healthcare
 - Right to reside, rent, or otherwise occupy a property.
 - Access to a government or private establishment.
 - Right to movement.
 - Opportunity to hold public or private office.
 - Access to, or enjoyment of goods, facilities, and opportunities available to the public.
- A transgender person has a **right to reside in his household**.
 - If the family is unable to care, the transgender person may be shifted to a rehabilitation centre, after the court order.
- **No Public or private entity can discriminate against them in employment matters, including recruitment, and promotion.**
 - Every organization is required to appoint a person as a complaint officer to deal with complaints.
- **Educational institutions must provide inclusive education**, sports and recreational facilities for transgender persons, without discrimination.

- The government needs to take steps to provide healthcare facilities to them including separate HIV surveillance centres, and sex reassignment surgeries.
 - The government shall review the medical curriculum, address the health issues of transgender persons, and provide complete medical insurance schemes for them.
- **A transgender person may apply to the District Magistrate for a certificate of identity.**
 - A revised certificate only if the individual undergoes surgery to change their gender either as a male or a female.
- The government will take steps to ensure their inclusion and participation in society.
 - Government must take steps for their rescue and rehabilitation, vocational training and self-employment, and promote their participation in cultural activities.
- **The Act recognizes the following offences against transgender persons:**
 - Forced or bonded labour (excluding compulsory government service for public purposes).
 - Denial of use of public places.
 - Removal from the household, and village.
 - Physical, sexual, verbal, emotional or economic abuse.
 - Penalties for these offences vary between 6 months and 2 years, and a fine.
- **The Act established a National Council for Transgender persons (NCT) to advise the union government and also to monitor the implementation and impact of policies, legislation and projects with respect to transgender persons. It will also redress the grievances of transgender persons**
- **National Council for Transgender persons (NCT) consist of:**
 - Union Minister for Social Justice (Chairperson)
 - Minister of State for Social Justice (Vice-Chairperson)
 - Secretary of the Ministry of Social Justice
 - One representative from ministries including Health, Home Affairs, and Human Resources Development.
 - Other members include representatives of the NITI Aayog and the National Human Rights Commission.
 - State governments will also be represented.
 - 5 members from the transgender community.
 - 5 experts from non-governmental organisations.

Concerns

- **Transgender face numerous forms of discrimination and injustice**, exclusion from participation in social and cultural life, education, and economic sphere, and political and decision-making processes.
- **Their problems, like any other social problem, are multi-dimensional.** Its roots are found in the diverse patterns of its intertwined and interlocked social fabrics.
- **In India, there is a lack of adequate provision for treatment and social rehabilitation.** In the absence of any reasonable alternative, such persons are forced to beg.
- Economic factors prompt them to take to begging. Among these factors poverty, unemployment, under-employment and loss of income are important.

Way forward

- **Discrimination against transgenders is also a Social problem and has to be seen holistically as there are numerous contributory factors such as poverty, unemployment, disability and migration.**
- Rehabilitate through rehabilitation centres, setting up Counseling Committees to interact with them and assist them.
- **Sensitizing people and authorities, Coordination of stakeholders such as Civil Society, Government, media, police and Citizens are needed to end discrimination.**
- As a progressive and developing society, it is our duty to respect the identity and dignity of all sections of society.

NEW ADOPTION RULES

GS-II SOCIAL JUSTICE

In News

- New Adoption rules create confusion over the implementation of the provision that requires the transfer of adoption petitions from courts to District Magistrates (DMs).
 - Social activists, Parents, and adoption agencies have raised concerns that it could lead to further delays in the adoption procedure.
- Last year, the Indian Parliament passed the Juvenile Justice (Care and Protection of Children) Amendment Act, 2021, which empowers DMs to give adoption orders.
 - The amendments came into effect on 1st September 2022.



Juvenile Justice (Care and Protection of Children) Amendment Act, 2021

- The Bill amends the Juvenile Justice (Care and Protection of Children) Act of 2015.
- The amendment Act contains provisions related to children in conflict with the law and children in need of care and protection.
- The Act provides that the Juvenile Justice Board will inquire about a child who is accused of a serious offence.
 - Serious offences are those for which the punishment is imprisonment between 3 to 7 years.
- The Act prescribes the procedure for the adoption of children by prospective adoptive parents from India and abroad.
- The Act provides that instead of the court, the District Magistrate (including the Additional District Magistrate) will issue adoption orders.
 - Any person unsatisfied with an adoption order passed by the District Magistrate may file an appeal before the Divisional Commissioner, within 30 days from the date of passage of such order.
 - Such appeals should be disposed of within 4 weeks from the date of filing of the appeal.
- Additional functions of the District Magistrate: These include:**
 - Supervising the District Child Protection Unit.
 - Conducting a quarterly review of the functioning of the Child Welfare Committee.
- The Act provides that states constitute one or more CWCs for each district for dealing with children in need of care and protection.



Related news

- Recently a report on "Review of Guardianship and Adoption Laws" was tabled by the Parliamentary Standing Committee on Personnel, Public Grievances and Law and Justice in Parliament of India.
- The report found that there are only 2,430 children available for adoption in a country with millions of orphans.
 - They mentioned that it is important to get a real picture of the number of orphaned/abandoned children through a district-level survey and the data needs to be updated regularly.
- The panel has suggested that a monthly meeting chaired by the District Magistrate should be held in every district to "ensure that orphan and abandoned children found begging in streets are produced before the Child Welfare Committee and are made available for adoption at the earliest."

Other Key Recommendations of Parliamentary panel on Review of Guardianship and Adoption Laws

- **Granting equal rights to mothers as guardians** under the Hindu Minority and Guardianship Act (HMGA), 1956 instead of treating them as associates to their husbands.
- **Joint custody of children during marital disputes or divorce.**
 - Courts should grant joint custody to both parents when such a decision is necessary for the welfare of the child, or award sole custody to one parent with visitation rights to the other.
- **Allowing the LGBTQI (Lesbian, gay, bisexual, transgender, queer and intersex) community to adopt children.**
- Amend the Hindu Minority and Guardianship Act, 1956 (HMGA) and **provide equal treatment to both mother and father as natural guardians** as the present law violated the right to equality and right against discrimination envisaged under Articles 14 and 15 of the Constitution.
- Need for a new legislation that harmonises the Juvenile Justice (Care and Protection of Children) Act, 2015 and the Hindu Adoptions and Maintenance Act (HAMA), 1956 and such a law should cover the LGBTQI community as well.

The present law on guardianship and adoption

- In the case of guardianship of a minor child, Indian laws accord superiority to the father
 - Under the religious law of Hindus, or the Hindu Minority and Guardianship Act, (HMGA) 1956, the natural guardian of a Hindu minor is the father, and after him, the mother.
- The HAMA which applies to Hindus, Sikhs, Jains and Buddhists allows men and women to adopt if they are of sound mind and are not minors.
- The Muslim Personal Law (Shariat) Application Act, 1937 says that the Shariat or the religious law will apply in case of guardianship.
 - According to the law, the father is the natural guardian, but custody vests with the mother until the son reaches the age of 7 years and the daughter reaches puberty.
 - The Muslim law states that the welfare of the child is supreme to all. This is the reason why Muslim law gives preference to the mother over the father in matters of custody of children in their emotive years.
- In 1999, in the Githa Hariharan vs Reserve Bank of India case, which challenged the HMGA for violating the equality of sexes under Article 14 of the Indian Constitution?
 - The Supreme Court held that the term "after" should not be taken as "after the lifetime of the father", but rather "in the absence of the father".
 - The judgment failed to acknowledge both parents as equal guardians, subordinating a mother's role to that of the father.
- **The Adoption Regulations, 2017 is quiet on adoption by LGBTQI people** and neither bans nor allows them to adopt a child.
 - It set the eligibility criteria for adoptive parents saying that they should be physically, mentally and emotionally stable, financially capable and should not have any life-threatening medical condition.
 - Single men can only adopt a boy while a woman can adopt a child of any gender.
 - A child can be given for adoption to a couple only if they have been in a marital relationship for at least 2 years.
- **Central Adoption Resource Authority (CARA)** is a statutory body under the Ministry of Women and Child Development.
 - It was set up in 1990.
 - It became a statutory body under the Juvenile Justice (Care and Protection of Children) Act, 2015.
 - It is the nodal body for the adoption of Indian children and is mandated to monitor and regulate in-country and inter-country adoptions.

INDIA DISCRIMINATION REPORT 2022

GS-II SOCIAL JUSTICE

In News

- **Gender-based discrimination is the reason for 98% of the employment gap between males and females in urban India, an extensive analysis by Oxfam India has found.**

Key Findings of the India Discrimination Report 2022

- **Labour force participation rate (LFPR)**
 - **LFPR of women in India was just 25% in 2021.** It is broadly lower than Brazil, Russia, China and South Africa.
 - LFPR of women was 42.7% in 2004-05, and the significant decline indicates the withdrawal of women from the workforce despite rapid economic growth during the same period.
 - The low participation was largely due to gender discrimination in wages and opportunities.



- **Wage Gap**
 - Self-employed urban males earn 2.5 times more than their female counterparts. **83% of this wage gap is attributed to gender-based discrimination.**
 - The research found that discrimination against women in India is so high that there is hardly any difference observed across religious and caste-based sub-groups. All women, regardless of their socio-economic position, are highly discriminated against.
 - In rural areas, 93% of the gap in earnings between men and women is due to gender discrimination.
- **Discrimination delinked with educational qualifications**
 - The **employment status of women does not depend on their educational qualifications.** This leads to the alarming result emerging from a mathematical model that gender discrimination is almost total in the country. This is partly because women candidates are not selected by employers due to their gender-linked prejudices.
- **Social Norms**
 - A sizable segment of qualified women is not available in the labour market because of “family responsibilities” or the need to conform to social norms, status within the caste hierarchy and community, family traditions, etc, that are often at odds with participation in the labour force.
 - **Women in well-educated and economically better-off households** often withdraw from the labour force due to socio-cultural reasons.
 - Women do not enter the labour market due to “family reasons,” a lack of safety associated with travelling and timing requirements of jobs in addition to esoteric reasons ranging from “societal norms” and practices that associate respectability with staying out of the workforce for women.”
- **Lack of salaried jobs**
 - **60% of urban men are engaged in salaried jobs or are self-employed**, whereas this figure is reduced to a mere 19% for women.
 - While 53.8% of the 15+ population of men is engaged in salaried or self-employed work in rural areas, the figure for women is 23.3% only.
- **Scenario in rural areas**
 - In rural areas, any “social capital” gains, in terms of the education of the heads of households, reduce women’s probability of participation in regular salaried or self-employed work, implying that women from such households are less likely to seek and get jobs.
- **Exception of SC, ST communities**
 - There is a deviation for women belonging to Scheduled Caste and Scheduled Tribe communities, as observed by the Oxfam India study.
 - **SC and ST women start working at an early age without any formal education due to desperate socio-economic conditions**, the report noted. This means that more than educational qualifications or age, social factors are greater determinants for rural women stepping out – or keeping away – from work.
 - Notably, persons belonging to SC and ST communities earn Rs 5,000 less than the national average.



Effect of COVID-19: Key Findings

- Women during the first quarter of the pandemic (April-June 2020) recorded a massive increase in their unemployment rate, similar to that of men in urban areas. However, in rural areas, the unemployment rate for women was less than that of men over the same period. **The diminished effect of COVID-19 and subsequent lockdowns on women's employment in rural areas** could be due to women being engaged in agriculture and home-based activities in rural areas.
- The urban unemployment rate for women did not rise above men because a large segment of women workers was engaged as domestic help and in unskilled jobs, regularly, which saw less impact.
- The pandemic-induced lockdowns constrained the mobility of women much more than men, resulting in high employment losses in urban areas.

Recommendations to address the discrimination

- Actively enforce legislation for the protection of the right to equal wages and work.
- **Work to actively incentivize the participation of women in the workforce**, including enhancements in pay, upskilling, job reservations, easy return-to-work options, particularly after maternity leave, and the option to work from home, wherever possible.

- Work to ensure a more equitable distribution of household work and childcare duties between women and men.
- **Implement “living wages” as opposed to minimum wages**, particularly for all informal workers, and formalize contractual, temporary, and casual labour as much as possible.

Challenges faced by Women Workforce in India

- More women in the rural area in the labour force Compared to Urban areas.
- Gender wage gaps remain in every employment.
- **The double burden on women:** Balancing employment and domestic responsibilities (including household chores and caregiving).
- Safety concerns, Sexual harassment at the workplace.
- Migration, Unfair Sex ratio, and Environmental degradation have added to women’s vulnerability.
- **India is a male-dominated Society in which the Economic, Political, Religious, Social and Cultural institutions** are largely controlled by men.
- Control over women’s livelihood Choices and Sexuality has existed and evolved over Centuries through various discriminatory Social Practices and Institutions.
- **Despite laws, gender-based discrimination against women continues in Indian Society.** Clearly shows the laws and gaps in their implementation.
- The structure of judicial remedies is still insufficient to serve the needs of women, Particularly Poor and marginalized women, in accessing justice.
- **Development Programmes introduced to bring gender equality have produced mixed results.** Legislative Changes have faced resistance in their implementation due to Social, Cultural and religious Customs.
- There is no comprehensive policy support and there is a lack of effective implementation.
- **There is a lack of match between the aspirations of more educated women and the quality and availability of jobs.** Further, there is a lack of salaried opportunities available for women with moderate levels of education.
- **Insufficient formal wages and poor job opportunities** are other reasons for the decline.

Steps taken by Government to improve women's labour force participation

- **Scheme for Adolescent Girls** aims at girls in the age group 11-18, to empower and improve their social status through nutrition, life skills, home skills and vocational training
- **Pradhan Mantri Mahila Shakti Kendra scheme** promotes community participation through the involvement of Student Volunteers for the empowerment of rural women
- **National Crèche Scheme** to provide daycare facilities to children of the age group of 6 months to 6 years of working women who are employed.
- **Rashtriya Mahila Kosh (RMK)** to provide micro-credit to poor women for various livelihood support and income-generating activities at concessional terms
- **Working Women Hostels** for ensuring safe accommodation for women working away from their place of residence.
- **SABLA Scheme, Providing life Skills and Supplementary nutrition to out of School girls.**
- Sexual Harassment of Women at Workplace Act 2013 -Cover all women, of all ages, both in the public and private sector, whether organized or unorganized.
- **The Government enhanced paid maternity leave from 12 weeks to 26 weeks**, provision for mandatory crèche facilities in establishments having 50 or more employees, permitted women workers in the night shifts with adequate safety measures, etc.
- **The Equal Remuneration Act, 1976 now subsumed in the Code on Wages, 2019** provides that there shall be no discrimination in an establishment on the ground of gender in matters relating to wages by the same employer, in respect of the same work or work of similar nature done by any employee.
- To enhance the employability of female workers, the Government is providing training to them through a network of Women Industrial Training institutes, National Vocational Training Institutes and Regional Vocational Training Institutes.

DECLINING FERTILITY

GS-II SOCIAL JUSTICE

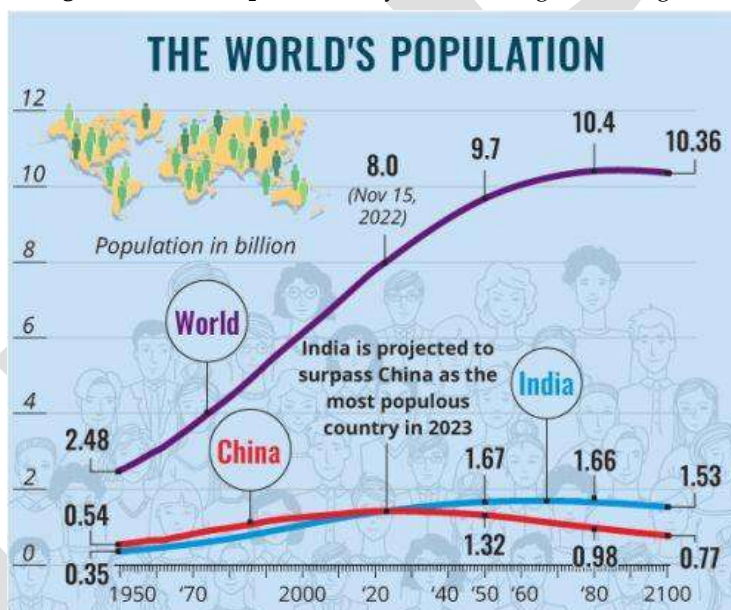
In News

- Recently the United Nations Department of Economic and Social Affairs, Population Division released the World Population Prospects 2022.
- The report highlighted that **the global population, in terms of numbers, has been steadily increasing and it could grow to around 8.5 billion in 2030.** However, the average global fertility has been consistently declining over the past 70 years.

Details

- **Total Fertility Rate (TFR);** the average number of children per woman in the reproductive age group has declined by 50%, from an average of 5 children per woman in 1951 to 2.4 children in 2020.
- **The declining fertility rate is the result of speeding up the demographic transition.**
 - Poorer countries speed up the transition ladder a lot faster than the richer ones.
 - Britain took 130 years to transition from a fertility rate of 5 per woman in 1800 to two in 1930, whereas South Korea took 20 years from 1965 to 1985 to achieve the same.
- **The fertility rate of India falling below the replacement level for the first time to 2.0 in 2021,** according to the latest National Family Health Survey (NFHS).
 - At the time of Independence, India's fertility rate was 6 per woman.
 - Now, only 5 States have a fertility rate above the replacement rate: Bihar (3), Meghalaya (2.9), Uttar Pradesh (2.4), Jharkhand (2.3), and Manipur (2.2).
- **The steady decline in fertility rates is the result of increasing use of contraception,** more years of average schooling, better health care, and an increase in the mean marriage age of women.
- The falling fertility rate will also lead to lower pressure on land, water and other resources and would also contribute to achieving environmental goals.
 - A fall in fertility rate beyond replacement level would have a negative effect on the proportion of the working population, which in turn will affect output in an economy.

World Population	Year
1 billion	1804
2 billion	1927
3 billion	1959
4 billion	1974
5 billion	1987
6 billion	1998
7 billion	2011
8 billion	2022



Key Points of the Report

- The study projected that **next year India will surpass China as the world's most populous country.**
 - India will become the world's most populous nation by 2023 and by 2050 India's population would be 1.668 billion.
- The report has also mentioned that the **world's population would cross 8 billion by mid-November 2022.**
- The global population is growing at its slowest rate since 1950; the **current rate is under 1% annually.**
- **At Present, the world's two most populous regions are;**
 - Eastern and South-Eastern Asia, with 2.3 billion people, represents 29% of the world population.
 - Central and Southern Asia, with 2.1 billion, represents 26% of the total global population.
- The report highlighted that the **world's population could cross 8.5 billion in 2030 and 9.7 billion in 2050.**
- More than 50% of the projected increase in global population by 2050 will be concentrated in just 8 countries:

◦ The Democratic Republic of Congo	◦ Nigeria
◦ Egypt	◦ Pakistan
◦ Ethiopia	◦ Philippines
◦ India	◦ Tanzania.
- **The world's population would reach a peak of around 10.4 billion people during the 2080s and after that, it would remain at that level until 2100.**
- The report has also highlighted that 10 countries experienced a net outflow of more than 1 million migrants between 2010 and 2021.
 - In some countries, these outflows were due to temporary labour movements.
 - In some countries, it was due to insecurity and conflicts that have driven the net outflow of migrants.
- **Global life expectancy at birth reached 72.8 years in 2019;** it will reach around 77.2 years in 2050.
 - Life expectancy in the least developed countries is about 7 years behind the global average.

INDIA UAE COOPERATION

GS-II INTERNATIONAL RELATIONS

Context

- India and UAE have reiterated their commitment to achieving the goal of 100 billion US dollars of bilateral trade in the next five years.

More on the news

- Both countries have also noted the possibility of linking instant payment platforms, such as through the United Payment Interface of India.
- These issues were discussed in the 14th India-UAE Joint Commission Meeting which was co-chaired by External Affairs Minister Dr. S. Jaishankar and Foreign Minister of UAE Sheikh Abdulla bin Zayed Al Nahyan in Abu Dhabi yesterday.
- Two MoUs were signed between both sides in the presence of the Ministers. One MoU was signed between the Wildlife Institute of India and the International Fund for Houbara Conservation for the Conservation of the Great Indian Bustard and the Lesser Florican. Another MoU was signed between the Ministry of Foreign Affairs and International Cooperation of UAE and the Indian Council for Cultural Relations on the establishment of the India-UAE Cultural Council Forum.
- During the 14th India-UAE Joint Commission Meeting, both the Ministers expressed their satisfaction with the continued high growth trajectory of bilateral relations between the two nations.
- India-UAE bilateral trade, valued at US\$ 180 million per annum in the 1970s has increased to US\$ 60 billion making the UAE, India's third-largest trading partner for the year 2019-20 after China and the US.**
- Moreover, the **UAE is the second-largest export destination of India** (after US) with an export value of US\$ 29 billion for the year 2019-2020.
- The **UAE is the eighth largest investor in India** with an estimated investment of US\$ 18 billion.
- India and the UAE signed a bilateral "Comprehensive Economic Partnership Agreement" (CEPA) in February.

Background

- Political:**
 - India and the United Arab Emirates (UAE) **established diplomatic relations in 1972.**
 - The traditionally strong bilateral relations enjoyed by India & UAE received impetus with the visit of PM Modi to UAE in 2015 that marked the beginning of a new strategic partnership.
 - Sheikh Mohamed bin Zayed Al Nahyan, (MBZ) Crown Prince of Abu Dhabi visited India again in as the Chief Guest at India's Republic day celebrations.
 - It was during this visit that the bilateral relations were upgraded to a '**Comprehensive Strategic Partnership**'.
 - PM Modi visited UAE again in 2018 for the World Government Summit in Dubai, where India was the Guest of Honor.
 - PM received the UAE's **highest civilian award, 'the Order of Zayed'** in 2019.
 - The visit also witnessed the official launch of the 'RuPay Card' in UAE, and the release of a set of stamps issued by Emirates Post commemorating the 150th Birth Anniversary of Gandhi.
- Economic & Commercial Relations:**
 - India and UAE have shared trade links through the centuries.
 - Trade, which was dominated by traditional items such as dates, pearl and fishes, underwent a sharp change after the discovery of oil in UAE.
 - The real impetus, however, started after Dubai positioned itself as a regional trading hub by the early 1990s and about the same time, the economic liberalization process started in India.
 - India-UAE trade is today around US\$ 60 billion, making UAE, **India's third largest trading partner for the year 2018-19.**
 - Moreover, UAE is the **second largest export destination of India** (after US) with an amount of over US\$ 30 billion for the year 2018-19.
 - For UAE, **India was the second largest trading partner during 2018.**
 - NRI Remittances:** The annual remittances made by the large Indian community in UAE amount to over US\$ 17.56 billion (2018).
- Cultural Relations:**
 - Indian expatriate community of approx. **3.3 millions is the largest ethnic community in UAE constituting roughly about 30 per cent of the country's population.**
 - Among the Indian States, Kerala is the most represented followed by Tamil Nadu and Andhra Pradesh.
 - Today, around 35% of the Indian community is made up of professionally qualified personnel, businessmen & other white collar non-professionals.
 - The Indian community has played a major role in the economic development of the UAE and is respected for its technical

competence, sense of discipline & law abiding nature.

- Indian schools: There are 130 Indian schools in the UAE following the CBSE and Kerala Board curricula with approx 219,000 students.
- **Defence and Security Cooperation:**
 - There have been regular high level & functional level exchanges between the two countries.
 - The ships of the Navies of both countries have regularly made port calls enhancing bilateral defence co-operation.
 - UAE Air Force Officers participated as Observers in **Trilateral Air Exercise** on Humanitarian Assistance & Disaster Relief (HADR) in 2018.
 - Indian Navy Ships participated in the maiden **IN-UAEN Bilateral Exercise** in 2018 named Gulf Star 1.
 - IN Ships have been regularly participating in **IDEX/NAVDEX** held in Abu Dhabi biennially.
 - '**Desert Eagle II**', a ten-day air combat exercise, was held in 2016 between the air forces of India and UAE.
 - UAE **deported more than 100 Indian fugitives** back, and also helped India with real-time intelligence from Iraq and Syria during the rise of the so-called Islamic State.
 - The UAE also helped India keep a watch on the Indian diaspora from getting sucked into the ultra-conservative Sunni movement and stopped them from joining Islamic State jihad.

Why the relations are on a upswing?

- **Diversification of UAE economy:** Foreign trade and the oil and gas sectors were the fulcrum of bilateral relations in the decades preceding the end of the oil era boom. But since then, the UAE has pursued an aggressive strategy of diversifying its economy, and its relations with India have benefited as a result.
- **Evolving country profile and priorities:** The recent upsurge in relations is a reminder that both the UAE and India have leapfrogged in terms of global reputation and foreign policy since 1981.
- **Key partners in combating extremism:** The UAE and India share a deeply common goal – fighting terrorism, combating extremism and ideologies of hatred. The two countries have a common interest in ensuing maritime security in the Indian Ocean and the Gulf region.
- **Common economic goals:** India has now become the world's one of the fastest growing major economy and the third largest consumer of oil. On the other hand, the UAE has sovereign funds with a corpus of over a trillion dollars.
- **Rigorous follow up to strategic partnership:** Another reason for the greater depth in relations is the rigorous structure of various committees that have been set up following the high-level visits.
- **Greater mobility of people:** With a 3.3-million-strong population, the Indian diaspora in the UAE is the largest in the world, and growing. And with a record 1,076 flights every week between the UAE and India, there has also been a surge of tourists and visitors between the two countries.
- **Energy Security:** UAE is the 5th largest import source and accounts for about 6% of India's total crude imports
- **Investment:** The UAE government has committed USD 75 billion towards developing Indian infrastructure.
- Further, given the current state of flux in West Asia, India sees the UAE as an important partner to maintain peace and stability in the region.

Challenges

- As far as investments are concerned, **the systemic problem faced due to slow implementation of various projects** from Indian side is a major obstacle.
- Indian companies operating in the UAE also face problems due to **lack of clarity in many aspects of commercial regulations, labor laws and lack of transparency on part of Emirati businesses.**
- There is also a need to smoothen **problems faced by Indian migrants** due to cumbersome and strict regulations that favour the Emirati employers and at times leads to serious problems for Indian workers, especially unskilled workers.

Way Forward

- The growing engagements between India and the UAE has to be seen within the broader contexts of UAE's policy of engaging with Asia to improve economic prospects and India's search for **foreign investments** to expedite economic growth and address the threat of **extremism and terrorism.**
- **Medical tourism** can be an important area where India can attract UAE given India's high quality man power in medical sector and improving medical infrastructure in the country.
- There are further untapped potentials in the arena of **renewable energy.** The cost for production and transmission of solar energy in the UAE are a fraction to that of India and this is a priority area for the UAE government.

UIGHUR

GS-II INTERNATIONAL RELATIONS

Context

- The UN accused China of serious human rights violations that may amount to “crimes against humanity” in a report examining a crackdown on Uighurs and other ethnic groups. Beijing denounced the assessment as a fabrication cooked up by Western nations.

Details

- Human rights groups have accused China of sweeping a million or more people from the minority groups into detention camps, where many have said they were tortured, sexually assaulted, and forced to abandon their language and religion.
- The camps were just one part of what the rights organisations have called a ruthless campaign against extremism in the far western province of Xinjiang that also included draconian birth control policies and restrictions on people’s movement.
- The assessment from the Geneva-based UN Human Rights Council (HRC) largely corroborated earlier reporting by researchers, advocacy groups and the news media, and it added the weight of the world body to the conclusions.
- Still, among Uighurs who have fled overseas, there was a palpable sense of relief that the report had finally seen the light of day.

Who are the Uyghurs?

- There are about **12 million Uyghurs, mostly Muslim, living in Xinjiang, which is officially known as the Xinjiang Uyghur Autonomous Region (XUAR).**
- The Uyghurs speak their own language, which is similar to Turkish, and see **themselves as culturally and ethnically close to Central Asian nations.** They make up less than half of the Xinjiang population.
- Recent decades have seen a mass migration of Han Chinese (China's ethnic majority) into Xinjiang, allegedly orchestrated by the state to dilute the minority population there.
- China has also been accused of targeting Muslim religious figures and banning religious practices in the region, as well as destroying mosques and tombs.**
- Uyghur activists say they fear that the group's culture is under threat of erasure.

Where is Xinjiang?

- Xinjiang lies in the **north-west of China** and is the country's largest region.
- Like Tibet, it is autonomous, meaning - in theory - it has some powers of self-governance. But in practice, both regions are subjected to major restrictions by the central government.

Xinjiang

- Xinjiang is a **mostly desert region** and produces about a fifth of the world's cotton.
- Human rights groups have voiced concerns that much of that cotton export is picked by forced labour, and in 2021 some Western brands removed Xinjiang cotton from their supply chains, leading to a backlash against the brands from Chinese celebrities and netizens.
- The region is also **rich in oil and natural gas** and because of its proximity to Central Asia and Europe is seen by Beijing as **an important trade link.**
- In the early 20th Century, the Uyghurs briefly declared independence for the region but it was **brought under the complete control of China's new Communist government in 1949.**

What are the allegations against China?

- Several countries, including the US, Canada and the Netherlands, have accused China of **committing genocide** -defined by international convention as the **"intent to destroy, in whole or in part, a national, ethnical, racial or religious group".**
- China has been **forcibly mass sterilising Uyghur women** to suppress the population, **separating children from their families, and attempting to break the cultural traditions of the group.**

What does China say?

- China **denies all allegations** of human rights abuses in Xinjiang.
- It said in 2019 that it had **released everyone from its "re-education" camp system,** though testimony from the region suggests many are still detained and many were transferred from camps to formal prisons.
- China says the **crackdown in Xinjiang is necessary to prevent terrorism and root out Islamist extremism and the camps are an effective tool for re-educating inmates** in its fight against terrorism.
- It insists that **Uyghur militants are waging a violent campaign for an independent state by plotting bombings, sabotage and**

civic unrest, but it is accused of exaggerating the threat in order to justify repression of the Uyghurs.

- China has dismissed claims it is trying to reduce the Uyghur population through mass sterilisations as "baseless", and says allegations of forced labour are "completely fabricated".

INDIA BANGLADESH RIVER PACTS

GS-II INTERNATIONAL RELATIONS

Context

- Following a meeting with the visiting Prime Minister of Bangladesh Sheikh Hasina, Prime Minister Narendra Modi said **India and Bangladesh will soon commence negotiations on a Bilateral Comprehensive Economic Partnership Agreement (CEPA)**. India and Bangladesh should resolve all bilateral issues, including the differences over the waters of the Teesta, "at an early date", Bangladesh Prime Minister Sheikh Hasina said.

Details

- After holding bilateral talks with Prime Minister Narendra Modi, the visiting leader described India as the "most important and closest neighbour" that is bound with Bangladesh through 54 common rivers and 4,000 km of border.
- The two sides signed seven agreements covering railways, science and technology, space cooperation, media, and water sharing.
- The two sides, however, made a significant beginning in river-water sharing by reaching an agreement – a first in 28 years – on drawing water from the common border river Kushiara for supplying to parts of lower Assam as well as Sylhet in Bangladesh.
- PM Modi highlighted the values that made India and Bangladesh to put up a joint fight in the Liberation War of 1971 and said, "In order keep the spirit of 1971 alive, it is necessary that we confront those forces that want to hurt our common values."
- The pact over the Kushiara was the first river-related agreement that the two sides reached 28 years after the conclusion of the Ganga Waters Agreement of 1996.
- India had extended the period of sharing flood water-related information in real time that would help Bangladesh counter the annual floods.
- The Ministries of Railways of India and Bangladesh signed an agreement on training of personnel of the Bangladesh Railway in India.
- In a bid to help Bangladesh deal with energy crisis, the two leaders unveiled Unit 1 of the Maitree power plant, a 1,320-MW supercritical coal-fired thermal power plant, at Rampal in Khulna division of Bangladesh.
- The two sides also inaugurated the Rupsha rail bridge, which will help in connecting Khulna with Mongla port and Petrapole and Gede in West Bengal.
- Ms. Hasina met with President Droupadi Murmu
- She will hand over Mujib scholarships to 200 family members of the personnel of the Indian military who were killed or wounded during the Liberation War of 1971.

Dhaka's defence demands

- Marking some progress on the delayed implementation of the \$500 million defence Line of Credit (LoC) extended by India to Bangladesh, Dhaka has recently shared a wish list of military platforms and systems that its armed forces would like to procure from India.
- This includes a diverse range of equipment, including a floating dock, and logistics ship and oil tanker for the Bangladesh Navy, among others.
- India is keen to offer artillery guns, mortars, rockets and missiles, support vehicles, electronic and engineering equipment, radars, helicopters, military rakes, and ship building services.
- In addition, Bangladesh can also be offered India's expertise in sea and airport infrastructure development among others.
- There is also scope for cooperation in high technology sectors in which India has expertise, and these include Information Technology and cyber space, satellite and space technology, maintenance and overhaul, development of local defence industry, and training

Trade

- In 2021-22, Bangladesh has emerged as the largest trade partner for India in South Asia and the fourth largest destination for Indian exports worldwide.
- Exports to Bangladesh grew more than 66 per cent from \$9.69 billion in FY 2020-21 to \$16.15 billion in FY 2021-22.
- India is Bangladesh's second biggest trade partner, and its largest export market in Asia. Despite Covid-19 related disruptions, bilateral trade grew at an unprecedented rate of almost 44 per cent from \$10.78 billion in 2020-21 to \$18.13 billion in 2021-22.
- India's main exports to Bangladesh are raw cotton, non-retail pure cotton yarn, and electricity, and its main imports from the country are pure vegetable oils, non-knit men's suits, and textile scraps.

- While informal talks on CEPA have been happening since 2018, officials said that the pandemic has brought urgency.
- Chinese investments in Bangladesh were an initial trigger for India, but Delhi and Dhaka want to step up the pace following the economic shock faced by the two economies.
- The CEPA is likely to focus on trade in goods, services, and investment, with a key objective being the reduction of the trade gap between the two countries.
- As Bangladesh prepares to graduate into a developing nation by 2026 – after which it may no longer qualify for trade benefits that it currently enjoys as a least-developed country – it is keen to clinch the CEPA in a year.
- **The current institutional frameworks for trade and investment include:**
 - Under the provisions of the **South Asian Free Trade Area (SAFTA)**, Bangladesh extends preferential tariffs to Indian exports of products outside the 'sensitive list' of 993 items. In 2011, India announced duty-free, quota-free access to Bangladesh for all tariff lines except tobacco and alcohol.
 - **An Agreement on Promotion and Protection of Investments** has been in force since 2011. Joint Interpretative Notes to the agreement were signed during the visit of the Indian Finance Minister to
 - To facilitate trade and transit through inland waterways, a **Protocol on Inland Waterways Trade and Transit (PIWTT)** has been in place since 1972. The PIWTT too was renewed for a period of five years with a provision for auto renewal during Modi's visit to Bangladesh in 2015. The protocol allows the movement of goods by barges/ vessels on eight routes between points in India and Bangladesh, as well as between points in India through Bangladesh.
 - MoUs were signed in 2015 on the use of the **Chittagong and Mongla Ports** for Movement of Goods to and from India.
 - The MoU on Border Haats on the India-Bangladesh border was renewed in April 2017 during the visit of Prime Minister Hasina to India. Currently, four Border Haats – **two each in Meghalaya (Kalaichar and Balat) and Tripura (Srinagar and Kamalasagar)** – are functional. Work on setting up two more haats on the **Tripura-Bangladesh border and four on the Meghalaya-Bangladesh border is under way**. The two sides have also decided to identify locations for another six Border Haats.

What is the status of the Teesta dispute?

- The 400-odd-km-long Teesta rises in the Pauhunri mountain and flows through Sikkim and West Bengal before entering Bangladesh near Mekliganj, downstream of Jalpaiguri.
- The Teesta, which joins the Brahmaputra in Bangladesh, carries a significant volume of water; it is the second largest river of West Bengal after the Ganga. India and Bangladesh have been in negotiations to determine the share of each country in the waters of the river since the early 1980s.
- The two countries had reached a water-sharing agreement in 2011, and Prime Minister Manmohan Singh was about to sign the deal on what was billed as a historic visit to Bangladesh in September that year.

How has the relationship with Bangladesh evolved over the years?

- India has a robust relationship with Bangladesh, which it has carefully cultivated especially since Prime Minister Hasina came to power in 2009.
- Over this period, India has benefited greatly from the security relationship with Bangladesh, and the Hasina government's crackdown against anti-India outfits, which has helped New Delhi maintain peace and security in India's eastern and Northeastern states.
- Bangladesh too has benefited from its economic and development partnership with India.
- It is India's biggest trade partner in South Asia, and bilateral trade has grown steadily over the last decade: Bangladesh's exports to India has gone from only \$304.63 million in 2009-10 to \$1.28 billion in 2020-21, while its imports from India during this same period have risen from \$2.3 billion to \$8.6 billion.
- India grants some 15-20 lakh visas every year to Bangladeshi nationals who visit for medical treatment, tourism, work, and entertainment.
- It is fairly common for Bangladeshi elite to make a weekend shopping trip to India.
- For India, Bangladesh has been a key partner in the neighbourhood first policy – and possibly the only success story in bilateral ties among its neighbours.

What are the recent irritants in the bilateral relationship?

- The proposed countrywide National Register of Citizens (NRC) and the Citizenship Amendment Act (CAA) created some rough edges in the relationship. Bangladesh cancelled visits by ministers, and Prime Minister Hasina expressed some reservations about CAA – saying that while the CAA and the proposed nationwide NRC are "internal matters" of India, the CAA move was "not necessary".
- Subsequently, then Foreign Secretary Harsh Vardhan Shringla, who had been a former Indian envoy to Bangladesh, travelled to Dhaka twice to assuage these concerns.

MIKHAIL GORBACHEV AND COLD WAR**GS-II INTERNATIONAL RELATIONS****Context**

- **Mikhail Gorbachev, the last leader of the Union of Soviet Socialist Republics, has died** at the age 91.

Details

- Mikhail Gorbachev ended the Cold War without bloodshed but failed to prevent the collapse of the Soviet Union.
- Gorbachev, the last Soviet president, forged arms reduction deals with the United States and partnerships with Western powers to remove the Iron Curtain that had divided Europe since World War Two and bring about the reunification of Germany.
- In 2005, Putin called the event the “greatest geopolitical catastrophe” of the twentieth century.
- After decades of Cold War tension and confrontation, Gorbachev brought the Soviet Union closer to the West than at any point since World War Two.
- When pro-democracy protests swept across the Soviet bloc nations of communist Eastern Europe in 1989, he refrained from using force – unlike previous Kremlin leaders who had sent tanks to crush uprisings in Hungary in 1956 and Czechoslovakia in 1968.
- On becoming general secretary of the Soviet Communist Party in 1985, aged just 54, he had set out to revitalise the system by introducing limited political and economic freedoms, but his reforms spun out of control.
- His policy of “glasnost” – free speech – allowed previously unthinkable criticism of the party and the state, but also emboldened nationalists who began to press for independence in the Baltic republics of Latvia, Lithuania, Estonia and elsewhere.
- Many Russians never forgave Gorbachev for the turbulence that his reforms unleashed, considering the subsequent plunge in their living standards too high a price to pay for democracy.

Perestroika

- When Gorbachev took over as the General Secretary of the Communist Party in 1985, the then USSR was already groaning under the inefficiencies of a planned economy.
- Gorbachev was acutely aware that the USSR needed to restructure its economy, and in particular, allow for a greater play of the market forces.
- But his idea of perestroika was not limited to the economic sphere.
- **He had hoped that just like ill-effects of a top-down planned economy had spread through the social and moral fabric of Soviet life, economic restructuring, too, will lead to a social and political renewal.**

Glasnost

- It was alleged that the scale of Soviet achievements had been radically inflated and falsified by the officials.
- This lack of transparency was at the heart of Gorbachev’s second mantras for reform: Glasnost – meaning openness.
- **While it meant greater transparency in the functioning of the government and the economy, much like perestroika, Gorbachev’s hope was that this would also reorder the way people lived their everyday life in the USSR.**

INDIA EGYPT DEFENCE RELATIONS**GS-II INTERNATIONAL RELATIONS****Context**

- **India and Egypt signed a Memorandum of Understanding (MoU) to further enhance bilateral defence cooperation. This was signed by Defence Minister Rajanth Singh and his Egyptian counterpart General Mohamed Zaki.**

Details

- During the (bilateral) meeting, both sides discussed steps to strengthen defence ties and reached a consensus to enhance conduct of joint exercises and exchange of personnel for training, especially in the field of counter-insurgency.
- The two Ministers also agreed to identify proposals for expanding cooperation between the defence industries of India and Egypt in a time-bound manner.
- They also exchanged views on regional security and acknowledged the contribution of India and Egypt to peace and stability in the world, the statement said.
- Mr. Singh also invited his Egyptian counterpart to the India-Africa Defence Dialogue and Indian Ocean Region (IOR) Defence Ministers’ conclave, scheduled to be held as part of 12th DefExpo in Gandhinagar, Gujarat between October 18 to 22, 2022.

Background

- India and Egypt, two of the world's oldest civilizations, have enjoyed a history of close contact from ancient times.
- **Ashoka's edicts refer to his relations with Egypt under Ptolemy-II.**
- **In modern times, Mahatma Gandhi and Saad Zaghloul shared common goals on the independence of their countries, a relationship that was to blossom into an exceptionally close friendship between President Nasser and Prime Minister Nehru, leading to a Friendship Treaty between the two countries in 1955.**

Political Relations

- India and Egypt share close political understanding based on long history of contacts and cooperation in bilateral, regional and global issues.
- The joint announcement of establishment of diplomatic relations at Ambassadorial level was made on 18 August 1947.
- Both countries have cooperated closely in multilateral fora and were the founding members of Non-Aligned Movement.
- **The year 2022 is of particular significance since it marks the 75th anniversary of diplomatic relation between India and Egypt.**

Bilateral mechanisms

- There are several mechanisms of bilateral institutional dialogue at different levels.

Economic Relations

- The India-Egypt Bilateral Trade Agreement has been in operation since March 1978 and is based on the Most Favoured Nation clause and the bilateral trade has increased more than five times in last ten years.
- The bilateral trade in 2018-19 reached US\$ 4.55 billion.
- Despite Pandemic, the volume of trade declined only marginally to US \$ 4.5 billion in 2019-20 and to US \$ 4.15 billion in 2020-21 (Egypt's exports to India were valued at US\$ 1.89 billion and imports from India at US\$ 2.26 billion with India having a favorable trade balance of US\$ 372 million.)
- Bilateral trade has expanded rapidly in 2021-22, amounting to 7.26 billion registering a 75% increase compared to FY 2020-21.
- India's exports to Egypt during this period amounted to US\$ 3.74 billion, registering a 65% increase over the same period in FY 2020-21. At the same time, Egypt's exports to India reached US\$ 3.52 billion registering an 86% increase.

Development assistance

- The grants-in-aid projects include: Pan Africa Tele-medicine and Tele-education project in Alexandria University, Solar electrification project in Agaween village and Vocational Training Centre for textile technology in Shoubra, Cairo, which have been completed.
- Technical cooperation and assistance have been a major part of our bilateral relationship. Since 2000, over 1250 Egyptian officials have benefited from ITEC and other programs like ICCR and IAFS scholarships.
- In the field of scientific cooperation, ICAR and the Agricultural Research Center of Egypt are working in the field of agricultural research.
- 'Science & Technology' cooperation is implemented through biennial Executive Programmes and Scientific Cooperation Programme between CSIR (India) and NRC (Egypt).
- Space cooperation is an emerging vertical of cooperation between India and Egypt. Joint Working Group meetings and discussions between ISRO and NARSS (National Authority for Remote Sensing and Space Sciences) have been held, since an MoU was signed in

Defence Relations

- There was close cooperation between the Air Forces, with efforts at jointly developing a fighter aircraft in 1960s.
- IAF pilots had also trained Egyptian pilots from 1960s until 1984.
- Most of the current defence cooperation is determined by Joint Defence Committee (JDC) activities.
- Egypt participated in the Multinational Training Exercise for friendly African countries held at Pune in 2019. The first ever IAF-EAF Joint Tactical Air Exercise, Desert Warrior, was held in 2021.
- The first ever Special Forces exercise "Cyclone 1" between India and Egypt planned in Jodhpur from 8th - 22nd January 2022 stands postponed.

Cultural Relations

- The Maulana Azad Centre for Indian Culture (MACIC) has been promoting cultural cooperation between the two countries, through regular activities such as Hindi, Urdu and Yoga classes; seminars; film shows; exhibitions and participation in local cultural activities.
- 'Sawt-ul-Hind', Embassy's flagship Arabic magazine for the past six decades, reached a milestone in July 2017 with the publishing of its 500th edition, depicting the strong bond and vibrant cultural exchanges between the two countries.

Indian Community

- At present, the Indian community in Egypt numbers at around 3200, most of whom are concentrated in Cairo.

SCO SUMMIT 2022**GS-II INTERNATIONAL RELATIONS****Context**

- The leaders of the Shanghai Cooperation Organization Member States (hereinafter referred to as "the SCO" or "the Organization"), as a result of the meeting of the Council of Heads of State in the city of Samarkand on 16 September 2022, gave the Samarkand declaration.

Details

- The member states oppose grouping and ideological and confrontational approaches to solving international and regional issues.
- The declaration reaffirms that it is of great practical significance to work together to build a new type of international relations featuring mutual respect, fairness and justice as well as win-win cooperation
- They reaffirm that disputes between countries should be resolved peacefully through dialogue and consultation.
- The leaders of the member states adopted the Comprehensive Plan for the Implementation of the SCO Treaty on Long-Term Good-Neighborliness, Friendship and Cooperation for 2023-2027.
- The member states reaffirmed their steadfast commitment to combating terrorism, separatism and extremism.
- The member states said they will strengthen cooperation among their national authorities in the field of digital literacy in order to bridge the digital divide.
- It also calls for continuously expanding cooperation in local currency settlement, creating conditions for e-commerce development, supporting MSME enterprises in SCO member states to tap the potential of their e-commerce, strengthening cooperation on the establishment of high-end industrial chain and deep processing, and advancing investment cooperation in digital economy and green, sustainable development.
- They expressed firm opposition to the militarization of information and communication technologies.
- The member states stressed the importance of forming a common and balanced position on combating illicit trafficking of narcotic drugs and their precursors.
- The member states that are signatory to the Treaty on the Non-Proliferation of Nuclear Weapons are committed to strict compliance with the provisions of the treaty
- The member states support the prevention of the weaponization of outer space.
- The SCO member states support Afghanistan to become an independent, neutral, united, democratic and peaceful country, which is free of terrorism, war and drugs.
- Member states signed a memorandum of obligations on Iran's SCO membership. The member states stressed the importance of the decision to start the procedure for Belarus' accession.
- The member states reaffirmed the importance of continuing to improve the global economic governance system.
- They adopted a document for infrastructure development of the SCO member states.
- They will carry out cooperation in environmental protection, joint disaster relief and rescue exercises, education, food security, agriculture, science and technology, women, culture, tourism, media and sports.
- India will assume the next SCO rotating presidency and hold the next Meeting of the Council of Heads of State of the SCO in 2023.
- The member countries support Tajikistan's proposal to name 2025 The International Year for Preservation of Glaciers.

What is SCO?

- It is a **Eurasian political, economic, and security alliance**.
- The original five nations, with the exclusion of Uzbekistan, were previously members of the **Shanghai Five group**.
- Since then, the organisation has expanded its membership to eight countries when **India and Pakistan joined SCO as full members on 9 June 2017 at a summit in Astana, Kazakhstan**.
- **The Heads of State Council (HSC)** is the supreme decision-making body in the SCO.
- It is the **largest regional organisation** in the world in terms of **geographical coverage and population, covering three-fifths of the Eurasian continent** and nearly half of the human population.
- The SCO is widely regarded as the **"alliance of the East"**, due to its growing centrality in Asia-Pacific, and has been the primary security pillar of the region.
- The **Regional Anti-Terrorist Structure (RATS)**, headquartered in Tashkent, Uzbekistan, is a **permanent organ of the SCO**, which serves to **promote cooperation of member states against the three evils of terrorism, separatism and extremism**.

Criticisms of the SCO

- It is used by member states to **shield each other from international criticism regarding human rights violations**.
- Even after 19 years, the SCO is struggling to emerge as a cohesive organisation because it **lacks coherence on account of**

China's pre-pondering influence.

India-SCO

- It is the only regional grouping in the vast Eurasian space.
- The specific advantage for India lies in the SCO **providing a robust platform for connecting with countries of Central Asia**, which comprise our extended neighbourhood and with whom India shares millennia of vibrant, multifaceted linkages.
- Central Asia and Afghanistan are vital for India's security, meeting its energy requirements, connectivity, trade and economic progress and growth.
- India through its active participation has strengthened greater trade, economic and cultural cooperation within SCO by putting **human beings at the center** of SCO activities.
- It has fostered greater peace and prosperity in the region.
- India's initiatives have emphasised its commitment to expanding its partnership with SCO by playing a proactive, positive and constructive role in the organisation.

INDIA SRI LANKA TRADE RELATIONS

GS-II INTERNATIONAL RELATIONS

Context

- India has emerged as the largest bilateral lender for Sri Lanka, overtaking China.

Details

- India has provided a total of 968 million US dollars in loans to the island nation in four months of 2022. In the past five years from 2017-2021, China has been the largest bilateral lender to Sri Lanka.
- Asian Development Bank (ADB) has been the largest multilateral lender in the past five years and disbursed funds amounting to 610 million dollars in 2021.
- India's Permanent Representative to the UN, Ruchira Kamboj had said that India had provided nearly 4 billion dollars in food and financial assistance to Sri Lanka. On August 22, India handed over 21,000 tonnes of fertilizer to crisis-ridden Sri Lanka.
- India has been at forefront of extending economic assistance to Sri Lanka as per their requirements and is one of the countries that have provided the maximum amount of assistance in time of need.
- Since the beginning of 2022, Sri Lanka has experienced an escalating economic crisis and the government has defaulted on its foreign loans. Sri Lanka is battling a severe economic crisis with food and fuel scarcity affecting a large number of the people in the island nation.

Background

- The relationship between India and Sri Lanka is **more than 2,500 years old**
- Both countries have a legacy of intellectual, ethnic, cultural, religious and linguistic interaction
- In recent years, bilateral relations and cooperation in the fields of development, trade, investment, education, culture and defence have grown.

Significance of Sri Lanka for India

- Sri Lanka is India's closest maritime neighbour and is strategically located in Indian Ocean and Bay of Bengal.
- As per its '**Neighbourhood-First Policy**' and the '**SAGAR (Security and Growth for All in the Region) Doctrine**', India attaches great importance to Sri Lanka "to keep the Indian Ocean region peaceful and secure".
- 70% of Indian cargo comes through the Colombo port, which is a largest trans-shipment port of South-Asia.

Bilateral Relations

Political Relations:

- Historically, Sri Lanka was part of British India and since independence both countries had cordial relations.
- Unpleasantness in bilateral relations raised in 1983, when the Anti-Tamil violence in Sri Lanka dragged India into Tamil-Sinhalese Conflicts.
- With an objective of improving ties, **Indo-Sri Lanka Peace Accord or Rajiv Gandhi-Jayewardene Accord** was signed in 1987, which proposed a political solution to ongoing ethnic conflict by establishing a provincial council system and devolution of power to the nine provinces in Sri Lanka. (Popularly known as **13th Amendment** to the Sri Lankan Constitution)
- India also deployed Indian Peace Keeping Force (IPKF) in Sri Lanka under Operation Pawan. After two year of military engagement IPKF was withdrawn as it failed to curb the Liberation Tigers of Tamil Eelam (LTTE) separatist movement.
- In May 1991, former Prime Minister Rajiv Gandhi was assassinated and it forced New Delhi to adopt a "**hands-off approach**" towards Colombo till the final phase of the civil war.

- Finally in May 2009, after 25 years of violence the Tamil militant separatism ended and India came forward to reconstruct the war-torn areas and to rehabilitate war-affected people.
- Although pro-LTTE government in Tamil Nadu posed obstruction in extending humanitarian assistance to Sri Lanka
- India-Sri Lanka relations hit a new rock bottom when in 2009, 2012 and 2013 India voted against Sri Lanka at UNHRC resolution to investigate human right violations and war crimes by state government against Tamil rebels.
- Since 2014, Political relations between the two countries have been marked by high-level exchanges of visits at regular intervals
- Prime Minister Ranil Wickremesinghe visited India in September 2015, his first overseas visit after being appointed as Prime Minister.
- In 2019, Prime Minister Narendra Modi made first foreign visit to Sri Lanka after his sweeping victory in the general election. He was also the first foreign leader to visit Colombo after the heinous Easter Sunday terror attacks.

Commercial Relations

- India is one of the largest investors in Sri Lanka with cumulative investments of around USD 1.2 billion.
- Sri Lanka is one of India's largest trading partners in SAARC. Trade between the two countries grew rapidly after **India-Sri Lanka Free Trade Agreement 2000**.
- Indian Chambers have signed MOU's with Sri Lankan Chambers to promote trade, economic relations and investments.

Development Cooperation:

- Sri Lanka is a major recipient of development assistance from the Government of India. India's overall commitment stands close to US\$ 3 billion, out of which around US\$ 560 million are purely in grants.
- **Indian Housing Project**, commitment to build 50,000 houses for the war affected as well as the estate workers in the plantation areas. In 2017, PM signed an agreement to commence construction of 10,000 additional houses.
- The aid package includes funding for electricity power projects and north-south railway development.
- India continues to assist in a large number of **High Impact Community Development Projects** in areas of education, ambulance services all over the island, small and medium enterprise development and training
- An auditorium named after Rabindranath Tagore in Ruhuna University, Matara was constructed and handed over by India.
- India announced a new **US\$ 100 million Line of Credit** for undertaking solar projects in Sri Lanka during the Founding Conference of the International Solar Alliance.
- Indian government has agreed to cooperate with Sri Lanka in developing world-class road infrastructure in the Jaffna region of the island nation.
- India has been offered a lease on the Mattala Rajapaksa International Airport, 220 kilometres from Colombo.

Defence and security Cooperation

- To enhance regional security both countries cooperates in both traditional (Terrorism) and non-traditional security issues (human trafficking and drug smuggling).
- Capacity building and training of armed forces and police personnel of Sri Lanka has been the core area of cooperation between the two countries.
- Since 2012, India participates in **Indo-Sri Lankan Defence Dialogue**, this platform helps to review the security and defence cooperation issues between the two countries.
- To ensure maritime security
- India-Sri Lanka conduct '**SLINEX**' a joint naval exercise
- India, Sri Lanka and Maldives conduct "**DOSTI**" a trilateral naval exercise
- India and Sri Lanka hold annual joint military drill '**Mitra Shakti**' to boost counter-terror cooperation

Cultural relations

- **Cultural Cooperation Agreement** signed in 1977 forms the basis for periodic Cultural Exchange Programmes between the two countries.
- **Indian Cultural Centre in Colombo** actively promotes awareness of Indian culture by offering classes in Indian music, dance, Hindi. It also organises International yoga day event annually.
- India-Sri Lanka Foundation was set up to enhance scientific, technical, educational and cultural cooperation through civil society exchanges
- Both countries jointly commemorated 2600th year of the attainment of Lord Buddha Enlightenment, 150th anniversary of Anagarika, 150th Birth Anniversary Celebrations of Mahatma Gandhi and 550th Birth Anniversary of Sri Guru Nanak Dev Ji.

People to people contact

- To strengthen people-to-people ties, the first ever pilgrimage to Bodh Gaya for Sri Lankan Armed Forces personnel and their families was organised in 2018.
- Government of India formally launched the **e-Tourist Visa (eTV) scheme** for Sri Lankan tourists
- India is the top source for tourist influx into Sri Lanka with over 4 lakh Indian tourists travelled to Sri Lanka in 2018.

Human resource development

- Under the **Indian Technical and Economic Cooperation Scheme and the Colombo Plan**, India offers short and medium term

training courses in technical and professional disciplines.

- From the academic session 2017-18, Sri Lankan students were allowed to appear for National Eligibility cum Entrance Test (NEET) and IIT JEE (Advanced) entrance examinations.

Issue of Convergence

- Both countries share a broad understanding on major global issues of international interest. This includes terrorism, climate change, human trafficking, arms smuggling, disaster management, biodiversity conservation, marine security etc.
- **Buddhism and democracy** is still the connecting link between India-Sri Lanka.
- India needs Sri Lanka support for getting **UNSC permanent member seat**.
- Indo-Lanka cooperation is must to revive the declining regional organisations like **SAARC, BIMSTEC, and Indian Ocean Rim Association (IORA)**

Issue of Concern

Pro-China tilt

- Sri Lanka is a member of **China's Belt and Road Initiative (BRI)**
- China is developing **Colombo Port City and the Hambantota port**, which are slated to play an important role in the BRI.
- Hambantota port has been handed over to China on a 99-year lease in a controversial \$1.2 billion debt for equity swap.
- According to the 2018 annual report of the Central Bank of Sri Lanka, imports from China accounted for 18.5%, just a little less than the 19% from India.

Fishermen issue

- In 1974, India ceded **Katchatheevu**, an uninhabited island to Sri Lanka and delimits the maritime boundary in the Palk Bay through "**Kachchateevu island pact**" but Tamil Nadu claimed that this island falls under Indian Territory and traditional fishermen have right to fish there.
- In 1976, both the countries have mutually entered into agreement to decide the **International Maritime Boundary Line (IMBL)** and to delimit boundaries in Gulf of Mannar and Bay of Bengal in accordance with the international rules.
- However, fishermen from both sides have difference on IMBL restriction and traditional fishing grounds.
- Indian fishermen are accused of fishing deep into Lankan water and using big mechanised trawlers that is affecting both economy and ecology of Sri Lanka.
- Incidents of fishermen facing arrest, boats and trawlers seizure and attack by respective state Navy are hurting the Indo-Lanka relations.
- **Delays in projects** proposed by India for e.g. not much is known about the status of a project to renovate Kankesanthurai harbour in Northern Province and little progress has been made in developing the Palaly airport.
- After civil war interventions, Sri Lanka governments **view "big brother" India** with suspicion. India's hand has been suspected in the political machinations that led to the exit of former pro-China President Mahindra Rajapaksa.
- India urges devolution of powers based on the 13th amendment while Sri Lankan government favours a homegrown solution.
- Indian insistence on going ahead with an **Economic and Technical Cooperation Agreement (ETCA)** by replacing the aborted Comprehensive Economic Partnership Agreement (CEPA) is also turned down by Sri Lanka.

KYRGYZSTAN AND TAJIKISTAN CONFLICT

GS-II INTERNATIONAL RELATIONS

Context

- Nearly 100 people have been killed and scores injured in violent border clashes between Kyrgyzstan and Tajikistan over the last week. A ceasefire, brokered by Russia, was agreed on Friday. The two landlocked countries share a 1,000-km long border, a large part of which is disputed. There have been flare-ups in the past as well over sharing water and land resources.

Details

- **The two landlocked countries, Kyrgyzstan and Tajikistan, share a 1,000-km long border**, a large part of which is disputed. There have been flare-ups in the past as well over sharing water and land resources.
- **The issue of the delimitation of the border is a relic of the Soviet era.** While regular talks have tried to resolve the issue, one of the crucial points of disagreement remains over the map which should be used for demarcation purposes.
- According to the Ministry of Emergency Situations of Kyrgyzstan, close to 1,50,000 people out of the 5,50,000 odd population of the Batken region have either fled the area or have been relocated by the state.
- The situation in Osh, Kyrgyzstan, is no different. The highly militarised borders also add to tensions.
- The borders of the two republics were demarcated under Joseph Stalin's leadership.
- Historically, the Kyrgyz and Tajik populations enjoyed common rights over natural resources.
- While regular talks have tried to resolve the issue, one of the crucial points of disagreement remains over the map which

should be used for demarcation purposes. Almost half of its close to a 1000 km border is disputed.

- The creation of the Soviet Union saw the large-scale redistribution of livestock to collective and state farms, which upset the existing status quo.
- Unfortunately, there was only so much land to go around.
- The Tajik territory saw their livestock increase, and with scarce grazing land, agreements were signed between the two populations over the utilisation of Kyrgyz territory by the Tajiks' livestock.

What led to the current flare-up?

- The ideological basis of the current set of clashes is reinforced by developmental issues, thus providing a fertile ground for the entire geopolitical space to become a hotbed of multiple minor conflicts and clashes.
- The environmental trajectory of the conflict can be further highlighted by incidents which saw groups from either side planting trees in disputed areas and engaging in a physical confrontation using agricultural equipment as weapons.
- Ferghana valley continues to be a site of struggle and frequent violent outbursts, with the location consisting primarily of Tajiks, Kyrgyz, and Uzbeks, who have historically shared common sociological specificities, economic activities, and religious practices.
- The collapse of the Soviet Union and the subsequent dissolution of the then-existing water and land agreements saw the creation of multiple smaller independent farms, which led to a marked increase in water consumption patterns among the farmers.
- Both countries share multiple water channels with undulating trajectories and flow, which upset equitable access to water on both sides. As a result, small-scale conflicts occur practically every year during the crucial irrigation period.
- Both countries, while sharing a closely intertwined historical past, have had differing internal dynamics since coming into statehood.
- One can trace their instability to transnational challenges and internal ethnic strife.
- Leaders of both countries have contributed in one way or the other to the continuation of the conflict through the imagination of a particular type of development project, hoping to stabilise the internal dynamics of their respective countries and legitimise their power.
- This 'development project' is similar to how the Soviet Union looked at modernisation — which resulted in the large-scale displacement of nomadic communities, eventually contributing to the 'environment driver' of the current conflict.

What is the road ahead?

- The path to resolution of the conflict will require groups to agree upon a common map.
- The international community will have to make efforts to solve the dispute by involving elders in the communities, as historically, elders have been used to resolve conflicts.
- The informal small-scale governance mechanisms would also have to be further strengthened through a concerted effort by the respective countries to stabilise the geopolitical dynamics.

INDIA-CARICOM RELATIONS

GS-II INTERNATIONAL RELATIONS

Context

- **India and the Caribbean Community (CARICOM) nations have agreed to work together on global issues such as food and energy security and combating climate change, as they held discussions on deepening political engagement and increasing cooperation in the context of post-pandemic economic recovery.**

Details

- The 4th India-CARICOM Foreign Ministers' Meeting was held on the sidelines of the UN General Assembly.
- **External Affairs Minister S Jaishankar and Eamon Courtenay, Minister of Foreign Affairs, Foreign Trade and Immigration of Belize co-chaired the meeting.**
- **The meeting was a follow-up to Prime Minister's historic meeting with the leaders of CARICOM countries on the sidelines of the UNGA in September 2019, the Ministry of External Affairs said in a press release.**
- The two sides held discussions on deepening political engagement, and increasing trade and investment and cooperation in the context of post-pandemic economic recovery.
- The two sides expressed satisfaction at the ongoing cooperation in the international fora. They agreed to work together on global issues such as food and energy security, combating climate change as well as disaster management and resilience, the release said.
- Both sides also deliberated on development partnership and capacity building including through tailor-made and specialised training courses and deputation of experts based on the requirements of the CARICOM countries, it said.
- CARICOM leaders acknowledged and thanked India's solidarity during the pandemic expressed through supplies of essential

medicines and vaccines.

- The two sides also discussed potential areas of cooperation such as health and pharmaceuticals, traditional medicines, IT and ITES capacity building, culture and sports.
- They highlighted the role played and the contributions made by the large and vibrant Indian diaspora who continue to serve as an enduring link of friendship between India and the Caribbean region. They agreed to work towards further strengthening people-to-people contact and cultural links.

Background

- In 1972, Commonwealth Caribbean leaders at the 7th Heads of Government Conference decided to transform the Caribbean Free Trade Association (CARIFTA) into a Common Market and establish the Caribbean Community, of which the Common Market would be an integral part.
- On 4 July 1973, they signed the Treaty of Chaguaramas establishing the Caribbean Community in Trinidad & Tobago.
- **CARICOM has 15 members – Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St Lucia, St. Vincent and the Grenadines, Suriname and Trinidad & Tobago. Of the 15, all except Montserrat are nation States. Anguilla, Bermuda, British Virgin Islands, Cayman Islands and Turks & Caicos Islands are Associate Members of the Community.**
- The Chairmanship of the Community is rotated every six months among the member countries Heads.
- Between 1993 and 2000, the Inter-Governmental Task Force (IGTF) which was composed of representatives of all Member States, produced nine Protocols, for the purpose of amending the Treaty.
- These nine Protocols were later combined to create a new version of the Treaty, called formally, 'The Revised Treaty of Chaguaramas' heralding the establishment of the CARICOM Single Market and Economy. The CARICOM Single Market and Economy is intended to benefit the people of the Region by providing more and better opportunities to produce and sell goods and services and to attract investment.

India – CARICOM

- India's political engagement with CARICOM as a group started with the visit of a CARICOM delegation led by K.D. Knight, Minister of Foreign Affairs and Trade of Jamaica and the then Chairman of the Community Council, to India in November 2003, during which an agreement was signed for establishing a Standing Joint Commission on Consultation, Cooperation and Coordination.
- Later in February 2005, India was invited as special guest to the CARICOM Summit in Paramaribo.
- Subsequently, India-CARICOM Economic Forum was held in August 2005.
- On the occasion, a project for computerization of CARICOM Secretariat valued at US\$ 1.3 million, funded by India, was completed and handed over to the CARICOM Secretariat.
- India's historic and warm relations with the countries of the Caribbean witnessed a new momentum with the meeting of PM Modi with 14 leaders of the CARICOM countries on the UNGA sidelines on 25 September 2019 in New York, during which PM Modi announced USD 14 million Grant for Community Development Projects (CDP) in the CARICOM (1 million for each country) and another 150 million Line of Credit for projects related to Solar, Renewable Energy and Climate Change.
- He also announced the setting up of a Regional Centre for Excellence in Information Technology in Guyana, Georgetown and a Regional Vocational Training Centre in Belize by upgrading the existing India-funded Centres in these countries.
- In order to assist in their fight against COVID19, India had sent medical assistance worth INR 16 Crores to 27 LAC countries including to all CARICOM members.



HEALTH EXPENDITURE IN INDIA

GS-II HEALTH

In News

- India's total health expenditure went down from 3.9% of the Gross Domestic Product (GDP) in 2013-14 to 3.2% in 2018-19, according to the latest national health estimates- National Health Accounts Estimates 2018-19 Report.

Details

- Total health expenditure is the money spent by the government, people, private entities and external funding.
- The trend was reflected by the Union government, whose expenditure on healthcare went down to 1.28% of the GDP in 2018-19 from the previous year's figure of 1.35%.
- As the total healthcare expenditure has increased from 29% in 2014-15 to 40.6% in 2018-19, the decline is even more pronounced.
- Out-of-pocket expenditure on healthcare by households – a key reason pushing Indians into poverty – has declined by 16%; from 64.2 % to 48.2% in the same period.**
 - In Uttar Pradesh, out-of-pocket health expenditure accounts for 71.3% of the state's total health expenditure.
- The economic burden of healthcare in India is largely borne by households that contribute Rs 3, 24,717 crores to the current healthcare expenditure.
 - While the Union government's share is Rs 63,256 crore, the state government's share is Rs 1, 06,056 crore and local bodies contribute Rs 5,451 crore.
 - Non-governmental organisations spend Rs 8,484 crore, while external/ donor funding contributes about Rs 2,493 crore.
- These statistics are critical because they answer important policy questions such as what are the sources of healthcare expenditures, who manages these, who provides health care services, and which services are utilised.

Present Status of India's healthcare

- Data shows that India has 1.4 beds per 1,000 people, 1 doctor per 1,445 people, and 1.7 nurses per 1,000 people.
- According to the World Health Organization (WHO), India ranks 184 out of 191 countries in health spending.
 - The US spends over 16% of its total GDP on healthcare, while Japan, Canada, Germany etc. spend over 10% of their GDP on healthcare.
- India has a dual burden of both communicable and non-communicable diseases and many of these diseases can be prevented by early diagnosis, providing health education, timely referral and management.
- Nearly 8 lakh cases of cancer are detected each year and around 60-80% of the cases are diagnosed late.
- Lack of awareness and poor health-seeking behaviour has been found to be the major underlying causes of many diseases.**
- Inadequate Quality, Accessibility and Affordability of Health Services.
- High out-of-pocket expenses.
- Shortage of Infrastructure, Equipment and Skilled Manpower.
- Rigid regulatory Framework Combined with Corrupt enforcement.
- Primary Health Care Centres are not Present in many villages and wherever Present they lack basic facilities.**
- Inefficiencies in Procurement Process result in both Shortages and Wastage.
- Nearly 70% of Healthcare delivery is through Private Players which are largely regulated.**
- Lack of Sanitation, disease Surveillance, Political will and Public Health response.
- The government spends less than 1.5% of GDP on Public Health Care.**
- Rising incidence of non-Communicable diseases with income growth, lifestyle changes and environmental degradation, resulting in a rising total burden of disease.

Concern

- Shortage of Staff and Equipment;**
 - Overall there was a shortfall of 86.5% surgeons; 74.1% obstetricians & gynaecologists; 84.6% general physicians and 81% paediatricians in the country.
- Healthcare infrastructure is heavily skewed in favour of urban areas.
 - The evidence shows that the private health care market occupies a large share of hospitals (75%), hospital beds (50.7%) and medical institutions (54.3%) largely located in urban areas.
 - Almost half (48%) of the large private hospitals and two-thirds of corporate hospitals are located in five million plus cities in India.
- Inter-State and Intra-state variations**
 - In a few states such as Kerala, Tamil Nadu and Delhi; the public health facilities play their intended role of being the first point of care and proactively delivering essential services while in some states like Uttar Pradesh, Bihar, and Jharkhand

primary health care is not available to masses and they are highly dependent on the private sector with their expenditure.

- While the private facility is highly urban-centric covering a few districts of India, there is a dearth of both public and private health care facilities in many of the districts and there are many parts/areas/districts where no one is to serve people.
- **No proper regulatory mechanism and monitoring**
 - According to a WHO report published in 2016, 31.4% of those calling themselves allopathic doctors were educated only up to class 12 and 57.3% of doctors did not have a medical qualification.
 - Due to poor regulatory mechanisms and monitoring, private health care services and doctors are following unethical practices treating medical services as a business and hospitalisation as a source of profit, writing unnecessary diagnostic tests, high rate medicines instead of generic ones, organ theft (kidney racket) etc. even denying treatment to poor people though getting land from the government on a subsidised rate.
- **Lack of Affordability**
 - The contribution of the private sector to healthcare expenditure in India is around 80 % while the rest 20% is contributed by Public Sector.

Steps taken by the Government

- Promotion of Institutional deliveries through Cash incentive under **Janani Suraksha Yojana**.
- **Janani Shishu Suraksha Karyakram**: Free ante-natal Check-ups, Post-natal Care and treatment of Sick infants till one year of age.
- Providing Reproductive, Maternal, Newborn, Child and Adolescent Health Services, the establishment of Special Newborn Care Units.
- **Mission Indradhnaush**: Expanding full immunisation Coverage, the introduction of new vaccines.
- **PM Swasthya Suraksha Yojana** for strengthening the tertiary health Sector.
- **POSHAN Abhiyaan** to address Malnutrition.
- **Iron and folic acid Supplementation** for the Prevention of Anaemia, home visits by ASHAs to promote breastfeeding and promote the use of ORS and Zinc for the management of diarrhoea in children.
- **Capacity building of Health Care Providers**: Training is being conducted under the National Health Mission to build and upgrade the Skills of Health Care Providers.
- **National Health Resource Repository**: Create a reliable, unified registry of the Country's healthcare resources showing the distribution pattern of health facilities and Services between Cities and rural areas. ISRO is a Technology Partner for providing data Security.
- Allowed 100% FDI in the Medical devices Sector to promote Make in India.
- **Kayakalp initiative** to Promote Cleanliness, hygiene and infection control practices in public health facilities.

Way forward

- **Primary health Centres need to be strengthened** as 80-90% health needs of a person in a lifetime can be provided by primary health care centres.
- **Increase the expenditure on health to 2.5% of GDP** as envisaged in NHP 2017 to improve infrastructure in health centres.
- To meet the shortage and availability of trained staff, preference should be given to local people. Skills of good performing ASHA, ANM workers and nurses should be upgraded and they should be posted in their own rural and remote areas of the Health centre.
- To remove misallocation, new medical colleges whether it is private or public should be opened strictly only in rural and remote areas. Special focus should be on large populous northern states or backward states.
- There should be proper regulation and monitoring against all the malpractices prevalent in the health sector. Stringent laws and punishment should be there for all those who do unethical practices in this field.
- **The use of technology can help a lot to reduce the cost as well as improve facilities in the healthcare area.**
- A National Health Regulatory and Development Framework need to be made for improving the quality (for example registration of health practitioners), performance, equity, efficacy and accountability of healthcare delivery across the country.
- **Increase the Public-Private Partnerships to increase the last-mile reach of healthcare.**
- Generic drugs and Jan Aushadi Kendras should be increased to make medicines affordable and reduce the major component of Out of Pocket Expenditure.
- The government's National Innovation Council should encourage a culture of innovation in India and help develop policy on innovations that will focus on an Indian model for inclusive growth.

NATIONAL PHARMACEUTICAL PRICING AUTHORITY

GS-II HEALTH

Context

- Recently, The National Pharmaceutical Pricing Authority (NPPA) launched Pharmaceutical Database Management System 2.0 and Pharma Sahi Daam 2.0 app during its silver jubilee celebration.

NPPA

- About:** The National Pharmaceutical Pricing Authority (NPPA) is a government regulatory agency that controls the prices of pharmaceutical drugs in India.
- Establishment:** National Pharmaceutical Pricing Authority (NPPA) was constituted in 1997 as an attached office of the Department of Pharmaceuticals (DoP), Ministry of Chemicals and Fertilizers as an independent Regulator for pricing of drugs and to ensure availability and accessibility of medicines at affordable prices.

Functions

- To implement and enforce the provisions of the Drugs (Prices Control) Order in accordance with the powers delegated to it.
- To deal with all legal matters arising out of the decisions of the Authority.
- To monitor the availability of drugs, identify shortages, if any, and take remedial steps.
- To collect/ maintain data on production, exports and imports, market share of individual companies, the profitability of companies etc, for bulk drugs and formulations.
- To undertake and/ or sponsor relevant studies in respect of the pricing of drugs/ pharmaceuticals.
- To recruit/ appoint the officers and other staff members of the Authority, as per rules and procedures laid down by the Government.
- To render advice to the Central Government on changes/ revisions in drug policy.
- To help the Central Government in parliamentary matters relating to the drug pricing.

Trivia

The NPPA regularly publishes lists of medicines and their maximum ceiling prices. On 1st April 2022 NPPA increased over 800 medicines under the National List of Essential Medicines (NELM) by over 10%.

Initiatives of NPPA

PMRU

- Under its program called "Consumer awareness, publicity and price monitoring (CAPPMS)" the NPPA has set up 12 Price monitoring and resource units (PMRUs) in various States and UTs. The primary function of PMRUs is to assist NPPA in monitoring of prices of drugs, ensuring availability of drugs and raising consumer awareness.
- The PMRUs are societies registered under The Societies Registration Act, 1860 under the direct supervision of The State Drug Controller with its "board of governors" containing nominees of state and central government apart from other stakeholders. They will be funded by NPPA for their recurring and non-recurring expenses.

Integrated Pharmaceutical Database Management System 2.0 (IPDMS 2.0) [Recently Launched]

- IPDMS 2.0 is an integrated, responsive, cloud-based application developed by NPPA with technical support from Centre for Advance Computing (C-DAC). It is envisaged to optimise synergies in operations in order to promote the government's thrust on 'Ease of Doing Business'. It would provide a single window for submissions of various forms as mandated under Drug Price Control Order (DPCO), 2013. It would also enable paperless functioning of NPPA and facilitate the stakeholders to connect with it from across the country.

Pharma Sahi Daam 2.0 app [Recently Launched]

- Pharma Sahi Daam 2.0 app will have updated features like speech recognition, availability in Hindi and English, share button and medicine bookmarking. This version of Pharma Sahi Daam also has a facility for launching complaints by consumers through the consumer complaint-handling module.

SHORT ANTI-TB REGIMEN

GS-II HEALTH

Context

- A short tuberculosis treatment regimen of six months called BPaL as against the usual 18-month protocols has won the scientific vote with trials in multiple countries.

About BPaL

- BPaL is a combination of three newer antibiotics, namely bedaquiline, pretomanid and linezolid to Treat Drug-Resistant

Tuberculosis Disease.

- The BPAL regimen **has a maximum of three to four drugs daily where it can be given only for six months.**
- It had "favourable outcomes" **in 84% to 94% of the sickest TB patients.**

Trials in India

- In India, where the three-antibiotics combination is still under clinical trials, the results so far are encouraging and **the regimen could be included in the national TB programme.**

TB

- **About:** TB is a serious infectious **bacterial disease that mainly affects the lungs.**
- **Cause:** Tuberculosis (TB) is **caused by a type of bacterium called *Mycobacterium tuberculosis*.**
- **Transmission:** It's spread when a person with active TB disease in their lungs coughs or sneezes and someone else inhales the expelled droplets, which contain TB bacteria.
- **Symptoms:** The general symptoms of TB disease include feelings of sickness or weakness, weight loss, fever, and night sweats. The symptoms of TB disease of the lungs also include coughing, chest pain, and the coughing up of blood.
- **TB Vaccine (BCG):** Bacille Calmette-Guérin (BCG) is a vaccine for tuberculosis (TB) disease. It is often given to infants and small children in countries where TB is common.
- **Treatment:** Antibiotics are the mainstay treatment of TB. However, the bacteria has been known to become resistant and find a way to beat these antibiotics. Drug-resistant strains of TB have become a global concern.

Burden of TB in India

- According to World Health Organisation (WHO) estimates, India has the world's largest tuberculosis epidemic. In 2020, India accounted for 26% of the incident TB cases across the globe. The WHO TB statistics for India for 2021 give an estimated incidence figure of 2,590,000 million cases. This is a rate of **188 per 100,000 population.**

The TB incidence is the number of new cases of active TB disease during a certain time period (usually a year).

- Delhi has the **highest burden of all forms of TB and pulmonary TB.**
- Eight countries account for two thirds of the new TB cases: India, China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh and South Africa.
- In India in 2021, an estimated 504,000 people died from tuberculosis. That's almost one per minute. More than a quarter of the estimated TB cases worldwide are in India.

TB Elimination

World

- In 2018, the UN committed to end the TB epidemic globally by 2030. The "End TB" strategy sought to reduce TB incidence by 80%, deaths by 90%, and eliminate catastrophic costs for TB-affected households.

India

- India announced it would try to eliminate TB in India by 2025, five years ahead of the UN's target.

70 years of TB control in India

- When India gained independence in 1947, there were about half a million TB deaths annually and an estimated 2.5 million Indians suffered from active tuberculosis.
- In 1948, a TB vaccination program commenced. The **BCG vaccine** protects against the most severe forms of TB, such as TB meningitis in children, but **it doesn't protect against TB in adults.**
- India's first national survey of TB, conducted from 1955 to 1958, found on average four of every 1,000 people in India had TB. The **National Tuberculosis Institute** was established in 1959.
- Later, the **National Tuberculosis Programme was started in 1963.** The key strategy of the program was to use chemotherapy to treat TB.
- The **Nikshay Poshan Yojana started in 2018** entitles every tuberculosis (TB) patient, seeking treatment in either the public or private sector, to a direct benefit transfer (DBT) of Rs 500 per month for nutritional needs.
- India's **National Strategic Plan for Tuberculosis Elimination** has described four strategic pillars of "Detect - Treat - Prevent - Build" (DTPB) as the way forward.
- **Ni-kshay Mitra initiative** was recently launched to ensure additional diagnostic, nutritional, and vocational support to those on TB treatment. The **Ni-kshay 2.0 portal** will facilitate in providing additional patient support to improve treatment outcome of TB patients, augmenting community involvement in meeting India's commitment to end TB by 2025.

Way Ahead

- **Delays emanating from the NIKSHAY platform** should be addressed.

- Lack of awareness among communities and location of diagnostic services are the issues that need to be addressed to facilitate early diagnosis.
- TB should be included in the agenda of department meetings and forums; patient support groups should be constituted; and grievance redressal mechanisms should be established.
- Establish migrant policy for preventing and managing tuberculosis among migrants.
- Build capacity of ASHAs and ANMs in disseminating key messages, especially that promoting cough hygiene and sputum disposal.
- TB continues to be a social stigma among all strata of society, especially in the lower economic strata. Newer strategies are required to address stigma in a scientific and systematic way, for integration into the program.
- Address airborne infection transmission in vehicles of mass transport by studying the current potential for transmission and identifying technical and administrative solutions in the larger context of pandemics.
- Health system strengthening for TB control under the National Strategic Plan 2017-2025 is recommended in the form of building and strengthening enabling policies, empowering institutions and human resources with enhanced capacities.

Conclusion

- The National TB Elimination Program (NTEP) is technically strong, but the focus has been on detection, diagnosis, and treatment. There are underlying factors creating obstacles in its implementation, including **deficiencies in management; inadequate communication with TB patients and/or beneficiaries; and suboptimal efforts to address social factors, especially stigma associated with TB.**
- To achieve the goal of eliminating TB by 2025, the Government will have to reassess its strategies to reach the missing cases.

NATIONAL LIST OF ESSENTIAL MEDICINES (NLEM)

GS-II HEALTH

Context

- Twenty-six drugs, have been excluded from the National List of Essential Medicines (NLEM).

Essential medicines

- Essential medicines, as defined by the World Health Organization (WHO), are the *medicines that "satisfy the priority health care needs of the population"*.
- These are the medications to which people should have access at all times in sufficient amounts. The prices should be at generally affordable levels.
- Since 1977, the WHO has published a model list of essential medicines. The concept of essential medicines, first introduced by WHO in 1977, has now been adopted by many countries, non-governmental organizations and international non-profit supply agencies.

India's National List of Essential Medicine (NLEM)

- A total of **384 drugs find place on the list**. Twenty-six from the previous list have been dropped. The medicines have been categorised into **27 therapeutic categories**. The **first NLEM was compiled in 1996 and was revised thrice in 2003, 2011, and 2015**.
- The drugs in the NLEM are included in the schedule category and their price is regulated by the National Pharmaceutical Pricing Authority.

Deletion of drugs from the list

- According to a Health Ministry official, drugs deleted from the NLEM include medicines banned in India and those having reports of concerns on the safety profile.
- Drugs also go off the list if medicines with better efficacy or favourable safety profile and better cost-effectiveness become available. Also, if the disease burden for which a medicine is indicated is no longer a national health concern, it is deleted from the NLEM. In case of antimicrobials, if the resistance pattern has rendered them ineffective, the drugs are taken off the list.

Inclusion of drugs in the List

- The new list includes four drugs that are still under patent – **bedaquiline and delamanid used in the treatment of multiple drug-resistant tuberculosis, dolutegravir used to treat human immunodeficiency virus (HIV) infection, and daclatasvir used in treating viral infections such as Hepatitis C.**

Core medicine needs

- The pricing of essential medicines is regulated by the National Pharmaceutical Pricing Authority
- The new list includes four drugs that are still under patent – bedaquiline and delamanid used in the treatment of drug-resistant tuberculosis, dolutegravir used to treat HIV infection, and daclatasvir used in treating viral infections such as Hepatitis C
- No drugs used specifically for the treatment of COVID-19 have been included in the list

The list has 384 drugs across 27 categories

Several antibiotics, vaccines, anti-cancer drugs and many other important drugs would become more affordable, and the "out-of-pocket expenditure" on health care would come down — MANSUKH MANDAVIYA, Health Minister

- Several antibiotics, vaccines and anti-cancer drugs are set to become more affordable with their addition to the list. **Ivermectin, mupirocin and nicotine replacement therapy have been added.**
- Endocrine medicines and contraceptives fludrocortisone, ormeloxifene, insulin glargine and teneligliptin have been added to the list. Montelukast, which acts on the respiratory tract, and ophthalmological drug latanoprost figure in the list.
- Cardiovascular medicines dabigatran and tenecteplase also find place in the list, as also medicines used in palliative care.

Significance of NLEM

- The primary purpose of the NLEM is to promote rational use of medicines considering the three important aspects – **cost, safety and efficacy**. It also **helps in optimum utilisation of healthcare resources and budget; drug procurement policies; health insurance; improving prescribing habits; medical education and drafting pharmaceutical policies.**

Final Thoughts

- The release of the NLEM, 2022, comes after a long gap of seven years, when **it is recommended for an NLEM to be revised more frequently, every two-three years, to be responsive to changing health needs.**
- In respect of cancer, it is disappointing that **more of the highly priced, effective treatments for various cancers have not been included in the list.** It is positive that the diabetes section has been expanded to include teneligliptin and insulin glargine. However, **there was a need to include more synthetic insulins and other classes of oral antidiabetics keeping in view the diabetes epidemic in the country.**

MEDICAL DEVICES: REGULATIONS AND CONTROL

GS-II HEALTH

Context

- Recently, the 138th report on the subject “Medical devices: regulations and control” was presented in the Rajya Sabha.
- The Central Drugs Standard Control Organisation (CDSCO) is falling short in effectively regulating the medical devices industry: Parliamentary Standing Committee on Health said in Rajya Sabha.

Medical Devices

- Medical equipment is divided into five categories:
 1. Needles and syringes, among other consumables and disposables
 2. Diagnostic imaging includes MRI, X-rays, and ultrasounds, among other procedures.
 3. Dentures, braces, and other dental products.
 4. Orthopaedics and Prosthetics include knee implants and artificial joints
 5. Hearing aids and pacemakers are examples of patient aids.

Medical Devices Sector: Scenario

- India has **only 18 certified medical device testing laboratories that have been approved by the CDSCO** and that is **grossly insufficient keeping in view the size of the country.**
- There is a **huge gap in the current demand and supply of medical devices in India** and this provides a significant opportunity for manufacturing devices in India.
- Around 65 percent of Indian manufacturers are domestic operators in the consumables sector, catering mostly to domestic consumption with **negligible exports.** With vast service networks, large multinational corporations dominate the high-tech end of the Medical Devices industry in India.

Medical Devices Demand in India

- The various factors are driving the demand of medical device in India as mentioned below:

Growing Population

- The growing population will drive the demand for healthcare services and this in turn will drive the demand for medical devices in India.

Ageing Population

- The increasing aged population will drive the demand for better healthcare services and medical devices.

Increasing Disease Burden of Chronic Diseases

- Non-communicable diseases like cardio vascular diseases, cancer, diabetes, and other, are expected to comprise more than 75% of India's disease burden by 2025, compared to 45% in 2018.
- The chronic diseases will drive the demand for healthcare services with basic and advanced medical devices and technology.

Increasing Health Insurance Penetration

- The Indian health insurance penetration has increased in the last one decade. About 20% of Indians are covered by health insurance. With increased affluence and urbanisation, this number is anticipated to rise. The Indian health insurance market is

expected to reach over USD 20 bn in FY 2025. The increasing aged population will drive the demand for healthcare services and medical devices.

Growing Medical Tourism

- Medical Tourism is on the rise in India, because to the relatively low cost of medical care. It contributes more than \$2 billion to India's healthcare market.
- India has been increasingly attracting medical tourist from across the globe with SAARC countries contributing to maximum inflow.
- Medical tourism has increased demand for healthcare and medical devices. The increasing medical tourist flow will drive the demand for quality healthcare services, medical devices and technology.

Preferences Change

- Increasing health knowledge, a shift in attitudes toward preventative healthcare, and an increase in the occurrence of lifestyle disorders.

Growing Middle Class

- Over next ten years, 73 million Indian households will enter the middle class, increasing their purchasing power, including in the area of medical devices.

Policy Support and Incentives

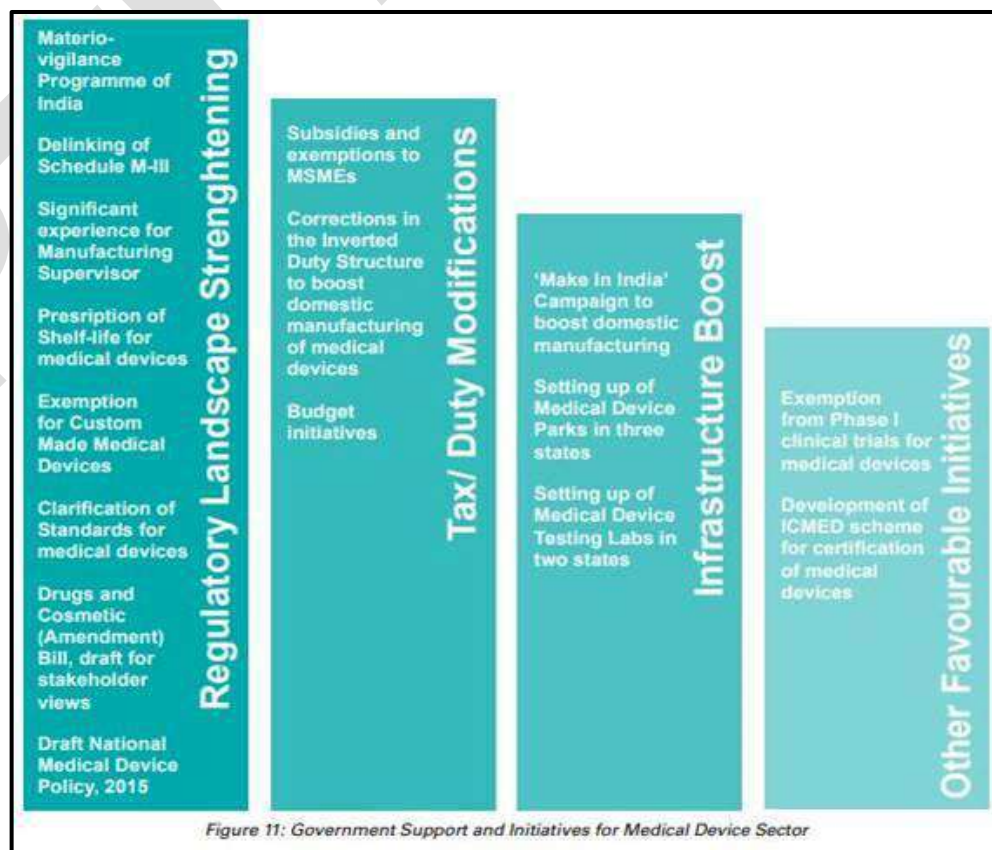
- **100% FDI authorised** in Greenfield and brownfield projects, lower entry hurdles than other industries, and a varied and vibrant start-up ecosystem.

Market Size

- The medical devices sector in India comprises large multinationals and small and mid-sized companies.
- **As of May 2021, the medical devices market is estimated to be at US\$ 12 billion in India.**
- India is the **4th largest Asian medical devices market** after Japan, China, and South Korea, and among the top 20 medical devices markets globally.
- Between 2020-25, diagnostic imaging market is likely to expand at a CAGR of 13.5%.
- India's wearable market grew 93.8% YoY in the July–September 2021 quarter, shipping 23.8 million units. Noise maintained its lead for the sixth straight quarter with a 26% market share in the third quarter, followed by Boat (23.1%), Fire-Boltt (15.3%), Realme (7.3%) and Amazfit (4.8%).

Import- Export Scenario

- **India has a 75-80% import dependency on medical devices.** Export of medical devices from India stood at US\$ 2.53 billion in FY21, and is expected to rise to US\$ 10 billion by 2025.
- To increase export of medical devices in the country, the Ministry of Health and Family Welfare (MOHFW) and Central Drugs Standard Control Organisation (CDSCO) implemented the following initiatives:
 1. Re-examination and implementation of Schedule MIII (a draft guidance on good manufacturing practices and facility requirements)
 2. System for export labelling
 3. Clinical evaluation and adverse reporting clarification
 4. State licencing authority to extend free sales certificate validity from 2 years to 5 years to allow exports
 5. Create a list of manufacturers with export licencing for easy access to regulatory authorities worldwide.



- The Medical Devices Virtual Expo 2021 showcased Indian products and enabled direct interaction between Indian suppliers and buyers/importers from participating countries; 300 foreign buyers from the healthcare sector participated in this event.

Government Initiatives

- In October 2021, the government announced plan to **Draft a new drugs, cosmetics and medical devices bill** to increase the acceptability of Indian medical devices in the global market.
- In October 2021, the government announced that 13 companies have been approved under the **PLI scheme for medical devices**, which is expected to boost domestic manufacturing in the country.

Read about PLI: <https://www.iasgyan.in/daily-current-affairs/pli-scheme-1>

<https://www.iasgyan.in/blogs/the-pli-scheme-all-you-need-to-know>

- In 2021, the government sanctioned to build a **medical devices park in Himachal Pradesh's industrial township, Nalagarh**, in the Solan district.
- In 2021, the government approved a **medical devices park in Oragadam (Tamil Nadu)**.
- In 2021, the government announced that they would build **a medical park in Uttar Pradesh**.
- In 2021, the Quality Council of India (QCI) and the Association of Indian Manufacturers of Medical Devices (AiMeD) launched the **Indian Certification of Medical Devices (ICMED) 13485 Plus scheme** to undertake verification of the quality, safety and efficacy of medical devices
- In 2021, the Department of Pharmaceuticals released a **revised notice on the Public Procurement Order (PPO), incorporating 19 medical devices in the revised guidelines of the PPO**, which is expected to improve domestic medical devices manufacturing (and strengthen 'Make in India') and reduce import bills.
- In 2021, in order to expedite the clearance of medical devices such as nebulizers, oxygen concentrators and oxygen canisters, the government **made it easier to import critical medical devices** by easing the requirements for clearance **under the Legal Metrology Act (Packaging Rules 2011)**.

Way Ahead

Infrastructure

- Having adequate common infrastructure including accredited laboratories in various regions of the country for standard testing will significantly encourage local manufacturers to get their products tested for standard.
- Such measures undertaken will also help in reducing the cost of production which ultimately will improve the availability and affordability of medical devices in the market.

Surveillance System

- There is a dire need for developing a robust IT-enabled feedback-driven post-market surveillance system for medical devices to evaluate their efficiency.

Synergy with State governments

- Health Ministry needs to work in synergy with State governments and impart the necessary skills to the local medical device officers and also devise a mechanism to regularly designate State Medical personnel as Medical Device/Medical Device Testing Officers so that the mandate of the legislation can be implemented effectively.

Allow new Regulators

- Health Ministry should allow the new regulator to involve institutions such as IISC, CSIR, DRDO and network of IITs to test medical devices for safety and efficacy.

Single Window Clearance

- A single-window clearing platform for application of license for manufacturing, export, import shall integrate all these bodies involved in the regulation of medical devices.
- A single-window clearance for all the departments/Ministries would boost investment and would also reduce the time required for obtaining approvals from different Departments/Ministries.

Accessibility, Affordability

- Address the core objectives of accessibility, affordability, safety and quality, focusing on self-sustainability, innovation and growth in the medical devices sector.

Other

- **Promoting Research and Development** and Innovation.
- **Human Resource Development** to create manpower with required skills.
- **Awareness Creation and Brand Positioning** in creating awareness and positioning India as a hub for manufacturing of medical devices as part of the "Make in India, Make for the World" initiative.
- **Giving effect to 'Drug, Medical Devices, and Cosmetics Bill-2022'**

Significance of the Medical Device Sector in India

- The medical devices sector in India is an essential and integral constituent of the Indian healthcare sector, particularly for the

prevention, diagnosis, treatment and management of all medical conditions, diseases, illnesses, and disabilities.

- The Indian medical devices sector's contribution has become even more prominent as India supported the global battle against the COVID-19 pandemic through the production of medical devices and diagnostic kits, e.g., Ventilators, RT-PCR kits, IR Thermometers, PPE Kits & N-95 masks.

Policy makers in India will need to set out an action plan to reduce the country's dependency on medical devices/technology imports.

Medical device companies should develop India as a manufacturing hub for domestic and international markets, undertake India-based innovation in combination with indigenous manufacturing, collaborate across the Make in India and Innovate in India schemes, and produce low to medium technology products to cater to the underpenetrated domestic markets.

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GENERAL STUDIES - III

OPEN NETWORK FOR DIGITAL COMMERCE

GS-III ECONOMY

Context

- Union Minister of Commerce and Industry, Consumer Affairs, Food & Public Distribution and Textiles, Shri Piyush Goyal chaired a meeting to review the progress of Open Network for Digital Commerce (ONDC) today in New Delhi.

About ONDC

- Open Network for Digital Commerce, abbreviated ONDC, is a **private non-profit Section 8 company** established by the Department for Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry of Government of India to develop open e-commerce.
- It was incorporated in 2021 with initial investment from Quality Council of India and Protean eGov Technologies Limited (formerly NSDL e-Governance Infrastructure Limited).
- Often referred to as the UPI of e-commerce, ONDC is a freely accessible government-backed platform that aims to democratize e-commerce by moving it from a platform-centric model to an open network for buying and selling goods and services.

Aim

- The ONDC (Open Network for Digital Commerce), is an initiative aiming at promoting open networks for all aspects of exchange of goods and services over digital or electronic networks.
- Open Network for Digital Commerce (ONDC) is being seen as a step in the direction of democratizing the e-commerce space in India, mainly controlled by multinational players Amazon and Flipkart.



What led to the creation of ONDC?

- Technological self-reliance, demand for level playing field mainly from small retailers, smoothen the ease of doing business online, adoption of open digital ecosystem across key sectors and fixing the non-competitive behavior of big ecommerce firms like Amazon and Flipkart to capture the US\$810 billion domestic retail market led to the creation of ONDC.
- It will also help check Big Tech companies violating Consumer Protection (E-Commerce) (Amendment) Rules, 2021 due to concentration of market power by integrating them into a decentralized open-source platform.

Major Objectives

The major objectives include

- Ending monopolies of the platforms
- Democratisation and decentralisation
- Digitisation of the value chain
- Standardisation of operations
- Inclusivity and access for sellers, especially small and medium enterprises as well as local businesses
- Increased efficiency in logistics
- More choices and independency for consumers

- Ensured data privacy and confidentiality
- Decreased cost of operation
- It is compared to unified payments interface (UPI)

Key Features

- Unlike the platform-based model, the ONDC will not be owned or controlled by a single entity or platform.
- Businesses and consumers will be able to carry out transactions over ONDC using any compatible application of their choice.

ONDC Advisory Council

- **About:** The primary role of the advisory council is **to watch over ONDC implementation in the country.**
- **Member and Convener:** The members were selected based on their experience in fields such as technology, finance, commerce etc. Convener of the ONDC Advisory Council is Additional Secretary from Department for Promotion of Industry and Internal Trade under Ministry of Commerce and Industry.

Structure

- The ONDC uses "free software methodology, open specifications and open network protocol".
- The backend of the ONDC is built on Beckn Protocol, an open and interoperable protocol for decentralized digital commerce. Beckn Gateways provides anonymised aggregated data generated from the network.
- On the ONDC, the consumers and merchants can transact for goods and services via open protocol instead of the central platform or application.

INDIA BECAME WORLD'S 5TH LARGEST ECONOMY

GS-III ECONOMY

Context

- India has overtaken the U.K. to become the world's fifth-largest economy. It is now behind only the US, China, Japan and Germany, according to IMF projections.

Details

Dollar Exchange Rate

- On an adjusted basis and using the dollar exchange rate on the last day of the relevant quarter, the size of the Indian economy in 'nominal' cash terms in the quarter through March was \$854.7 billion. On the same basis, the U.K. was \$816 billion.

GDP

- India's GDP expanded 13.5% in the April-June quarter, the quickest pace in a year, to retain the world's fastest growing economy tag.
- India's GDP growth in the first quarter of the current fiscal was higher than China's 0.4% expansion in April-June.
- The growth, though lower than the Reserve Bank of India (RBI) estimate of 16.2%, was fuelled by consumption and signalled a revival of domestic demand, particularly in the services sector.

Some concerns

- **Pent-up demand is driving consumption** as consumers, after two years of pandemic restrictions, are stepping out and spending.
- The services sector has seen a strong bounce back that will get a boost from the festival season next month.
- But the **slowing growth of the manufacturing sector at 4.8%** is an area of worry. Also, **imports being higher than exports** are a matter of concern.
- Additionally, an uneven monsoon is likely to weigh upon agriculture growth and rural demand.
- The GDP tag will, however, **allow the RBI to focus on controlling inflation**, which has stayed above 6% for seven straight months.

Overview on the basis of other parameters

- However, here are five charts that should serve to see this development in perspective.

Population size

- This is one of the most fundamental differences between the two countries. As of 2022, India has a population of 1.41 billion while the UK's population is 68.5 million. In other words, India's population is 20 times that of the UK's. This gap is unlikely to be bridged in a hurry.

GDP per capita

- Since there is such a stark difference between the population of the two countries, GDP per capita provides a more realistic comparison of income levels because it divides a country's GDP by the population of that country. The income of an average

Indian is far lower.

Poverty levels

- Low per capita incomes often point to high levels of poverty. It is noteworthy that at the start of the 19th century, the UK's share in extreme poverty was considerably higher than India's. However, as things stand today, the relative positions have reversed even though India has made giant strides in curbing poverty.

Human Development Index

- Arguably, the end goal of higher GDP and faster economic growth is to have better human development parameters. The Human Development Index is a composite of health, education and standard of living parameters. India standing on HDI with the UK's has huge contrast. Despite its secular improvement, India might still take a decade to be where the UK was in 1980.

Universal Healthcare Coverage

- A crucial element of becoming richer as a country is the quality of life available to citizens. The Universal Health Coverage (UHC) Index is measured on a scale from 0 (worst) to 100 (best) based on the average coverage of essential services including reproductive, maternal, new-born and child health, infectious diseases, non-communicable diseases and service capacity and access.
- While faster economic growth and the government's policy focus on healthcare schemes since 2005 have made a distinct improvement for India, there is still a long way to go.

PATENT ECOSYSTEM

GS-III ECONOMY

Context

- The recent report of the Economic Advisory Council to the Prime Minister (EAC-PM), namely "**Why India Needs to Urgently Invest in its Patent Ecosystem**", stressed upon the need to urgently invest in Patent Ecosystem.

Details

- **It highlights the rising share of residents in the total number of patent applications filed in India, which has more than doubled during the last decade.**
- And, for the first time, the number of patent applications by residents has surpassed that of foreign applications during the last quarter of the financial year 2021-22.
- The Economic Survey 2022-23, for instance, highlighted the rising share of Indian residents in patent applications.
- **A major concern expressed in the EAC-PM report is the long pendency of processing patent applications in India. Therefore, it has recommended several measures to reduce this.**
- Increasing the efficiency of processing patent applications will certainly improve the patent ecosystem in the country.
- At the same time, we need to investigate the patent ecosystem more closely to connect the dots so that appropriate measures are adopted to improve the patent ecosystem, keeping in view the national innovation ecosystem.

On abandoned applications

- The total number of patent applications to the Indian patent office has increased by 48% between 2010-11 and 2020-21, largely driven by applications by residents.
- Interestingly, the number of abandoned patent applications also increased at an astonishing rate during this period.
- The latest Annual Report (2019-20) of the Office of the **Controller General of Patents, Designs, Trademarks and Geographical Indications** (CGPDTM) shows that the number of abandoned patent applications, on account of not meeting the requirements under Sections 9(1) and 21(1) of the Patents Act, grew from 5,186 in 2010-11 to 23,291 in 2019-20, an increase by almost 350%.
- The share of such abandoned patents in the total number of patent applications soared from 13.6% in 2010-11 to 48% in 2019-20.
- A plausible reason could be that the applicants are not confident about their applications passing scrutiny and, therefore, do not pursue their applications.
- It may also be possible, especially in the case of innovations with short-life spans, that the long pendency discourages applicants from following up on their applications. But certainly, this is an aspect of the patent ecosystem where we need more information to connect the dots.

Another key issue

- Since the adoption of the National Intellectual Property Rights Policy 2016, a lot of emphasis has been attached to the filing of patent applications.
- It is worth examining if perverse incentives have been created in the process, which encourage the filing of patent applications even when the innovator knows that their claims will not pass scrutiny.
- If that is the case, eliminating such perverse incentives itself will add to improving the patent ecosystem of India.
- The higher education sector of India is rising in prominence in the research and development spending and patenting landscape of India. The share of this sector in the gross domestic expenditure on R&D (GERD) has increased from 5% in 2013 to 7% in 2018, as UNESCO's data on science, technology and innovation shows.

- The number of patent applications filed by the top 10 academic institutes and universities in India (in terms of the number of patent applications) rose by more than two times in four years, from 838 in 2015-16 to 2,533 in 2019-20. Their share in the patent applications by residents also doubled from 6.4% to 12.2% during the same period.

Petty patents can boost R&D

- The growing prominence of this sector in patenting activity indicates the priority it attaches to commercially significant technological innovations.
- When the higher education sector is increasingly focusing on the development component of R&D, it is also expected that the collaboration between industry and academia will also increase in the area of R&D. But the reverse is true in the case of India.

Low score for this indicator

- The Global Innovation Index (GII) is prepared based on the score that each country gets under 80 indicators – industry-academia collaboration is one.
- India's score for this indicator has in fact declined over the last few years, from 47.8 in 2015 to 42.7 in 2021.
- Consequently, India's ranking in this indicator in the GII declined from 48 to 65 during this period. However, improvements in some other indicators have resulted in India's overall ranking in the GII improving from 81 in 2015 to 46 in 2021.

Way forward

- **As the patent system is a critical aspect of the national innovation ecosystem, investing in the patent ecosystem will help in strengthening the innovation capability of India.**
- The right interventions should be made for the promotion of the quality of patent applications and collaboration between academia and industry.

RICE EXPORTS

GS-III ECONOMY

Context

- The Narendra Modi government, barely four months ago, banned exports of wheat from the country, following an unexpected crop failure resulting in low procurement and depletion of public stocks. **Concerns over a similar situation arising have now led it to impose curbs, albeit not outright ban, on rice shipments as well.**

What are the restrictions that have been put on rice exports?

- There are four categories of rice exports. Out of these, exports in the case of two – basmati rice and parboiled non-basmati rice – are still freely allowed.
- **The curbs are only for the other two: raw (white) and broken non-basmati rice.**
- Ministry of Finance notified the **slapping of a 20% duty on exports of rice "other than parboiled and basmati rice"**.
- Another notification from the Directorate General of Foreign Trade in the Ministry of Commerce and Industry **imposed a blanket ban on broken rice exports. Thus, even within raw non-basmati, only export of full grain consignments would be permitted on payment of 20% duty.**

How much would all this impact the country's overall rice exports?

- India, in 2021-22 (April-March), shipped out a record 21.21 million tonnes (mt) of rice valued at \$9.66 billion.
- That included 3.95 mt of basmati rice worth \$3.54 billion (on which there are no restrictions) and 17.26 mt of non-basmati shipments valued at \$6.12 billion.
- Within the latter, 7.43 mt (\$2.76 billion) comprised parboiled rice exports, which will also be allowed freely.
- **The restrictions apply only in respect of the balance 9.83 mt (\$3.36 billion). This covers 3.89 mt (\$1.13 billion) of broken rice, whose exports have been prohibited, and 5.94 mt (\$2.23 billion) of non-parboiled non-basmati rice, whose shipments will henceforth attract 20% duty.**
- **Simply put, the curbs announced will affect just under half of India's rice exports in terms of quantity and over a third by value.**

Why have these restrictions been placed?

- The first is the **possibility of India's rice production declining significantly** because of deficient monsoon rainfall in Uttar Pradesh, Bihar, Jharkhand and Gangetic West Bengal.
- The second has to do with stocks. Public wheat stocks on August 1, at 26.65 mt, were the lowest in 14 years for this date. While the same for rice, at 40.99 mt, was quite comfortable (albeit lower than the 44.46 mt on August 1, 2021), the **government is worried about their depletion in the event of a sub-par kharif harvest.** This is more so, given the political pressure to continue the free-foodgrains scheme (Pradhan Mantri Garib Kalyan Anna Yojana) beyond September. With very little wheat in government godowns, it is rice that is sustaining the public distribution system (PDS).

How important is India to the global rice trade?

- The country has a 40% share of the world's total rice exports, with its 21 mt-plus shipments last year way ahead of Thailand's (7.2 mt), Vietnam's (6.6 mt) and Pakistan's (4.8 mt).
- India, thus, matters to the global trade in rice – unlike in wheat, where it is only an occasional large exporter.
- Even in 2021-22, when exports touched an all-time-high of 7.23 mt, its share in world wheat shipments was hardly 5%.

Where does India export rice to?

- More than 75% of basmati exports last year were to Iran and the Arabian Peninsula countries; the US, UK, Canada and Australia added up to another 10%.
- In non-basmati rice, almost 55% went to African countries – including Benin, Ivory Coast, Senegal, Togo, Guinea, Madagascar, Cameroon, Djibouti, Somalia and Liberia.
- Another 9.5% each was accounted for by the top two individual buyers China and Bangladesh, followed by Benin and Nepal (8-9% each).
- Much of exports to Africa and Bangladesh consist of parboiled rice, while China's imports were predominantly broken rice that has now been banned.

What exactly are parboiled and broken rice?

- Rice is derived from milling of paddy grain produced by farmers.
- Paddy typically has 20-21% husk (the inedible covering of the grain) and 10-11% bran (the brown outer layer of the edible kernel). What remains after removal of the husk and bran is the white raw rice that constitutes 68-69% of paddy. The milled rice, in turn, has both whole and broken grains.
- **Parboiling is a process where the paddy is soaked in water, steamed and dried while retaining its outer husk. It results in the rice becoming harder with less breakage on milling.**
- The parboiled rice exported from India contains 5-15% broken grains. In raw rice, the broken grains are normally up to 25%. It is the rice having 100% broken grains whose exports have been prohibited.

INTERNATIONAL MONETARY FUND

GS-III ECONOMY

Context

- The International Monetary Fund (IMF) on Thursday **approved a loan of \$2.9 billion** to Sri Lanka. The island country, which is battling its **worst economic crisis** since independence in 1948, witnessed widespread protests earlier this year that forced Gotabaya Rajapaksa to resign as President, and brought Ranil Wickremesinghe to power.

Details

- The agreement between Sri Lanka and the IMF is only preliminary, and has to be approved by the IMF management and its executive board.
- It will also go through only if Sri Lankan authorities carry out previously agreed measures.
- The funds will be disbursed over four years to help stabilise the economy and boost growth.
- The package will help raise government revenue to support fiscal consolidation, introduce new pricing for fuel and electricity, hike social spending, bolster central bank autonomy and rebuild depleted foreign reserves.
- The IMF said "The programme aims to reach a primary surplus of 2.3 per cent of GDP by 2024."
- Sri Lanka owes more than \$51 billion in foreign debt, of which \$28 billion has to be repaid by 2028.
- According to the IMF, the country's economy will shrink by 8.7 per cent in 2022 while inflation rises to above 60 per cent.
- Economists say the crisis stems from domestic factors such as years of mismanagement and corruption.
- Conditions have been deteriorating for the past several years. In 2019, Easter suicide bombings at churches and hotels killed more than 260 people. That devastated tourism, a key source of foreign exchange.

History of IMF

- The IMF, also known as the Fund, was conceived at a UN conference in Bretton Woods, New Hampshire, United States, in July 1944.
- Countries were not eligible for membership in the International Bank for Reconstruction and Development (IBRD) unless they were members of the IMF.
- IMF, as per Bretton Woods agreement to encourage international financial cooperation, introduced a system of convertible currencies at fixed exchange rates, and replaced gold with the U.S. dollar (gold at \$35 per ounce) for official reserve.

Role of IMF

- IMF focuses on fostering global monetary cooperation, securing financial stability, facilitating and promoting international

trade, employment, and economic growth around the world.

- The IMF is a specialized agency of the United Nations.

Functions of IMF

- Regulatory functions:** IMF functions as a regulatory body and as per the rules of the Articles of Agreement, it also focuses on administering a code of conduct for exchange rate policies and restrictions on payments for current account transactions.
- Financial functions:** IMF provides financial support and resources to the member countries to meet short term and medium term Balance of Payments (BOP) disequilibrium.
- Consultative functions:** IMF is a center for international cooperation for the member countries. It also acts as a source of counsel and technical assistance.

IMF Quota

- IMF funds come from two major sources – Quota and Loans.
- Quotas which are pooled funds of member nations, generate most IMF funds.
- The size of a member's quota depends on its economic and financial importance in the world.
- Nations with larger economic importance have larger quotas.
- The quotas are increased periodically as a means of boosting the IMF resources in the form of Special Drawing Rights.

Organization structure of IMF

Structure of the International Monetary Fund (IMF)	
Governing Bodies of IMF	Roles and Responsibilities
Board of Governors	<ul style="list-style-type: none"> Each governor of the Board of Governors is appointed by his/her respective member country. Elects or appoints executive directors to the Executive Board. Board of Governors is advised by the International Monetary and Financial Committee (IMFC) and the Development Committee. An annual meet up between the Board of Governors and the World Bank Group is conducted during the IMF-World Bank Annual Meetings to discuss the work of their respective institutions.
Ministerial Committees 1. International Monetary and Financial Committee (IMFC) 2. Development Committee	<ul style="list-style-type: none"> It manages the international monetary and financial system. Amendment of the Articles of Agreement. To solve the issues in the developing countries that are related to economic development.
Executive Board	<ul style="list-style-type: none"> It is a 24-member board that discusses all the aspects of the Funds. The Board normally makes decisions based on consensus, but sometimes formal votes are taken.

Reports Published

- Global Financial Stability Report
- World Economic Outlook: it is usually published **twice a year in the months of April and October**.
- Fiscal Monitor (FM)

UNEMPLOYMENT IN INDIA

GS-III ECONOMY

Context

- According to the data released by the Centre for Monitoring Indian Economy (CMIE), India's unemployment rate in August rose to 8.3%. This is the **highest unemployment rate in the past 12 months**. In August 2021, the unemployment rate was 8.35%.

Details of the Report

Urban Unemployment

- The **urban unemployment rate is usually higher at about 8 per cent than the rural unemployment rate**, which is usually around 7 per cent.
- In August the urban unemployment rate shot up to 9.6 per cent and rural unemployment rate also increased to 7.7 per cent.
- The erratic rainfall affected sowing activities and this is one of the reasons for the increase in unemployment in rural India.

Rural Unemployment

- The unemployment rate in rural India rose from 6.1 per cent in July to 7.7 per cent in August. More importantly, the

employment rate fell from 37.6 per cent.

Inter-state scenario

- The unemployment rate during August was the highest in Haryana at 37.3 per cent followed by Jammu and Kashmir at 32.28 per cent, Rajasthan at 31.4 per cent, Jharkhand at 17.3 per cent and Tripura at 16.3 per cent.
- Unemployment was the lowest in Chhattisgarh at 0.4 per cent followed by Meghalaya at 2 per cent, Maharashtra at 2.2 per cent and Gujarat and Odisha at 2.6 per cent.

Vulnerability of youth

- Employment conditions are quite adverse for the youth. The 15-24 year age group has a relatively low labour participation.
- Between 2016-17 and 2021-22, while the average was 42.6 per cent, the LPR for the youth was much lower at 22.7 per cent. Yet, the youth face a much higher unemployment rate.
- While the overall unemployment rate averaged at 7 per cent, the youth experienced an unemployment rate of over 34 per cent.

Causes of Unemployment in India

Jobless growth

- In India, since independence, the rate of growth of employment has been considerably less than the rate of economic growth.
- Moreover, the rate of economic growth has not been adequate enough to absorb the increasing labour force in India. As a result, there is widespread unemployment.

Increase in the labour force

- Over the years, the mortality rate has declined rapidly without a corresponding fall in birth rate and the country has, thus, registered an unprecedented population growth.
- This was naturally followed by an equally large expansion in the labour force.

Use of machinery

- In India, manpower is available in large quantities. Under these circumstances, the country would have a labour intensive technique of production.
- However, in India, not only in industries but also in agriculture, the capital-intensive technique of production is being used. This policy results in large scale unemployment.

Lack of skill

- In India, vocational skill development courses which are compatible with the Indian industry are comparatively less in number. So, there is a dearth of skilled manpower needed by the industry.

Expectations towards employment

- Educated youth in India aspire for a white-collar job.
- There is a lack of innovative and entrepreneurial spirit to organize economic activities where they can be self-employed.
- In India, most of the graduates prefer to remain unemployed till they get a job which is up to their expectations in terms of salary and nature of work.

Seasonal nature of agriculture

- Agriculture in India is seasonal by nature. It depends on monsoon.
- Lack of irrigation facilities, poor soil fertility, outdated production techniques, non-availability of certified seeds and fertilizers are the factors that reduce the capacity of agriculture for other gainful employment throughout the year.
- The labourers are employed only for a few months in a year. For the rest of the year, the labour force remains jobless.

The slow rate of economic development

- The overall economic development of India is very slow.
- Inadequate irrigation facilities, fertilizers, unsatisfactory growth of infrastructure are all due to inadequate industrial expansion.
- As a result, employment opportunities have not increased enough in the rural sector to absorb the growing labour force.

Migration of rural population

- There has been a continuous migration of people from rural to urban areas in search of jobs. This has increased the problem of unemployment in urban areas.

Initiatives taken by the Government to improve the rate of Unemployment

Aatmanirbhar Bharat package

- This is to provide stimulus to business and to mitigate the adverse impact of pandemic.
- Under this package, the Government is providing fiscal stimulus of more than Rs. Twenty Seven lakh crore.
- This package comprises of various long term schemes/ programmes/ policies for making the country self-reliant and to create employment opportunities.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

- It is a demand driven wage employment programme which provide for the enhancement of livelihood security of the

households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work.

- Under MGNREGS wage has been **increased to Rs. 202 a day from Rs. 182.**

Aatmanirbhar Bharat Rojgar Yojana (ABRY)

- It was launched in 2020 as part of Atmanirbhar Bharat package 3.0 to incentivize employers for creation of new employment along with social security benefits and restoration of loss of employment during Covid-19 pandemic.
- This scheme being implemented through the Employees' Provident Fund Organisation (EPFO), seeks to reduce the financial burden of the employers and encourages them to hire more workers.

Pradhan Mantri Mudra Yojana (PMMY)

- It is being implemented by the Government for facilitating self-employment.
- Under PMMY, **collateral free loans upto Rs. 10 lakh**, are extended to micro/small business enterprises and to individuals to enable them to setup or expand their business activities.

Garib Kalyan Rojgar Abhiyaan

- It was **launched in 2020** to boost employment and livelihood opportunities for returnee migrant workers and similarly affected persons including youth in rural areas, in 6 States of Bihar, Jharkhand, Madhya Pradesh, Odisha, Rajasthan and Uttar Pradesh.

PM GatiShakti

- Launched in 2021, it is an initiative aimed at coordinated planning and execution of infrastructure projects.
- The objective is to bring down logistics costs.
- The approach is driven by seven engines, namely, **Roads, Railways, Airports, Ports, Mass Transport, Waterways, and Logistics Infrastructure**. This approach is powered by Clean Energy and Sabka Prayas leading to huge job and entrepreneurial opportunities for all.

National Pipeline Infrastructure

- The National Infrastructure Pipeline (NIP) for FY 2019-25 is a first-of-its-kind, whole-of-government exercise to provide world-class infrastructure to citizens and improving their quality of life.
- It aims to improve project preparation and attract investments into infrastructure.

RETAIL INFLATION

GS-III ECONOMY

Context

- India's retail inflation inched up to 7% in August from 6.71% in July mainly due to higher food prices, government data showed.

Retail inflation

- Retail inflation tracked by the Consumer Price Index (CPI) measures the changes in prices from a retail buyer's perspective.
- Wholesale inflation on the other hand is tracked by the Wholesale Price Index (WPI), measures inflation at the level of producers.

Recent Findings

- The **consumer price index-based inflation is above the Reserve Bank's comfort level of 6% for the eighth month in a row**. According to the data, inflation in food basket was 7.62% in August, up from 6.69% in July and 3.11% in August 2021. The **rate of price rise was in excess of 10 per cent in case of vegetables, spices, footwear, and 'fuel and light' on annual basis**. However, there was contraction in inflation in egg and almost flat in protein rich 'meat and fish' during the month.
- **India's industrial production rose 2.4% in July**. The IIP had grown 11.5% in July 2021.
- As per the **Index of Industrial Production (IIP) data released by the National Statistical Office (NSO)**, the manufacturing sector's output grew 3.2% in July 2022.
- The **mining output contracted 3.3% while power generation increased 2.3%** during the same period.
- During April-July this year, **IIP rose 10% as against 33.9% growth in the same period a year ago**.
- **Capital goods output**, which is a barometer of investments, **rose 5.8% in July 2022 as against 30.3% growth in the year-ago month**.
- The **consumer durables segment grew 2.4% compared to 19.4% growth a year ago**.
- The primary goods segment, which accounts for nearly 34% of the index, **expanded 2.5% in July compared to 12.4% growth in the year-ago period**.

Concerns and Implications

- Inflation pace is high and alarming emphasizing the fact that the high inflation has spread across most categories.
- This reflects build-up of price pressures in the economy due to persistent commodity price increases and amplified supply

bottlenecks.

- India's high import dependency for edible oils, fertilizers and crude oil, which are at all-time high prices globally, makes the outlook quite uncertain for inflation to dissipate soon.
- If retail inflation doesn't significantly cool off from these levels, the central bank could opt to raise interest rates.

The main uses of CPI are the following

Consumer Price Index (CPI)

- Consumer Price Index (CPI) measures the inflation at retail level.
- Consumer Price Index (CPI) is a measure of change in retail prices of goods and services consumed by people in a given area with reference to a base year. CPI is calculated for a fixed list of items including food, housing, apparel, transportation, electronics, medical care, education, etc. The price data is collected periodically, and thus, the CPI is used to calculate the inflation levels in an economy.

- It is widely considered as a barometer of inflation
- Tool for monitoring price stability
- The Reserve Bank of India is now using CPI(Combined) as the benchmark for its monetary policy tools like Repo Rate, Reverse Repo Rate.
- According to the Agreement on Monetary Policy Framework signed between the Government and the RBI in 2015 the sole objective of the RBI is price stability and the Consumer Price Index (Combined) is measured as the target inflation.

NATIONAL LOGISTICS POLICY

GS-III ECONOMY

Context

- Recently, PM Modi addressed at the launch of National Logistics Policy at Vigyan Bhawan.

National Logistics Policy

- National Logistics Policy is a comprehensive effort to address issues of high cost and inefficiency by laying down an overarching interdisciplinary, cross-sectoral and multi-jurisdictional framework for the **development of the entire logistics ecosystem**.
- The policy is an **endeavor to improve the competitiveness of Indian goods, enhance economic growth and increase employment opportunities**.

Aim

- The policy aims to achieve, among others, **quick last-mile delivery, end transport-related challenges, save time and money of manufacturers, and prevent wastage of agro-products**. The end result is significant time and the cost reduction.

Broader Targets of the Policy

The policy has simple but transformational targets to help benchmark its performance.

1. **Reduce the cost of logistics from 14-18 percent of GDP to global best practices of 8 percent by 2030.** Countries like the US, South Korea, Singapore, and certain European nations have such a low logistics cost-to-GDP ratio.

As the current cost is 16 percent of GDP, logistics costs have to be cut by half to be near global benchmarks by 2030. This is after assuming that the global benchmark does not improve further.

2. **Improve the country's Logistics Performance Index (LPI) ranking to be among top 25 countries by 2030.**

India is the fifth largest economy in the world. If it has to move fast to be among the three largest economies and join the league of developed nations, it has to aim to be among the top 10 in the LPI by 2030. It has to match the pace of South Korea.

3. **Create data-driven decision support systems (DSS) to enable an efficient logistics ecosystem.**
4. The policy's target is to **ensure that logistical issues are minimized, exports grow manifold, and small industries and the people working in them benefit significantly**.

Opportunity for the Indian logistics sector

- The FY20 direct spend was at \$216 billion and this is expected to grow to \$365 billion by FY26 at a compounded annual growth rate of 9 percent plus.
- Direct spending comprises transport and that comprises nearly 70 percent of the overall logistics market share. So out of the \$216 billion, the transportation sector alone accounted for \$151 billion in FY20.
- Within transport, road accounted for the lion's share, which was followed by rail, cross border, and air.

Key building blocks

1. The most important building block is the **Unified Logistics Interface Platform (ULIP)**. ULIP aims to **collapse all logistics and transport sector digital services into a single portal**, thereby freeing manufacturers and exporters from the present tyranny of long and cumbersome processes.
2. **Ease of Logistics Services (E-Logs), a new digital platform**. This will allow industry to directly take up operational issues with government agencies for speedy resolution.
3. The Comprehensive Logistics Action Plan comprising **integrated digital logistics systems, standardization of physical assets, benchmarking service standards, human resource development, capacity building, development of logistics parks**, etc.

Challenges faced by the Logistics Sector in India

Overview

- Logistics in India, unfortunately, is **highly fragmented, and to date, 85 percent of the transporters own less than 20 trucks**, when it comes to **warehousing over 90 percent of warehouses are smaller than 10,000 square feet each**. Going forward, the warehousing space opens up the opportunity for consolidation and further growth.
- **Organized players account for only 3.5 percent of the logistics market**. However, they are expected to grow much faster at a compounded rate of more than 35 percent over the next few years.
- The total logistics spending in India is a major lag because almost **14 percent of the GDP is spent on logistics costs, which is significantly higher than developed countries like China, US and Europe**, where the global average is somewhere around 8 percent. So there's lots of room for improvement.

Transportation Issues

- In India, a predominant mode of freight cargo transportation is via road, with nearly 60% cargo moved by road and 32% by rail. Due to over-saturated rail networks and high rail tariffs. Movement of goods is done by road transportation, which proves to be quite inefficient, because of poor road infrastructure, multiple checkpoints, and congestion.

Port Sector Issues

- Due to high turnaround times for ships because of overcrowded berths and delay in cargo evacuation unloaded at berths, logistics companies in India suffer unreasonably. Coastal shipping in India gets hampered due to the weak land side and port facilities, and insufficient depth at ports discourage large vessels, thus curbing the large scale use of it for freight movements.

Tax Structure and Warehousing Problems

- The complicated tax regime places several hardships on logistics companies in India. Multiple State and Center taxes lead to considerable loss of time in transit on roads. The poor state of warehousing and their restricting locations are one of the few major concerns of this industry. Storage facilities are quite fragmented for low margin products thereby resulting in a disincentive to create a large integrated warehousing space. The Government owned most of the large warehouses and used for food grain.

Technological and Skill Deterrents

- In India, automation of processes is still in the embryonic stage and non-standardization in the industry due to its fragmentation further slows down the progress. Acceptance and adoption of technological advancements like RFID, tracking, warehouse management system, etc. can resolve the issues between domain requirement and IT. Besides this, there is lack of quality workforce in this sector, and the available skill set needs to be upgraded urgently.

Overcoming the challenges

- The need of the hour is to **develop adequate infrastructure** in the fringe areas of major metropolitan trade hubs of the country and in high commerce corridors.
- To combat other legal challenges, it is suggested that there should be an **organized inventory of all logistics and supply chain documentation**.
- Furthermore, moving forward to a **technology-driven documentation approach** would highly impact the logistic sector by **avoiding transit delays and untimely deliveries**.

Significance

- The NLP, in conjunction with the Gati Shakti Programme, the Sagarmala and Bharatmala (waterways and roadways) schemes, the Dedicated Freight Corridors, etc., can be transformational.
- Strengthening the logistics sector will not only make it easier to do business, but also **to generate substantial employment and ensure improvement in wages and working conditions**.
- For the products manufactured in India to dominate the world market, it is crucial to have a strong support system. The National Logistics Policy will greatly help us modernize this support system. **Reduced logistics cost and increased logistic efficiencies** will energise the economy across sectors in multiple ways and take us many steps closer to emerging as a global manufacturing powerhouse.

DIGITAL LENDING

GS-III ECONOMY

Context

- Public sector banks are fast adapting to digital means as they have cleared digital lending of Rs 83,091 crore in the financial year ending March 2022.

Details

- As part of EASE 4.0 reforms, state-owned banks were asked to focus on digital lending, co-lending with non-banking firms, agriculture financing, and technological resilience for 24x7 banking.
- The Enhanced Access and Service Excellence (EASE) program, driven by Indian Banks' Association (IBA), also stressed on data analytics, automation, and digitization.
- Launched in 2018, EASE programme sets a common reforms agenda for public-sector banks every year. EASE aims to foster new-age reforms in Public sector banks (PSBs) to improve profitability, asset quality, customer service and digital capabilities.
- Bank of Baroda received the first prize among all PSBs for the best overall performance on PSB Reforms EASE Agenda 4.0. State Bank of India and Canara Bank were ranked second and third respectively.
- Indian Bank emerged as the 'Top Improver' across all PSBs.
- Canara Bank won first prize under the Institutionalizing Prudent Banking category, while under the governance and outcome-centric HR, Union Bank of India was chosen as leader last week.
- Punjab National Bank was the runner-up in Tech-enabled Banking, while Punjab & Sind Bank secured second position under Top Improvement category.
- The agenda for the fifth edition of EASE was unveiled earlier this year by the Minister of Finance, it said, adding, the reforms program has now been expanded into EASENext with the introduction of the three-year Strategic Roadmap Program.
- EASE 5.0 will continue to focus on driving an enhanced digital experience along with data-driven, integrated, and inclusive banking across all banks, it said.

What is Digital Lending?

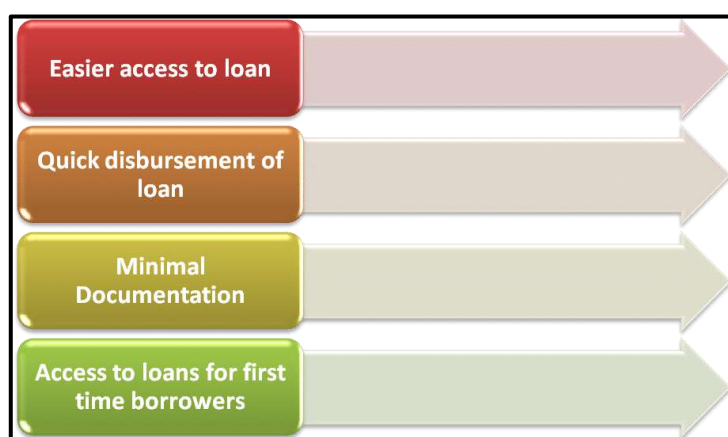
- Digital lending is a process of quick loan disbursement through electronic medium. It is considered as the most effective, convenient, and faster way to disburse loans as compared to the traditional method.
- With the maturing of the digital ecosystem and enhanced use of analytics, automation, and blockchain the lending financial institutions rely more on algorithms and automated processes for loan approvals and disbursements.

Benefits of Digital lending

- There has been a definite shift from the traditional mode of lending to digital lending in the recent past.
- It is attributable to the fact that the digital mode of lending offers many benefits that may not be found in traditional mode.

Future of Lending Is Digital

- The industry has been alerted by Covid-19 to the tremendous potential of digital transformation. As customer demand for contactless transactions rises, more lenders will adopt technology to provide borrowers with maximum convenience.
- Even traditional banks and non-banking financial companies (NBFCs) are realizing the need to digitize processes such as customer onboarding, risk assessment, loan underwriting, disbursement, and repayment in order to reduce operational costs and enhance the customer experience.
- With services such as video-KYC, Aadhaar-based KYC, and websites and applications with cutting-edge functionalities, loan application procedures will become more efficient and less cumbersome.
- Additionally, the traditional credit underwriting procedure will undergo a radical transformation. Lenders will increasingly utilize cutting-edge technologies such as AI, ML, and big data analytics to collect and evaluate data from multiple sources in order to evaluate the creditworthiness of an applicant more quickly and efficiently.
- With the technology that enables alternative credit scoring, lenders can extend credit to a greater number of individuals, thereby advancing the cause of financial inclusion.



- In the coming years, technology will continue to disrupt the digital lending ecosystem, with a renewed emphasis on delivering an improved end-to-end customer experience.

IBBI REGULATIONS AMENDMENT

GS-III ECONOMY

Context

- The Insolvency and Bankruptcy Board of India (IBBI) has amended its regulations to allow sale of one or more assets of an entity undergoing insolvency resolution process, besides other changes.
- IBBI has amended the regulations with the "objective to maximise value in resolution"

Must Read: Comprehensive article on-

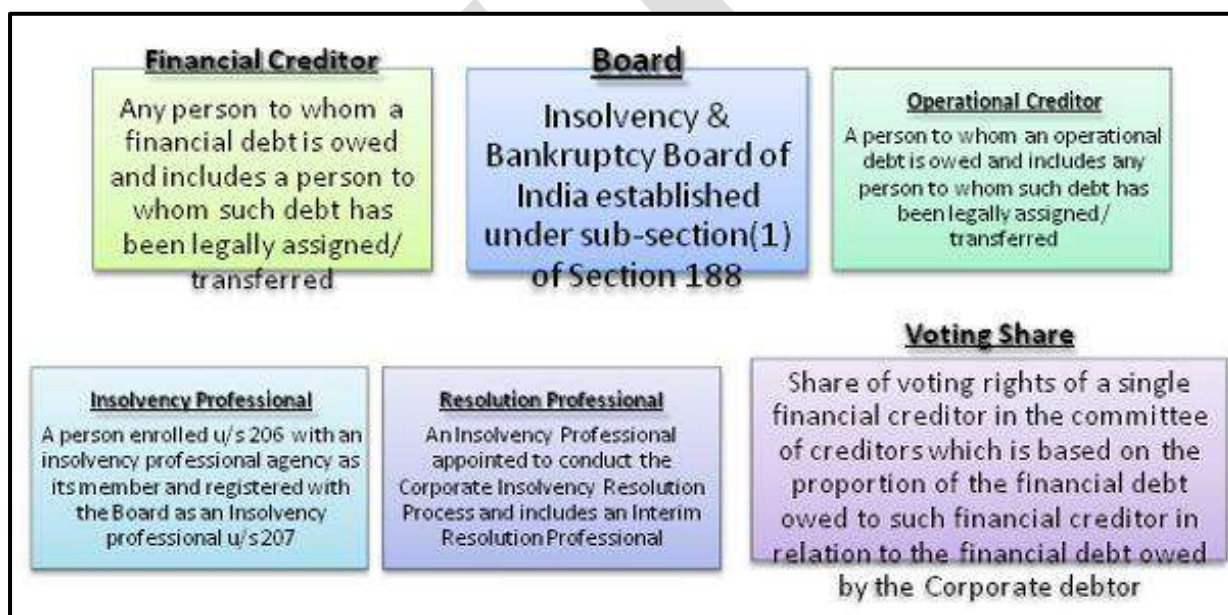
Insolvency and Bankruptcy Code : <https://www.iasgyan.in/daily-current-affairs/insolvency-and-bankruptcy-code-39>

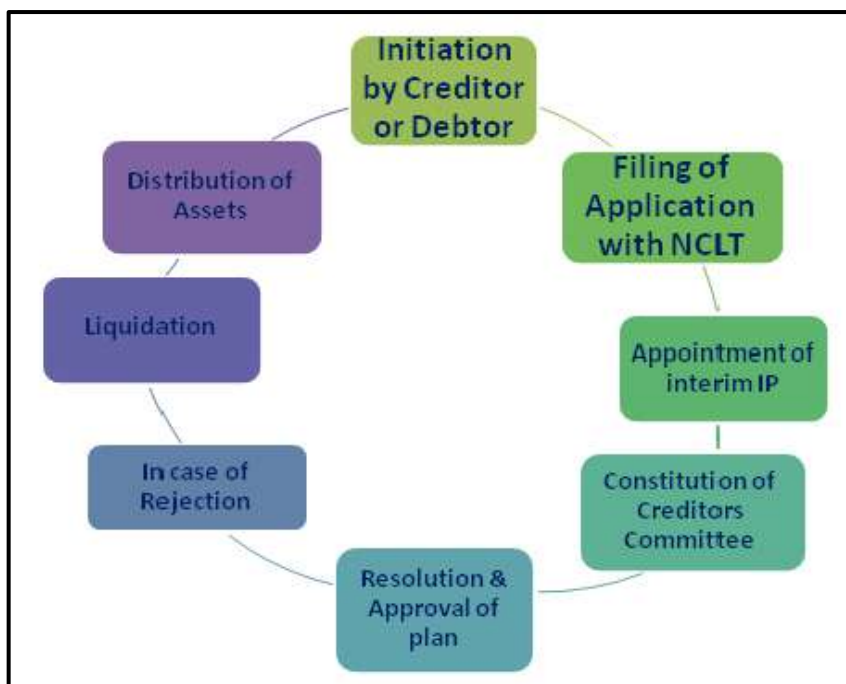
Insolvency and Bankruptcy Board of India (IBBI)

- The Insolvency and Bankruptcy Board of India (IBBI) is the **regulator for overseeing insolvency proceedings and entities like Insolvency Professional Agencies (IPA), Insolvency Professionals (IP) and Information Utilities (IU) in India.**
- It was **established in 2016** and given statutory powers through the Insolvency and Bankruptcy Code, which was passed by Lok Sabha in 2016.
- It covers **Individuals, Companies, Limited Liability Partnerships and Partnership firms.**
- The **new code will speed up the resolution process for stressed assets in the country.** It attempts to simplify the process of insolvency and bankruptcy proceedings. It handles the cases using two tribunals like NCLT (National company law tribunal) and Debt recovery tribunal.

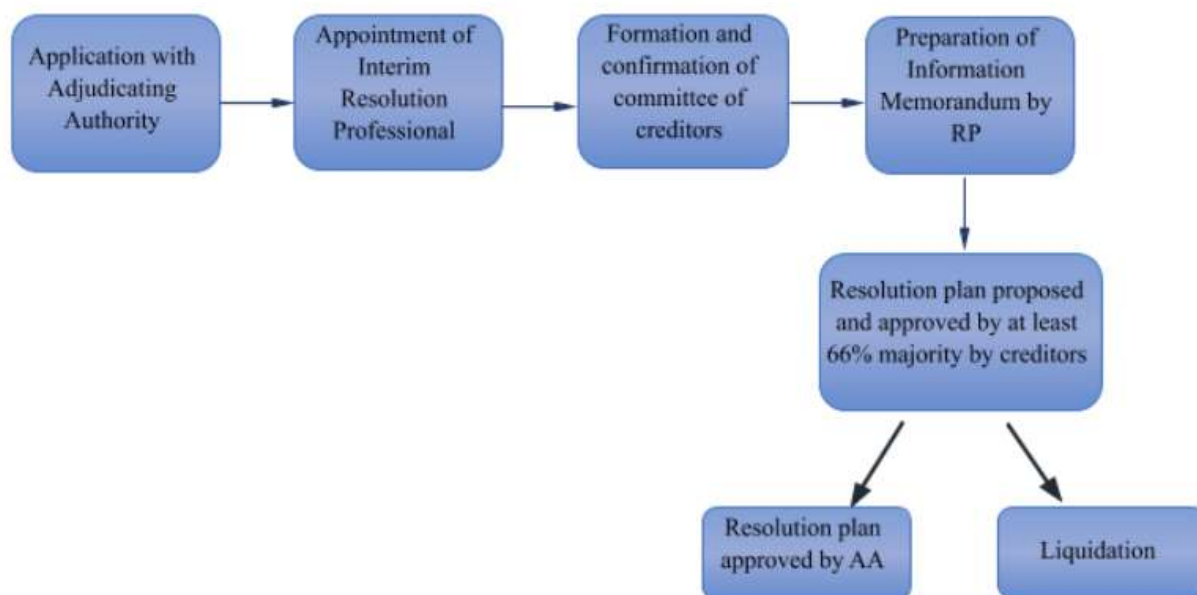
IBBI Governing Board

- IBBI **will have 10 members**, including representatives from the Ministries of Finance, Law and corporate affairs, and the Reserve Bank of India.
- IBBI regulates a process as well as a profession. IBBI has **regulatory oversight on Insolvency Professionals , Insolvency Professional Agencies, Insolvency Professional Entities and Information Utilities.**





Corporate Insolvency Resolution Process



Changes made through new amendment

- The **Committee of Creditors (CoC)** can now examine whether a compromise or an arrangement can be explored for a corporate debtor during the liquidation period.
- IBBI has permitted a resolution professional and the CoC to look for sale of one or more assets of the corporate debtor concerned in cases where there are no resolution plans for the whole business.
- With new amendments **marketing of assets of a corporate debtor can be done that will help in wider dissemination of information to a wider and targeted audience** of potential resolution applicants.
- The amendment also **enables a longer time for the asset in the market**.
- From now onwards, a **resolution professional will have to actively seek claims from known** (based on the books of accounts) **creditors of the company concerned**. This move will help in making available a clearer picture about the debt.
- Details of any applications filed for avoidance of transactions will be made available to resolution applicants before submission of resolutions plans and can be addressed by the applicants in their plans.
- The information memorandum is required to contain material information which will help in assessing its position as a going concern, and not only information about its assets, thereby addressing a critical need of the market.

Significance

- The amendments will ensure that better quality information about the insolvent company and its assets is available to the market, including prospective resolution applicants, in a timely manner.

SHRINKFLATION

GS-III ECONOMY

About

- **Shrink inflation is when a product downsizes its quantity while keeping the price the same.** For example, reducing the scoops of ice cream in a container or reducing the number of chips in a packet would count as shrinkflation. In other words, shrinkflation occurs when goods shrink in size but consumers pay the same price. **It occurs when manufacturers downsize products to offset higher production costs but keep retail prices same.**

The effect of inflation

- Rent, food, gas, and other living expenses are some of the ways inflation negatively impacts consumers.
- Shrinkflation deceives consumers into believing that the brands they buy are not affected by inflation, since container and vessel sizes are reduced by very small amounts, saving manufacturers more money in the long run.
- From toilet paper to yogurt and coffee to corn chips, manufacturers worldwide are quietly shrinking package sizes without lowering prices.

How does it occur?

- Shrinkflation occurs when materials or ingredients used to make products become more expensive and when there is intense competition in the market.
- As a result, instead of raising prices, they might just give you less of the product so as to maintain their profit margins.
- Companies think that they can keep profits rolling in by keeping the change under the radar — all while the consumer is unaware.
- Shrinkflation can occur in different ways. It's not just the weight that will be compromised as it is not uncommon for companies to look for alternative options.
- If consumers are aware that the quantity is constantly declining, they would switch or change brands. To prevent this, a product can reformulate or remove ingredients while maintaining its price.
- For example, Cadbury Dairy Milk stopped using foil which it used to prevent chocolate from losing its quality and flavour in order to save expense.
- Though downsizing products reduces costs for manufacturers, it is an unfair practice toward consumers. It can lead to a loss of trust if companies fail to properly communicate with them.
- Shrinkflation can lead to customer frustration and deterioration of consumer sentiment towards a producer's brand. However, it is quite common nowadays for producers to practise shrinkflation.

Various implications:

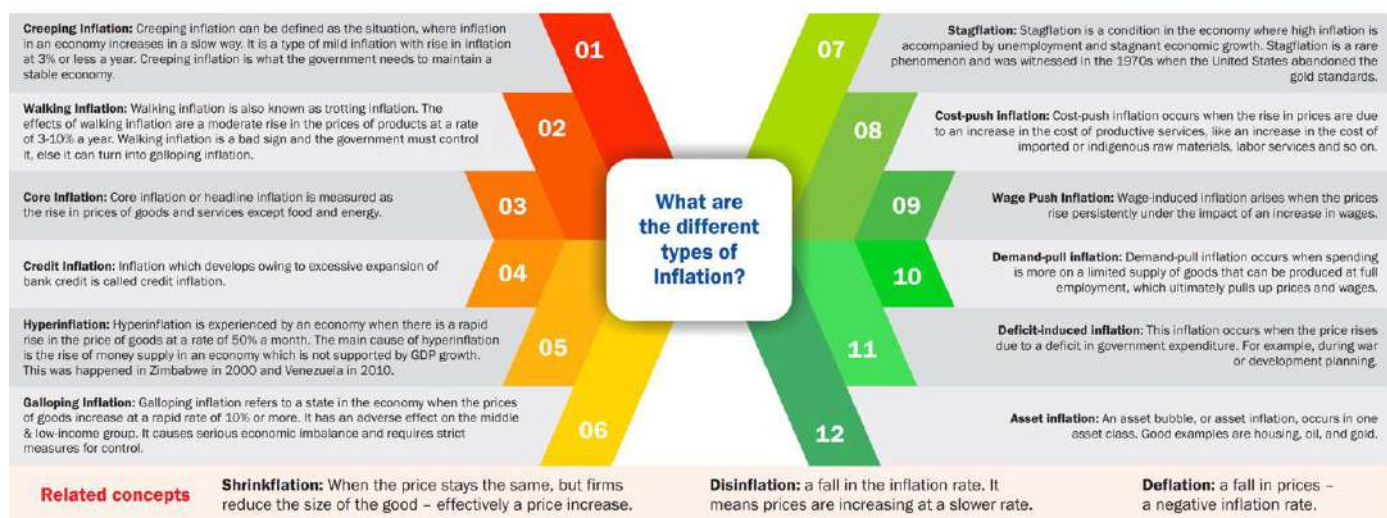
- In the event of shrinkflation, it is more difficult to accurately measure price changes or inflation.
- Price points become misleading when the basket of goods cannot always be measured by considering the product size.
- Tackling shrinkflation means tackling inflation.
- In India especially, inflation is a complex phenomenon caused by several factors, such as demand-pull factors, cost-push factors, and structural factors. Therefore, we need a mix of macroeconomic policies to manage demand and supply, as well as address structural rigidities in the economy.
- In India, the Right to Information has been recognised as a consumer right under the Consumer Protection Act, 2019.
- This means that the consumer has the right to know the quality, quantity, potency, purity, standard, and price of goods.
- Therefore, the Central Consumer Protection Authority needs to bring some guidelines to inform consumers when the weight of a product is reduced, instead of letting consumers be fooled by companies.

DIFFERENT TYPES OF INFLATION

Context

Inflation is the decline of purchasing power of a given currency over time. A quantitative estimate of the rate at which the decline in purchasing power occurs can be reflected in the increase of an average price level of a basket of selected goods and services in an economy over some period of time.

IAS GAZETTE
An initiative of **APTI PLUS**



YIELD CURVE-CONTROL POLICY

GS-III ECONOMY

Context

- Bank of Japan's (BOJ) yield curve-control policy has gained some extra breathing space as longer-maturity Treasury yields dropped due to increasing concern over a global recession.

Details

- Fed raised its benchmark by another 75 basis points and cut its economic growth projection.
- A possible decline in Japan's 10-year yield from the BOJ's 0.25 per cent ceiling may ease pressures on the central bank to keep buying the securities in a market under liquidity stress.

What is yield curve control, and why does it matter?

- In normal times, the Fed steers the economy by raising or lowering very short-term interest rates, such as the rate that banks earn on their overnight deposits.
- Under yield curve control (YCC), the Fed would target some longer-term rate and pledge to buy enough long-term bonds to keep the rate from rising above its target. This would be one way for the Fed to stimulate the economy if bringing short-term rates to zero isn't enough.**
- Prior to the COVID-19 crisis, Fed ought to consider adopting YCC when short-term rates fall to zero.
- Australia's central bank adopted a form of YCC in March 2020, in response to the coronavirus, and is targeting a three-year government bond yield of 0.25 percent.
- Yield curve control is different in one major respect from QE, the trillions of dollars in bond-buying that the Fed pursued during the Great Recession and is pursuing in 2020.
- QE deals in quantities of bonds; YCC focuses on prices of bonds.**
- Under QE, a central bank might announce that it plans to purchase, for instance, \$1 trillion in Treasury securities. Because bond prices are inversely related to their yields, buying bonds and pushing up their price leads to lower longer-term rates.
- Under YCC, the central bank commits to buy whatever amount of bonds the market wants to supply at its target price.**

What do we learn from the Bank of Japan's use of yield curve control?

- The BOJ is the only major central bank to have experimented with interest rate pegs in recent history.
- YCC is just one piece of the BOJ's large policy effort that also includes quantitative easing, forward guidance, and negative interest rates – all aimed at lifting inflation.
- The Bank has been successful at maintaining a yield of zero percent on JGBs.
- In addition, YCC has allowed the BOJ to purchase fewer bonds in the last three years than it did under the large quantitative easing program that began in 2013.

- Until late 2016, the BOJ was purchasing about 100 trillion yen in JGBs each year. As a result, the BOJ's balance sheet expanded much faster than that of other major central banks.
- Since the initiation of YCC, however, the BOJ has purchased government bonds at a slower pace and still kept yields on 10-year bonds at historically low levels.

How would YCC affect the economy?

- Interest rate pegs theoretically should affect financial conditions and the economy in many of the same ways as traditional monetary policy: lower interest rates on Treasury securities would feed through to lower interest rates on mortgages, car loans, and corporate debt, as well as higher stock prices and a cheaper dollar.
- All these changes help encourage spending and investment by businesses and households.
- Recent research suggests that pinning medium-term rates to a low level once the federal funds rate hits zero would help the economy recover faster after a recession.

PLI SCHEME FOR SEMICONDUCTORS

GS-III ECONOMY

Context

- The Centre approved changes to the **Modified Special Incentive Package Scheme (M-SIPS)** scheme for the development of a semiconductor and display manufacturing ecosystem in the country.

M-Sips

About

- Modified Special Incentive Package Scheme (M-SIPS) is an **incentive scheme launched by the Government of India in 2012**.

Aim and Objective

- Aim of the Scheme is to attract investments and boost production in the electronics goods industry.
- The purpose of initiating Modified Special Incentive Package Scheme (M-SIPS) was **not only to encourage investments but also to generate employment opportunities**.

In a nutshell,

The objectives of this scheme are as follows -

- Attract investment in the Electronics System Design & Manufacturing.
- Boosting the production of electronics goods by developing electronic manufacturing units.
- Making India self-sufficient to fulfil India's domestic demand for electronic items.
- Employment generation.

Features of Modified Special Incentive Package Scheme

- This scheme provides a capital subsidy to the investors of SEZ and non-SEZ.
- Both new and expanding electronic manufacturing units receive incentives.
- Reimbursement on excise duties and central tax is available for high capital investment units.

Mechanism

- The incentive under the M-SPIC scheme is **in the form of subsidy and is available for a startup project**, the expansion of the project (in terms of capital invested) or the diversification of project (variation in the range of products).
- The Government **offers a subsidy of 20% on investments in special economic zones (SEZs) and 25 per cent on capital investments in non-SEZs**.
- The **incentives are provided reimbursement basis** (i.e.) subsidy claimed after investments have been made and are available for ten years from the date of approval. Reimbursement of central taxes and duties is obtainable for projects with high capital investment. This scheme **also provides incentives to relocate units from abroad to India**.

Benefits of Modified Special Incentive Package Scheme

- Investors will receive a 20% capital subsidy for investing in Special Economic Zones (SEZs).
- They will receive a 25% of the same for units out of Special Economic Zones.
- Incentives will be available for 44 categories of products across the value chain. Those include raw materials from the assembly, testing, and packaging. In addition, the product verticals also comprise raw material for chips, accessories and components.
- These incentives will be available for the next 10 years of the approval of the application.
- This scheme also provides reimbursement of excise for capital assets for the non-SEZ units.
- Hi-tech and giant asset investment units will also receive central duties and taxes reimbursement.

Who Are Eligible for Modified Special Incentive Package Scheme

- Investors **must invest a minimum of Rs. 1 crore for accessories** manufacturing to apply for this scheme. Additionally, a min. Rs.5000 crores threshold should be for semiconductor fabrication units.
- The units **must be in the industrial area notified by the Central or State Government**.

Program for the Development of Sustainable Semiconductor and Display Ecosystem

- In furtherance of the vision of Aatmanirbhar Bharat and positioning India as the global hub for Electronics System Design and Manufacturing, the Cabinet had approved the comprehensive program for the development of sustainable semiconductor and display ecosystem in the country.
- The programme aims to provide attractive incentive support to companies / consortia that are engaged in Silicon Semiconductor Fabs, Display Fabs, Compound Semiconductors / Silicon Photonics / Sensors (including MEMS) Fabs, Semiconductor Packaging (ATMP / OSAT) and Semiconductor Design.

Recent Modifications in the Programme

The Government has approved the following modifications in the **Programme for development of semiconductors and display manufacturing ecosystem in India:**

- Fiscal support of 50% of Project Cost on pari-passu basis for all technology nodes under Scheme for Setting up of Semiconductor Fabs in India.
- Fiscal support of 50% of Project Cost on pari-passu basis under Scheme for Setting up of Display Fabs.
- Fiscal support of 50% of Capital Expenditure on pari-passu basis under Scheme for Setting up of Compound Semiconductors / Silicon Photonics / Sensors Fab and Semiconductor ATMP / OSAT facilities in India. Additionally, target technologies under the Scheme will include Discrete Semiconductor Fabs.
- Under modified programme, a uniform fiscal support of 50% of Project Cost shall be provided across all technology nodes for setting up of Semiconductor Fabs. Given the niche technology and nature of compound semiconductors and advanced packaging, the modified programme shall also provide fiscal support of 50% of Capital Expenditure in pari-passu mode for setting up of compound semiconductors / silicon photonics / sensors / Discrete semiconductors fabs and ATMP/OSAT.

Global Semiconductor Industry Scenario

- The global semiconductor industry is **currently valued at \$500-\$600 billion** and caters to the global electronics industry currently valued at about \$3 trillion.
- The chip-making industry is a highly-concentrated one, with the big players being **Taiwan, South Korea and the U.S. among others.**
- 90% of 5nm (nanometre) chips are mass-produced in Taiwan. Taiwan holds a virtual monopoly in the global chip manufacturing industry.

Global Chip Shortage

- The global chip shortage, **U.S.-China tensions over Taiwan, and the supply chain blockages owing to the Russia-Ukraine conflict** have led major economies to enter the chip-making sector with a renewed push.
- Palladium and neon are two resources that are key to the production of semiconductor chips.
- Now that **Russia supplies over 40 per cent of world's palladium and Ukraine produces 70 per cent of neon**, there can be global chip shortage to worsen if the military conflict persists.
- During the 2014-15 Crimea invasion, neon prices went up several times over, serving an indication of the seriousness of the current crisis for the semiconductor industry.

Way Ahead

- According to the Electronics and IT Ministry, **semiconductor demand in India would increase to \$70-\$80 billion by 2026** with the growing demand for digital devices and electronic products.
- As 5G mobile networks proliferate with many people working from home, the need for more powerful, energy-efficient chips is only going to grow.
- The rise of artificial intelligence is another force pushing innovation, since AI relies on massive data processing.
- Indian semiconductor industry is set for a stable upsurge with bright prospects **provided India's generic obstacles like redtape-ism, fund crunch and infrastructural deficits are adequately addressed.**

Steps needed to be taken

1. **Land Acquisition by the government:** acquire the land and develop a special economic zone (SEZ) which would encompass a complete semiconductor manufacturing ecosystem.
2. **Cover all ancillaries:** The monetary benefits being extended for setting up a fab should be made available for all the ancillary units manufacturing specialty chemicals to clean room apparel.
3. **Focus on simple technology:** The requirements are less stringent and the fabs less expensive. These companies typically operate at much lower gross margins as opposed to the large fabs and Original Equipment Manufacturer (OEMs).
 - With the implementation of fabrication capabilities in India, the country could achieve a degree of self-sufficiency in the sector of semiconductors.
 - Building a strong semiconductor industry would put an end to the country's reliance on imports to meet its

semiconductor needs and will help in the creation of jobs.

SHELL COMPANY

GS-III ECONOMY

Context

- The Serious Fraud Investigation Office (SFIO) has arrested a man who had masterminded the incorporation of a large number of shell companies linked to China and provided dummy directors on their boards to run the fraudulent businesses. The arrest was part of the crackdown on Chinese shell companies that are allegedly into serious financial crimes in India.

What are shell companies?

- Every company comes into existence after getting incorporated under the Companies Act, 2013, to facilitate regular business operations.
- A shell company however, instead of transacting into ordinary business transactions, is made with a view to enter into illegitimate transactions with a view to evade taxes or indulge into money laundering practices. Although when it is incorporated, it is registered as an ordinary regular company.
- A shell company may or may not have authentic business transactions. It may not be into involved in any exchange of goods or services. But it may have fake financial transactions to validate its existence. And these fake transactions are of illegal nature.
- One of such transactions done by Shell companies to evade taxes is when assets of one company are transferred to another company.
- The assets are transferred to a new company which has no liabilities so that when the old company is dissolved due to losses or poor performance and the dues of the creditors have to be paid, the assets of the old company are not in charge.

What is the difference between a Shell company and a Dormant company?

- A Dormant company is the one which does not have active running business operations. A company may start with active business but due to some reason cease to operate or does not have an active status.
- Such companies can acquire the status of a dormant company by making an application to the registrar of companies. These companies are not involved in any fraudulent transactions unlike the shell companies.
- A dormant company is simply a regular company with no active business operations whereas a shell company may or may not have active business operations but is involved in unlawful transactions.
- A shell company is not a dormant company. It is a company that is used as a vessel to facilitate unlawful transactions.

How are Shell companies identified?

- Shell companies have not been defined by the Companies Act, 2013. However, due to the recent disqualification of various directors and companies, it caught the attention of people.
- Since there is no specific definition of Shell companies, Ministry of Corporate Affairs have issued a public notice, explaining the grounds and the basis of such disqualification.
- In the notice they have mentioned, that after the amendment of the Companies Act 1956, a new clause was added in the Companies Act, 2013, wherein it has been clearly mentioned that any director who fails to furnish the annual returns or the financial statements of a company for three years shall be liable for prosecution and disqualification.
- Based on this ground the directors have been disqualified. And the companies, to which these directors were serving to, are suspected to be shell companies.

What are the consequences of forming a Shell company?

- If a company is found guilty of operating as a shell company then such company and all its directors shall be liable to prosecution under the Companies Act, 2013, wherein the name of the company will be struck off from the register.
- Also it shall be liable for prosecution under different acts such Money Laundering Act, Income Tax Act etc. based on the offence committed.

STUBBLE BURNING

GS-III AGRICULTURE

Context

- To control stubble burning and reduce air pollution during winter, the Delhi government will spray a bio-decomposer free of cost over 5,000 acres of paddy fields in the city this year, Environment Minister Gopal Rai said.

Details

- A bio-decomposer capsule, developed by the Indian Agricultural Research Institute, turns into a solution through a week-long process, after which it decomposes straw and stubble into manure.
- The bio-decomposer will be sprayed for free by the government in all the Basmati and non-Basmati paddy farms in Delhi.
- The bio-decomposer solution is one of the 15 focus points in the government's Winter Action Plan.
- The Minister said this year the bio-decomposer has also been provided in the form of a powder and the government plans to use it on 1,000 acres on a trial basis.
- Every winter air pollution spikes in the national capital and adjoining areas due to multiple reasons, including slow wind speed, bursting of firecrackers and pollution from stubble burning.
- A list of emergency measures to control air pollution in Delhi-NCR, such as closing schools and stopping construction work, are undertaken each year during the winter months.
- As per the latest Graded Response Action Plan, prepared by the Commission for Air Quality Management, emergency measures will now be implemented based on predictions on air quality, three days in advance.

What is Stubble Burning?

- Stubble burning is, quite simply, the act of removing paddy crop residue from the field to sow wheat.
- It's usually required in areas that use the 'combine harvesting' method which leaves crop residue behind.

Statistics

- According to an August 2019 study titled 'Fields on fire: Alternatives to crop residue burning in India,' farmers in northwest India burn around 23 million tonnes of rice straw so that they can clear the land quickly for the sowing of wheat.
- According to official reports, more than 500 million tonnes of parali (crop residues) is produced annually in the country.

Impact of Stubble Burning

- Air Quality:** Air quality monitoring stations in Delhi-NCR registered above 999 on the Air Quality Index in 2019, which is way beyond emergency levels.
- The emissions directly contribute to environmental pollution, and are also responsible for the haze in Delhi and melting of Himalayan glaciers.
- PM 2.5 and PM10** particularly cause cancer.
- The cost of air pollution due to stubble burning in India is estimated to be \$30 billion annually.
- Stubble-burning deteriorates the soil's organic content, essential nutrients and microbial activity – which together will reduce the soil's long-term productivity.
- Health:** Severe neurological, cardiovascular and respiratory diseases, asthma, chronic obstructive pulmonary disease (COPD), bronchitis, lung capacity loss, emphysema, cancer, etc. It also leads to an increase in mortality rates due to the prolonged exposure to high pollution.

Solutions to the burning problem

- In 2014, the Union government released the **National Policy for Management of Crop Residue**.

Farmers can also manage crop residues effectively by employing agricultural machines like:

- Happy Seeder (used for sowing of crop in standing stubble)
- Rotavator (used for land preparation and incorporation of crop stubble in the soil)
- Zero till seed drill (used for land preparations directly sowing of seeds in the previous crop stubble)
- Baler (used for collection of straw and making bales of the paddy stubble)
- Paddy Straw Chopper (cutting of paddy stubble for easily mixing with the soil)
- Reaper Binder (used for harvesting paddy stubble and making into bundles)
- Waste Decomposer:** Scientists at the National Centre for Organic Farming have developed a 'Waste Decomposer' concocted with effective microorganisms that propel in-situ composting of the crop residue.

"The first step to curb crop burning is to find uses for the stubble..- Centre for Science and Environment (CSE).

Other uses of stubble

- Converting Crop Stubble into Animal Feed, Manure, Cardboard:** In South India, stubble is not burnt as there's economic

value as animal feed.

- **Converting Crop Stubble to Biodegradable Cutlery:** Kriya Labs, an IIT-Delhi startup, has developed a machine that can convert the leftover rice straw into pulp, and that is further moulded to produce biodegradable cutlery.
- **Biochar:** Another option is to convert stubble into biochar, which can be used as a fertiliser, by burning it in a kiln.
- **In power plants:** There is also the option of using straw to replace coal in old power plants. This would not only help to extend the life of the built infrastructure, but will also reduce environmental costs.
- **Redesigning- Combine Harvesters:** The best solution is if Combine Harvesters do not leave the stubble behind. This can be done by the Combine Harvester manufacturers by slightly tweaking the design of their machines. This will eradicate the entire problem from root and cause.

Crop Diversification - A long-term solution

- A shift to crops such as maize, beans and lentils need to be envisaged.
- This would reduce the burning because they are normally harvested by hand or can be gathered earlier.
- The Centre and state governments could adopt methods to incentivize farmers, rather than penalizing them.
- If production of other crops, like maize, is made more lucrative, then farmers will switch to growing those.
- Another way to reduce stubble burning is to replace long-duration paddy varieties with shorter duration varieties like **Pusa Basmati-1509** and **PR-126**.

The Chattisgarh Model of Gauthan

- The Chhattisgarh Government has undertaken an innovative experiment of setting up "gauthans" to curb stubble burning. A gauthan is a dedicated five-acre plot, held in common by each village, where all the unused parali is collected through paralidaan (people's donations) and is converted into organic fertilizer by rural youth. This provides them a living. The government supports the transportation of parali from the farm to the nearest gauthan. The state has already developed more than 2,000 gauthans.
- The Chattisgarh Model of Gauthan generates employment among rural youth as well. A committee consisting of economists, agricultural experts, farmer delegates and bureaucrats can be set up at national level to evaluate the parali burning crisis and explore the possibilities of integrating Gauthan concept with schemes like the MGNREGA by expanding the MGNREGA scheme to harvesting and composting.

PRANAM YOJANA

GS-III AGRICULTURE

Context

- In order to reduce the use of chemical fertilizers by incentivizing states, the Union government plans to introduce a new scheme – **PM PRANAM**.

PM PRANAM Scheme

- PM PRANAM stands for **PM Promotion of Alternate Nutrients for Agriculture Management Yojana**.
- **Aim:** The proposed scheme intends to reduce the subsidy burden on chemical fertilisers, which is expected to increase to Rs 2.25 lakh crore in 2022-2023. This is **39% higher than the previous year's figure of Rs 1.62 lakh crore**.

Working of the Scheme

- The **scheme will not have a separate budget** and will be **financed by the "savings of existing fertiliser subsidy"** under schemes run by the Department of Fertilizers.
- Further, **50% subsidy savings will be passed on as a grant to the state that saves the money**.
- **70% of the grant provided under the scheme can be used for asset creation** related to technological adoption of alternate fertilizers and alternate fertiliser production units at village, block and district levels.
- The **remaining 30% grant money can be used for incentivizing farmers, panchayats, farmer producer organisations and self-help groups that are involved in the reduction of fertiliser use and awareness generation**.
- The government will compare a state's increase or reduction in urea in a year, to its average consumption of urea during the last three years. Data available on a fertiliser Ministry dashboard, iFMS (Integrated fertilisers Management System), will be used for this purpose.

How much fertiliser does India require?

- The **kharif season (June-October)** is critical for India's food security, accounting for nearly half the year's production of **foodgrains**, one-third of pulses and approximately two-thirds of oilseeds. A sizable amount of fertiliser is required for this season.
- The Department of Agriculture and Farmers Welfare assesses the requirement of fertilizers each year before the start of the

cropping season, and informs the Ministry of Chemical and fertilizers to ensure the supply.

- The amount of fertiliser required varies each month according to demand, which is based on the time of crop sowing, which also varies from region to region. For example, the demand for urea peaks during June-August period, but is relatively low in March and April, and the government uses these two months to prepare for an adequate amount of fertiliser for the kharif season.

Significance of PM Pranam Scheme

- Due to increased demand for fertiliser in the country over the past 5 years, **the overall expenditure by the government on subsidy has also increased.**
- The total requirement of four fertilisers – Urea, DAP (Di-ammonium Phosphate), MOP (Muriate of potash), NPKS (Nitrogen, Phosphorus and Potassium) – **increased by 21% between 2017-2018 and 2021-2022.**
- In light of the increased demand, the government has also been increasing the subsidies it provides for chemical fertilisers.
- In the Union Budget 2021-22, the government had budgeted an amount of Rs 79,530 crore, which increased to Rs 1.40 lakh crore in the revised estimates (RE). **However, the final figure of fertiliser subsidy touched Rs 1.62 lakh crore in 2021-22**
- PM PRANAM, which seeks to reduce the use of chemical fertiliser, will **likely reduce the burden on the exchequer.**
- The proposed scheme is **also in line with the government's focus on promoting the balanced use of fertilisers or alternative fertilisers in the last few years.**
- India meets about 75-80% of the volume of consumption of urea from domestic production while the **rest is imported from Oman, Egypt, the UAE, South African and Ukraine.**
- Nearly half of its DAP requirement are imported via (mainly from West Asia and Jordan) while the domestic MoP demand is met solely through imports (from Belarus, Canada and Jordan, etc).



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ANTI-RADIATION PILLS

GS-III SCIENCE & TECHNOLOGY

Context

- Amid Russia-Ukraine crisis there are fears of a nuclear disaster at Ukraine's Zaporizhzhia power plant. Hence, the European Union has decided to supply 5.5 million anti-radiation pills to be distributed among residents in the vicinity.

Nuclear radiation

- Nuclear radiation is energy released as high-speed charged particles or electromagnetic waves.
- At high doses, ionizing radiation can cause immediate damage to a person's body, including, at very high doses, radiation sickness and death. At lower doses, ionizing radiation can cause health effects such as cardiovascular disease and cataracts, as well as cancer.

Particle	What is it	Charge	Range in air	Penetration	Ionisation
Alpha (α)	2 protons + 2 neutrons	+2	Few cm	Stopped by paper	High
Beta minus (β^-)	Electron	-1	Few 10s of cm	Stopped by a few mm Aluminium	Medium
Beta plus (β^+)	Positron	+1	Few 10s of cm	Stopped by a few mm Aluminium	Medium
Gamma (γ)	Electromagnetic wave	0	Infinite	Reduced by a few mm Lead	Low

What are anti-radiation pills?

- Potassium iodide (KI) tablets, or anti-radiation pills, are known to **provide some protection in cases of radiation exposure**.
- They **contain non-radioactive iodine and can help block absorption, and subsequent concentration, of radioactive iodine in the thyroid gland**.

Radiation Exposure

Leakage

- After a radiation leak, **radioactive iodine floats through the air and then contaminates food, water and soil**.

External Exposure

- Radioactive iodine deposited during external exposure can be removed using warm water and soap, according to the World Health Organisation.

Internal Exposure

- The bigger risk is inhaling it. Internal exposure, or irradiation, occurs when radioactive iodine enters the body and accumulates in the thyroid gland.

Working of Anti-Radiation Pills: The mechanism

- The thyroid gland, which uses iodine to produce hormones to regulate the body's metabolism, has no way of telling radioactive from non-radioactive iodine. Potassium iodide (KI) tablets rely on this to achieve 'thyroid blocking'. **KI pills taken a few hours before or soon after radiation exposure ensure that non-radioactive iodine in the medicine is absorbed quickly to make the thyroid "full"**.
- Because KI contains so much non-radioactive iodine, the **thyroid becomes full and cannot absorb any more iodine – either stable or radioactive** – for the next 24 hours.

Apprehension

- KI pills are preventive only and cannot reverse any damage done by radiation** to the thyroid gland. Once thyroid gland absorbs radioactive iodine, those exposed are at a high risk of developing thyroid cancer.

Is the method fool-proof?

- Anti-radiation **pills do not provide 100% protection**. The effectiveness of KI also depends on how much radioactive iodine gets into the body and how quickly it is absorbed in the body.
- Also, the pills are not meant for everybody. They are **recommended for people under 40 years of age**. **Pregnant and breastfeeding women are also advised to take them**. While it can protect the thyroid against radioactive iodine, it **cannot protect other organs against radiation contamination**.

Substitutes for KI

- The US Food and Drug Administration advises against using salt or iodine supplements as they do not contain enough iodine to trigger thyroid blocking.

Zaporizhzhia Nuclear Plant

- Located in southern Ukraine on the banks of Kakhovka reservoir on the Dnipro river, Zaporizhzhia Nuclear Plant is Europe's largest, and 10th biggest in the world. Geographically, the plant is located 200-km from Russia-annexed Crimea, and 500-odd km from Ukraine's capital Kyiv.
- Russia captured the plant site in early March and continues to control it. As of now, the plant is run by Ukrainian staff, and 'guarded' by Russian troops.

5G DEPLOYMENT

GS-III SCIENCE & TECHNOLOGY

Context

- Different countries and firms are at various stages of 5G deployment.

5G Deployment Architecture

- Telecom operators and businesses looking to build their services on 5G have two options. They can either build **a non-standalone (NSA) or a standalone architecture.**

Non-standalone (NSA) Architecture

- In an NSA framework, the operator can use their existing installed capacities and LTE architecture to deploy 5G services while implementing a new radio access network (RAN). The operations in the core network will be supported by the existing evolved packet core (EPC) from LTE.

Evolved Packet Core (EPC)

- Evolved Packet Core (EPC) is a framework for providing converged voice and data on a 4G Long-Term Evolution (LTE) network. 2G and 3G network architectures process and switch voice and data through two separate sub-domains: circuit-switched (CS) for voice and packet-switched (PS) for data. Evolved Packet Core unifies voice and data on an Internet Protocol (IP) service architecture and voice is treated as just another IP application. This allows operators to deploy and operate one packet network for 2G, 3G, WLAN, WiMax, LTE and fixed access (Ethernet, DSL, cable and fiber).

Radio Access Network (RAN)

- A radio access network (RAN) is a major component of a wireless telecommunications system that connects individual devices to other parts of a network through a radio link. The RAN links user equipment, such as a cellphone, computer or any remotely controlled machine, over a fiber or wireless backhaul connection.

Significance

- This short-to-medium term strategy can help operators reduce capital expenditure and lower operating costs that may arise from installing a new core network. Germany, for example, used the NSA model to roll out 5G services in 2019.

Comparison	2G	3G	4G	5G
Introduced in year	1993	2001	2009	2018
Technology	GSM	WCDMA	LTE, WiMAX	MIMO, mm Waves
Access system	TDMA, CDMA	CDMA	CDMA	OFDM, BDMA
Switching type	Circuit switching for voice and packet switching for data	Packet switching except for air interference	Packet switching	Packet switching
Internet service	Narrowband	Broadband	Ultra broadband	Wireless World Wide Web
Bandwidth	25 MHz	25 MHz	100 MHz	30 GHz to 300 GHz
Advantage	Multimedia features (SMS, MMS), internet access and SIM introduced	High security, international roaming	Speed, high speed handoffs, global mobility	Extremely high speeds, low latency
Applications	Voice calls, short messages	Video conferencing, mobile TV, GPS	High speed applications, mobile TV, wearable devices	High resolution video streaming, remote control of vehicles, robots, and medical procedures

	Gen	Description	Application
CDMA/IS-95	2G	Code-Division Multiple Access	Voice and data up to 14.4kbps
GSM	2G	Global System for Mobile Comm	Voice and data up to 14.4kbps
GPRS	2.5G	General Packet Radio Service	Data up to 48kbps (Class 12)
EDGE (EGPRS)	2.75G	Enhanced Data GSM Environment (Enhanced GPRS)	Data up to 240kbps (Class 12)
CDMA2000 1xRTT	2.75G	First phase of CDMA2000 (RTT=radio transmission technology)	Voice and data up to 144kbps (1xRTT)
CDMA2000 1xEV-DO	3G	Separate channel for data delivery (EV-DO=evolution, data only)	2.4Mbps/164kbps* (Rev 0) or 3.1Mbps/1.8Mbps* (Rev A)
UMTS (WCDMA)	3G	Universal Mobile Telecommunications Service (wideband CDMA)	Voice and data up to 384kbps (2Mbps in nonmobile)
FOMA	3G	Japanese UMTS variant	Used by NTT DoCoMo network
TD-SCDMA	3G	Chinese UMTS variant	Used by China Mobile
HSDPA	3.5G	High-Speed Downlink Packet Access	Downstream data to 14.4Mbps
HSPA/ HSUPA	3.75G	High-Speed (Uplink) Packet Access	Combines upstream data up to 5.76Mbps with HSDPA
HSPA+	3.9G	HSPA Evolution	Data/VoIP to 42Mbps/11Mbps*
WiMax	4G	OFDM-based network	Data, VoIP (maybe) to 75Mbps
LTE	4G	Long-Term Evolution; OFDM downlink and single-carrier uplink	Data/VoIP to 326Mbps/86Mbps* (100Mbps/50Mbps for handsets)

Standalone model

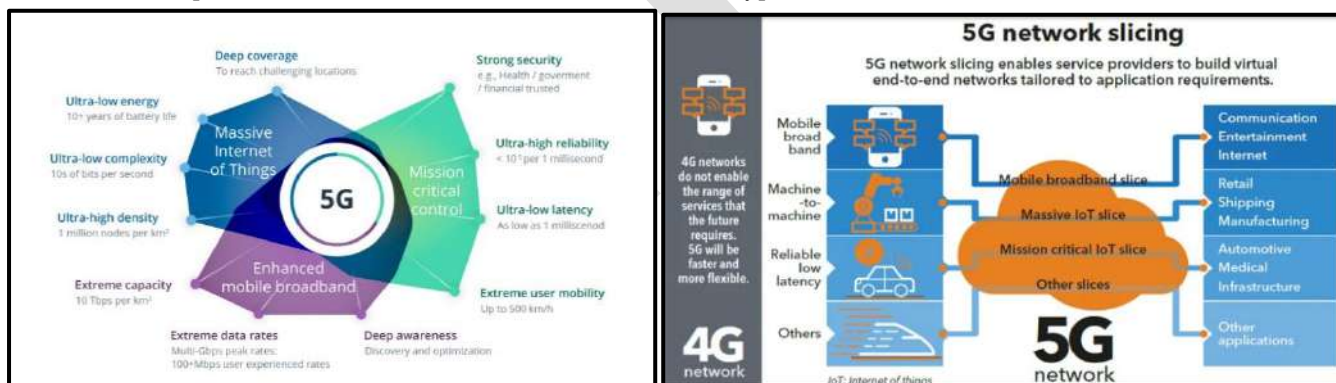
- The SA model, is a pureplay 5G architecture that provides operators full range of the fifth-generation's capability and lets them slice the network.
- In this architecture, RAN and the core are completely new, and there will be a clear separation of different network functions in line with 3GPP recommendations. U.S.-based Dish Network Corporation deployed a standalone 5G network in 2021.

Significance

- 5G SA architecture provides better performance than an NSA based set up.

Network Slicing

- 5G network slicing is the use of network virtualization to divide single network connections into multiple distinct virtual connections that provide different amounts of resources to different types of traffic.



Final Thoughts

- Telecom operators will drive 5G deployment towards a standalone future in the next few years. This will simplify their network operations and improve user experience.

CENTRE-STATE SCIENCE CONCLAVE

GS-III SCIENCE & TECHNOLOGY

Context

- Recently, Prime Minister, Shri Narendra Modi inaugurated the 'Centre-State Science Conclave' in Ahmedabad.

Highlights of the Conclave: Prime Minister's Remarks

Science and India

- Science is like that energy in the development of 21st century India, which has the power to accelerate the development of every region and the development of every state. Today, when India is moving towards leading the fourth industrial revolution, the role of India's science and people related to this field is very important. In such a situation, the responsibility of people in administration and policy making increases significantly.
- Science is the basis of solutions, evolution and innovation. And, it is with this inspiration, that today's new India is moving forward with Jai Jawan, Jai Kisan, Jai Vigyan as well as Jai Anusandhan.

Contribution of Great Scientists in recent past

- In the early decades of the 20th century, the world was going through a period of devastation and tragedy. But even in that era, whether it was about the East or the West, scientists everywhere were engaged in their great discovery.
- In the West, scientists like Einstein, Fermi, Max Planck, Niels Bohr, and Tesla were dazzling the world with their experiments.
- In the same period, many scientists including CV Raman, Jagdish Chandra Bose, Satyendranath Bose, Meghnad Saha, and S Chandrashekhara were bringing their new discoveries to the fore.

Need of the hour

- We need to take science and technology-related research to the local level.
- States are needed to promote research and innovation as per their local needs.
- Innovation can be encouraged by laying emphasis on the creation of more and more scientific institutions and simplification of processes by the state governments.
- The number of innovation labs should also be increased in the institutions of higher education in the states. Every state needs to lay down modern policy regarding science, innovation and technology.
- States should take full advantage of the ability and expertise of many national-level scientific institutes, and national laboratories that are present. We also have to take our science-related institutions out of the state of silos for optimum utilisation of scientific institutions and expertise
- There is a need for science promotion events at the grassroots level.

Final Thoughts

- We are not giving due recognition to the work of our scientists. When we celebrate the achievements of our scientists, science becomes part of our society, it becomes part of the culture. "Scientists", are giving ample reasons to the country to celebrate them.
- The 'State-Centre Science Conclave' will add a new dimension and resolve toward the progress of Science in the country.
- The coming 25 years are the most important years for India as it will determine the new identity and strength of India to come. Stakeholders need to take the learnings from such conclaves to their states and contribute toward nation-building.

ARTIFICIAL SUN

GS-III SCIENCE & TECHNOLOGY

Context

- Scientists have created an 'artificial sun' at the Korea Superconducting Tokamak Advanced Research (KSTAR) reactor.

Background

- Coal and natural gas are the primary energy sources currently used around the world, but these materials come in limited supply.
- Nuclear fusion could be the cleanest energy source available because it replicates the sun's physics by merging atomic nuclei to generate large amounts of energy into electricity. The process requires no fossil fuels, leaves behind no radioactive waste, and is a safer alternative to fission nuclear power.

Challenges

- Nuclear fusion is considered among the best substitutes to carbon-dependent energy sources. But many challenges remain despite continuing research.
- For fusion to occur on Earth, we need a temperature of at least 100 million degrees Celsius—six times hotter than the core of the sun.
- The sun is a natural fusion reactor which makes up for its measly 15 million degrees with the intense pressure created by its core's gravity.
- Experimental fusion reactors do exist -- but they consume way more power than they produce, which basically defeats the purpose of generating power using fusion.
- It's also quite difficult to find materials that can withstand the reaction.
- It requires a lot of excess energy in order to keep the fusion reaction going once it has started.

Nuclear Fission vs Nuclear Fusion

A heavy nucleus breaks up to form two lighter nuclei.	Two nuclei combine to form a heavy nucleus.
It involves a chain reaction.	Chain reaction is not involved.
The heavy nucleus is bombarded with neutrons.	Light nuclei are heated to an extremely high temperature.
We have proper mechanisms to control fission reaction for generating electricity.	Proper mechanisms to control fusion reaction are yet to be developed.
Disposal of nuclear waste is a great environmental problem.	Disposal of nuclear waste is not involved.
Raw material is not easily available and is costly.	Raw material is comparatively cheap and easily available.

Experiment in the recent past

- Today, we conduct fusion reactions in a machine called the Tokamak. In the recent past, China's "artificial sun" set a new record after it ran at 120 million degrees Celsius for 101 seconds.

South Korea Experiment

- The reactor reached temperatures upward of 100 million degree Celsius for 30 seconds. Comparatively, the core of the sun hits temperatures around 15 million degrees.

Significance

- By mimicking the natural reaction of the sun, scientists are hoping that the technology may help humanity harness vast amounts of energy and help battle the energy crisis.

Why is fusion a better option than fission to generate power?

- Fusion is much better than fission in a number of ways. Firstly, nuclear fusion requires less fuel than fission.
- On top of that, fusion is carried out by using deuterium (an isotope of hydrogen) as fuel, which is quite abundant in nature.
- In contrast, the fuel necessary for fission (uranium, plutonium or thorium) is very hard to get – and highly expensive.
- Furthermore, unlike fission, nuclear fusion does not produce any radioactive waste; it only produces helium atoms as a byproduct, which we can actually use to our benefit in various ways.
- Since fusion doesn't produce runaway chain reactions the way fission can, there's practically no risk of a meltdown in the case of nuclear fusion.
- A kilogram of fusion fuel contains about 10 million times as much energy as a kilogram of coal, oil or gas.

LITHIUM CELL MANUFACTURING FACILITY

GS-III SCIENCE & TECHNOLOGY

Context

- The Minister of State for Electronics and Information Technology, will visit India's first lithium cell manufacturing facility at Tirupati, Andhra Pradesh.

Lithium Uses

- **Electronics:** The most important use of lithium is in rechargeable batteries for mobile phones, laptops, digital cameras and electric vehicles.
- **Glass and Grease:** Lithium-ion batteries are also used in ceramics and glass, lubricating greases, polymer production, and air treatment.
- **Medical:** Lithium is also used in some non-rechargeable batteries for things like heart pacemakers, toys and clocks. It is also used in psychiatric medications and in dental imprints. Lithium carbonate is used in drugs to treat manic depression.
- **Nuclear Weapons:** The lighter of two lithium isotopes is used in the production of Tritium, a key component of nuclear weapons.
- **Infrastructure:** Lithium metal is **made into alloys with aluminium and magnesium**, improving their strength and making them lighter. Aluminum-lithium alloys are used in aircraft, bicycle frames and high-speed trains.
- **Fuel:** Lithium hydride is used as a means of storing hydrogen for use as a fuel.
- **Other:** A magnesium-lithium alloy is used for armour plating. Lithium chloride is one of the most hygroscopic materials known, and is used in air conditioning and industrial drying systems (as is lithium bromide). Lithium stearate is used as an all-purpose and high-temperature lubricant.

Natural abundance

- Lithium **does not occur as the metal in nature**, but is found combined in small amounts in nearly all igneous rocks and in the waters of many mineral springs. Spodumene, petalite, lepidolite, and amblygonite are the more important minerals containing lithium.
- Most lithium is currently produced in Chile, from brines that yield lithium carbonate when treated with sodium carbonate.
- As of now, India currently imports all its lithium needs.

The Lithium Cell Manufacturing Facility at Tirupati

- This state-of-the-art facility has been set up by the Chennai based Munoth Industries Limited. The installed capacity of the plant at present is 270 Mwh and can produce 20,000 cells of 10Ah capacity daily. These cells are used in power bank and this capacity is around 60 per cent of India's present requirement.

Significance

- Currently India imports complete requirements of lithium-ion cells primarily from China, South Korea, Vietnam and Hong Kong.
- The inauguration of this plant will be a step in the direction for realizing Prime Minister Modi's vision of **making India the global hub of electronic manufacturing**.

Trivia

Lithium Triangle

- The Lithium Triangle is a region of the Andes rich in lithium reserves around the borders of Argentina, Bolivia and Chile. The lithium in the triangle is concentrated in various salt pans that exist along the Atacama Desert and neighboring arid areas. The area is thought to hold around 54% of the world's lithium reserves.
- The Indian Navy has shown interest in the Lithium Triangle as lithium will be required on Li-ION batteries that are planned to be fitted in future submarines.

Recent Lithium Finds in India

- The Department of Atomic Energy, Government of India has discovered **1600kg Lithium in Mandla district of Karnataka**. The find in Mandya, Karnataka is extremely small in quantitative terms, but it marks some initial success in the attempt to domestically mine Lithium. The **Marlagalla-Allapatna area, along the Nagamangala Schist Belt**, which exposes mineralized complex pegmatites (igneous rocks), is seen as among the most promising geological domains for potential exploration for lithium and other rare metals.



eSIM

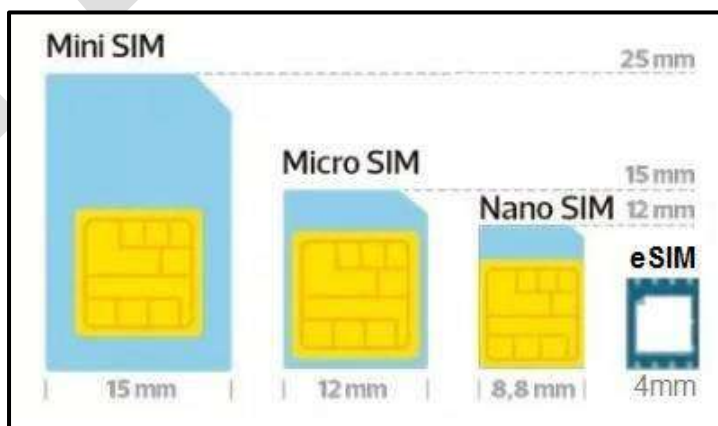
GS-III SCIENCE & TECHNOLOGY

Context

- The eSIM (or embedded SIM) is quickly becoming mainstream.

About e-SIM

- Put simply, eSIM, or embedded SIM card, replaces the need for a physical SIM card - and therefore, a SIM card slot - on the mobile device.
- It is introduced after SIM cards (Mini, Micro and Nano). It is available in the form of an integrated chip. It is also known as eUICC (Embedded Universal Circuit Card).
- eSIM is backed by the GSMA, the association of mobile networks and that organisation has defined the standard for eSIM worldwide.
- eSIMs support remote configuration by the Over-the-Air (OTA) technology. In this way, subscribers can easily switch between different local operators' networks and activate a new subscription plan by interoperating with terminals in a flash, no matter where they are.



Benefits or advantages of eSIM

- It stores multiple cellular profiles and hence it works seamlessly across the world.
- No specific slot is required unlike SIM cards. Hence it is ideal for space constrained IoT devices.
- There is no possibility to lose the card as it is tied to the device itself.
- It is possible to have eSIM controllable over the air. Hence it is easy to be used by network operators.
- It provides same level of security as removable SIM card. It also supports integrity of billing process during roaming scenarios.
- eSIM enables simple management of subscriptions and connections. Hence end users need not have to manage multiple SIM cards.

Drawbacks or disadvantages of eSIM

- When mobile phone breaks, it is easy to transfer data to the new phone in case of SIM card. This is not possible in eSIM devices and users need to rely on cloud to retrieve the data such as messages, contacts and other useful informations.
- It is problematic for users who do not wish to be tracked when they use eSIM. It is easy for SIM card users as they can

remove the SIM cards and hence it is not possible to be tracked by network operators.

- Users who like to use different mobile phones it is easy for them with SIM cards to do so. It is not possible with eSIM card as it is embedded in the motherboard of the mobile phone.
- There is possibility of hacking eSIM card data from cloud hosting.
- It is a challenge to be implemented world-wide by network operators in order to provide seamless operations.

NavIC

GS-III SCIENCE & TECHNOLOGY

Context

- Indian government is asking for all smartphones sold in India to feature the NavIC app (like Google Maps). Mobile manufacturers assured the govt that they will install NavIC -- a navigation system developed by ISRO - in new 5G devices. NavIC is India's alternative to GPS.

What is NavIC?

- NavIC, which stands for Navigation with Indian Constellation, is India's own satellite navigation system, like the GPS, which is of the US.
- The heart of the system is seven satellites — the 8th will join them soon — positioned above India. These satellites form 'Indian Regional Navigation Satellite System' or IRNSS.

How come NavIC is more precise than GPS?

- NavIC uses two frequencies instead of one — the L5 (1176.45 MHz) and S band (2492.028 MHz). This improves accuracy by enabling the receivers on the satellites to correct any atmospheric errors through simultaneous use of the two frequencies. Further, the uptime of the system is better than GPS.

Coverage

- It covers India and a region extending up to 1,500 km beyond Indian mainland (primary coverage area) with plans of extension.
- An extended service area lies between the primary service area and a rectangle area enclosed by the 30th parallel south to the 50th parallel north and the 30th meridian east to the 130th meridian east.

Accuracy

- The system is intended to provide an absolute position accuracy of better than 10 metres throughout Indian landmass and better than 20 metres in the Indian Ocean. The GPS, has a position accuracy of 20–30 m.
- In short, it provides position accuracy better than 20 m and timing accuracy better than 50 nanoseconds(20).

Applications

- NavIC will provide two levels of service, the "standard positioning service", which will be open for civilian use, and a "restricted service" (an encrypted one) for authorised users (including the military).
- NavIC based applications are being used in various civilian sectors, including, transport, map applications, and timekeeping.
- NavIC based trackers are compulsory on commercial vehicles in India.

Why do we need NavIC when Google Maps is there for free?

- Google Maps runs on GPS, which is American. Depending upon another country is never good, for they can easily switch off service at any time. In 1999, during the Kargil War, India requested the US to give data about enemy locations, which the US refused. That made India realise the criticality of an India-owned navigation system. It is more important in the case of strategic sectors.

Present use of NavIC

- Currently, NavIC is being used to track public vehicles in India. It is also used to send emergency warning alerts to fishermen venturing into the sea where there is no terrestrial network connectivity. Also, it is being used for tracking and providing information in case of natural disasters. Off late, the Centre is pushing smartphone companies to adopt NavIC in India.

Which other countries have their own navigation systems?

- Apart from the US' GPS, there are Europe's Galileo, Russia's GLONASS, China's Beidou and Japan's QZSS.

ROHINI SOUNDING ROCKET

GS-III SCIENCE & TECHNOLOGY

Context

- ISRO hopes to achieve a remarkable feat — the 200th successful launch of the Rohini RH-200 sounding rocket in a row.

About Rohini

- Rohini is a series of sounding rockets developed by the Indian Space Research Organisation (ISRO) for meteorological and atmospheric study.
- These sounding rockets are capable of carrying payloads of 2 to 200 kilograms between altitudes of 100 to 500 kilometres .
- The ISRO currently uses RH-200, RH-300, RH-300 Mk-II, RH-560 Mk-II and RH-560 Mk-III rockets, which are launched from the Thumba Equatorial Rocket Launching (TERLS) in Thumba and the Satish Dhawan Space Center in Sriharikota. The rockets in the series are designated with the letters RH (for "Rohini"), followed by a number corresponding to the diameter (in millimetres) of the rocket.

Sounding Rocket

Sounding rockets are one or two stage solid propellant rockets used for probing the upper atmospheric regions and for space research. They also serve as easily affordable platforms to test or prove prototypes of new components or subsystems intended for use in launch vehicles and satellites. The first sounding rocket to be launched from Thumba was the American Nike-Apache - on November 21, 1963. After that, two-stage rockets imported from Russia (M-100) and France (Centaure) were flown. The ISRO launched its own version - Rohini RH-75 - in 1967. In 1975, all sounding rocket activities were consolidated under the Rohini Sounding Rocket (RSR) Programme.

Series

RH-75

- The RH-75, the first sounding rocket developed by India, was launched from TERLS on September 20, 1969. It weighed 32 kilograms, had a diameter of 75 millimetres and flew 15 times between November 1967 and September 1968.

RH-125

- This rocket was launched on October 9, 1971, from Sriharikota. It was a two-stage rocket using a solid propellant, carrying a 7 kilograms (15 lb) payload to 19 kilometres (12 mi) in altitude. It flew twice between January 1970 and October 1971.

RH-200

- The RH-200 has a maximum launch altitude of 70 kilometres.

RH-300

- The Rh-300 is a single stage sounding rocket, derived from French Belier rocket engine technology. It has a launch altitude of 100 km (62 mi). A variant, the RH-300 Mk-II, has a maximum launch altitude of 116 kilometres.

RH-560

- This two stage vehicle is derived from French Stromboli engine technology. Another variant, the RH-560 Mk-II, can reach a maximum launch altitude of 548 kilometres. The RH-560 Mk-III variant's maiden flight (the flight was successful) was 12 March 2021.

Applications

- The RH-200 is used for meteorological studies, the RH-300 Mk-II for upper-atmospheric studies and the RH-560 Mk-II for ionospheric studies.

Currently, three versions are offered as operational sounding rockets , which cover a payload range of 8-100 Kg and an apogee range of 80-475 km.

Vehicle	RH-200	RH-300-Mk-II	RH-560-MK-II
Payload (in kg)	10	60	100
Altitude (in km)	80	160	470
Purpose	Meterology	Aeronomy	Aeronomy
Launch Pad	Thumba Balasore	SDSC-SHAR	SDSC-SHAR

INS VIKRANT

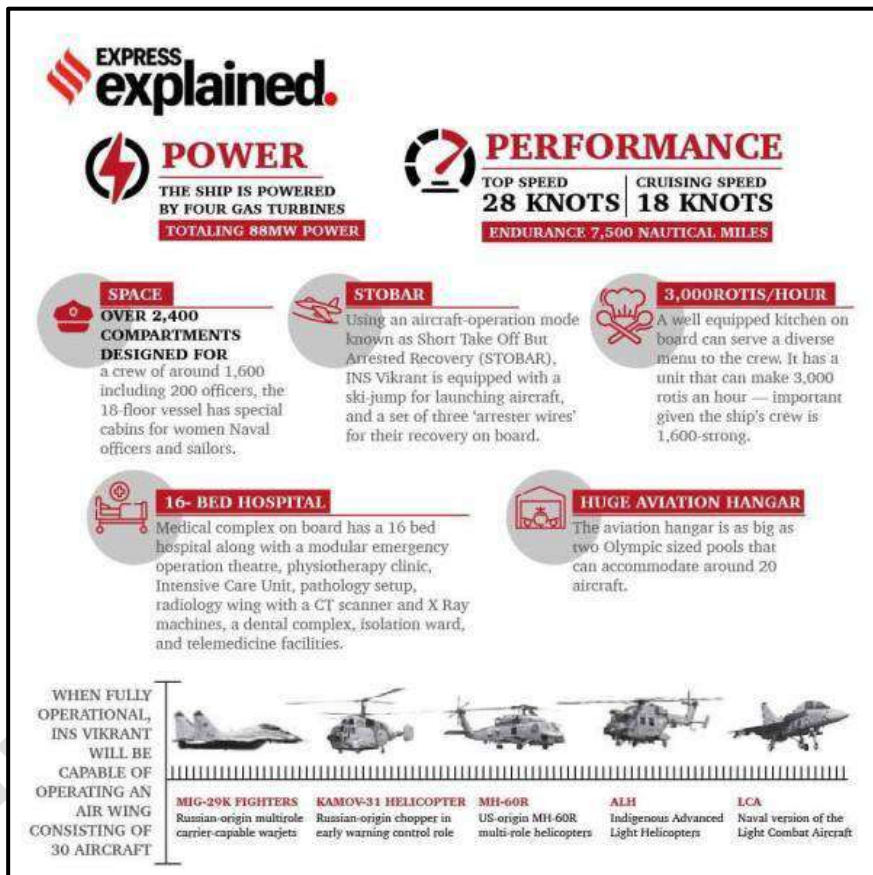
GS-III SECURITY & DEFENSE

Context

- Prime Minister Modi commissioned the carrier, built at a cost of ₹20,000 crore, at a function organised at the Cochin Shipyard Limited in Kochi.

Details

- It is the country's first indigenous aircraft carrier and the most complex warship ever built.
- The ship is christened after India's first aircraft carrier Vikrant, which played a vital role in the 1971 war.
- From 2013 to 2017, the Navy had fielded two aircraft carriers, the erstwhile Viraat acquired from U.K and INS Vikramaditya from Russia which is currently in service.
- Once Vikrant becomes fully operational, the Indian Navy will once again be able to deploy two full-fledged carrier groups significantly expanding its footprint across the Indo-Pacific.
- The ship with a displacement of 42,800 tonnes was designed by the Navy's Warship Design Bureau (WDB) and built by Cochin Shipyard Limited (CSL), a public sector shipyard under Ministry of Ports, Shipping and Waterway.
- The Indigenous design and construction of Aircraft Carrier by Indian Navy and Cochin Shipyard Ltd is a shining example in the Nation's quest for 'AatmaNirbhar Bharat' and 'Make in India Initiative' with more than 76% indigenous content.
- This has led to growth in indigenous design and construction capabilities, besides development of large number of ancillary industries, with employment opportunities for over 2000 CSL personnel and about 12000 employees in ancillary industries.



About

- It is country's **maiden indigenous aircraft carrier (IAC-1)**.
- Built by: Cochin Shipyard Ltd.**
- The IAC would be commissioned as **INS Vikrant in the first half of 2022**, which would be the most potent sea-based asset.
- Capabilities:** can project Air Power over long distances, including Air Interdiction, Anti-Surface Warfare, offensive and defensive Counter-Air, Airborne Anti-Submarine Warfare and Airborne Early Warning.
- It has a **STOBAR** (short take off but arrested recovery) system of aircraft launch and recovery on the flight deck.
- It is armed with the **Barak LR-SAM** (long range surface-to-air missile) air defence and **AK-630** close-in weapon system besides a slew of advanced sensors and an electronic warfare suite.
- Other specifications:**
 - It is expected to have a top speed of 30 knots (approximately 55 kmph) and is propelled by four gas turbines.
 - Its endurance is 7,500 nautical miles at 18 knots (32 kmph) speed.
 - The vessel can carry up to 1,500 personnel and has 2,300 compartments.
 - The ship shall operate MiG-29K fighter aircraft, Kamov-31 Air Early Warning Helicopters, the soon to be inducted MH-60R multi-role helicopter and the indigenously manufactured Advanced Light Helicopters.
- Italian, Russian help:** While the **design was done with help from the Italian firm Fincantieri**, the Russians collaborated in designing and developing the aviation complex.

Significance of IAC

- Shining example of 'AatmaNirbhar Bharat' as it has nearly **75 per cent indigenous content** - from design to steel used in **construction to key weapons and sensors**.
- It help secure India's interests in maritime domain.
- It will help to realize the **vision of SAGAR** (Security and Growth for All in the Region) and the wider goal of a **free, open and inclusive Indo-Pacific to ensure peace and stability** in the region.

OPERATION GEARBOX

GS-III SECURITY & DEFENSE

Context

- The Directorate of Revenue Intelligence (DRI) along with ATS, Gujarat, detect 72 hidden packets weighing 39.5 kg of powder in bags, suspected to be narcotic substance, in a container from Dubai.

Details

- Acting on intelligence jointly developed by DRI and ATS Gujarat, operation 'Gear Box' was launched. A container was examined by DRI at Kolkata port, West Bengal, in the presence of officers of ATS, Gujarat.
- The said container from Jebel Ali, Dubai, having gross weight of 9,300 kg was declared to contain Heavy melting Scrap. Bill of Entry was not filed for this container and the goods were found to be Metallic Scrap and machine parts like Gear Boxes.
- During detailed examination, i.e. dismantling of gear boxes and other metallic scrap, 72 packets having a total weight of 39.5 kg of powder in bags, suspected to be narcotic substance, has been recovered so far.
- **It appears that the drug syndicate has used this unique modus operandi to conceal Heroin.**
- **The gears from the old and used gearboxes were removed after opening them and the plastic packets containing the narcotic substances were placed in the created cavity and the gearboxes were then refitted to avoid detection.**
- These packets were shipped concealing inside the metal scrap along with other metal scraps so that it would go unnoticed by the authorities.

Drug Menace in India

- Drug addiction is **spreading fast among Indian youth**. According to a survey by the Ministry of Social Justice and Empowerment, India has more than 70 million drug addicts.
- It is a **serious health problem** which not only destroys the person involved but his entire family, the society and the nation.
 - **It promotes anti-social behavior** such as stealing, crime and violence.
- **It affects the economic growth of a country by generating unaccounted money** that are also used for terror funding and anti-national activities.
 - Therefore it is also a **serious threat to national security**.
- India is located between the **two largest Opium producing regions of the world**;
 - **Golden triangle on the eastern side**: Thailand, Myanmar, Vietnam and Laos.
 - **Golden crescent on the North-Western side**: Pakistan, Afghanistan and Iran.

As per the report released by the All India Institute of Medical Science (AIIMS)

- More than 5 crore Indians have reported using cannabis and opioids.
- Nearly 8.5 lakh people inject drugs.
- More than half of the total registered cases are from Punjab, Assam, Delhi, Haryana, Manipur, Mizoram, Sikkim and Uttar Pradesh.

Steps taken by the Government

- The Indian government is Coordinating with Various International Organizations including BRICS, SAARC, ASIAN, etc, for sharing information and intelligence to combat transnational drug trafficking.
- Coordinating among Various Central and State Agencies:
- The Union Ministry of Home Affairs has launched the **SIMS (Seizure Information Management System) Portal for the digitization of pan-India drug seizure data**.
- **National Fund for Control of Drug Abuse** was constituted to meet the expenditure incurred in connection with combating illicit traffic in Narcotic Drugs; rehabilitating addicts, educating the public against drug abuse, etc.
- Project Sunrise was launched by the Ministry of Health and Family Welfare to tackle the rising HIV prevalence in north-eastern states in India, especially among people injecting drugs.
- 'Nasha Mukta Bharat' or Drug-Free India Campaign with a focus on community outreach programs.
- India is a **signatory of the following International treaties and conventions**;
 - United Nations (UN) Convention on Narcotic Drugs (1961).

- UN Convention on Psychotropic Substances (1971).
- UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988).
- UN Convention against Transnational Organized Crime (UNTOC) 2000.

Way Forward

- **Article 47 of the Directive Principles of State Policy** of the Constitution of India directs the state to improve public health and endeavour to bring about the prohibition of the consumption of intoxicating drinks and drugs which are injurious to health.
- Steps need to be taken to stop cross-border trafficking and improve the enforcement of law in India.
- The stigma associated with drug taking needs to be reduced.
 - Society needs to understand that drug addicts are victims and not criminals.
 - Proper Counseling is another alternative.
- **The education curriculum should include topics on drug addiction**, its impact and also on de-addiction.
- Enhancing skills of care providers.
- Funding for evidence-based interventions.
- Developing programmes for vulnerable groups like youth, street children, women, prisons, etc

LEFT WING EXTREMISM IN INDIA

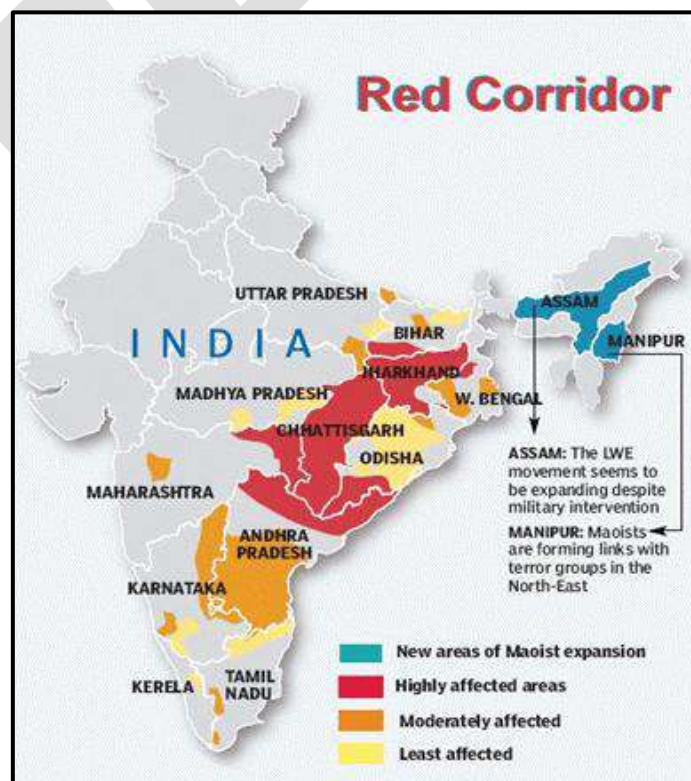
GS-III SECURITY & DEFENSE

Context

- **Kuldip Singh**, Director-General, Central Reserve Police Force (CRPF), said that Bihar was free of left-wing extremism now and security forces have made inroads into areas in Jharkhand that were once inaccessible due to the presence of Maoists.

Details

- Mr. Singh said the fight was in its final stages, and the number of districts affected by violence stood at 39, down from 60 in 2010.
- These districts are mostly in Chhattisgarh, Jharkhand, Odisha, Maharashtra, Telengana and Andhra Pradesh.
- **Mr. Singh said that considerable success was achieved in 2022 in Bihar, Jharkhand and Chhattisgarh as the CRPF launched Operation Octopus, Operation Double Bull, Operation Thunderstorm and Operation Chakrabandha in the three States. The operations led to the arrest or surrender of 592 Maoists.**
- The officer said that since 2019, a unique policy has been adopted against Maoists and in the past four years, the Union Home Ministry had provided ₹4,000 crore to the CRPF to purchase the latest weapons and equipment. The CRPF was one of the largest Central armed police forces deployed in the affected States.
- **Steadfast implementation of the national policy and action plan to address Left wing extremism" had led to 77% fall in LWE violence from 2258 incidents in 2009 to 509 incidents in 2021.**
- Similarly, the fatalities among civilians and security forces declined by 85% from an all-time high of 1005 in 2010 to 147 in 2021.
- **Even the geographical spread of Maoists' influence was shrinking, with districts most affected by LWE having come down to 25 in 2021 from 30 in 2018 and the number of districts covered under the security reimbursement expenditure scheme (SRE) down to 70 in July 2021 from 90 in April 2018.**



Steps undertaken

- The Government has **adopted a holistic approach to deal with Left Wing Extremism**, in the areas of security, development, ensuring rights and entitlements of local communities, improvement in governance and public perception management.
- Though primarily a State subject, Ministry of Home Affairs (MHA) has promulgated a '**National Policy and Action Plan**' since 2015 to address the Left Wing Extremism (LWE) menace holistically and the progress & the situation is being monitored rigorously and this Policy consists a multi-pronged approach.
- **Review and monitoring mechanisms:** These include intelligence sharing through Multi-Agency Centre (MAC) at the Central and State levels, and Multi Agency Centre (SMAC) at the subsidiary level on a 24x7 basis.

- **Better inter-state coordination:** Government of India has taken a number of steps to improve inter-state coordination which includes frequent meetings and interactions between the official machinery of the bordering districts of Left Wing Extremism affected States across the country.
- **Tackling the challenge of Improvised Explosive Devices (IEDs):** The Union Home Ministry has formulated a Standard Operating Procedure (SOP) on 'Issues related to Explosives/IEDs/Landmines in naxal affected areas' and the same has been circulated to the stakeholders for compliance.
- **Strengthening of air support:** State Governments and the Central Armed Police Forces (CAPFs) have been provided with enhanced air support in terms of UAVs and helicopters for anti-naxal operations, including evacuation of casualties/injured persons.

Security Related Measures

- **Deployment of the CAPFs:** Battalions of the CAPFs/Naga Battalions (BNs) are deployed for assisting the State Police in the LWE affected States.
- **India Reserve (IR)/Specialised India Reserve Battalion (SIRB):** Naxal affected States have been sanctioned 45 IR battalions mainly to strengthen their security apparatus and also to enable the States to provide gainful employment to youth, particularly in the severely affected belts.
- **Security Related Expenditure (SRE) Scheme:** funds are provided for meeting the recurring expenditure relating to insurance, training and operational needs of the security forces, rehabilitation of Left Wing Extremist cadres who surrender, community policing, security related infrastructure for village defence committees and publicity material to create awareness against violence.
- **Construction/Strengthening of Fortified Police Stations**
- **Scheme for Special Infrastructure (SSI):** This Scheme was started during the 11th Plan period with 100% funding by the Centre for filling up critical infrastructure gaps, not be covered under any other scheme.
- MHA had categorized certain districts as LWE affected and covered under Security Related Expenditure (SRE) Scheme for specific resource mobilization to the affected States for counter LWE measure.
- **Greyhounds:** It was raised in 1989 as an elite anti-Naxal force.
- **Operation Green Hunt:** It was started in 2009-10 and massive deployment of security forces was done in the Naxal-affected areas
- **Aspirational Districts Programme:** Launched in 2018, it aims to rapidly transform the districts that have shown relatively lesser progress in key social areas.
- **SAMADHAN** doctrine is the one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels. SAMADHAN stands for-
 - S- Smart Leadership,
 - A- Aggressive Strategy,
 - M- Motivation and Training,
 - A- Actionable Intelligence,
 - D- Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas),
 - H- Harnessing Technology,
 - A- Action plan for each Theatre,
 - N- No access to Financing.
- **ROSHNI** is a special initiative under, Pandit Deen Dayal Upadhyaya Grameen Kaushalya Yojana (Formerly Ajeevika Skills), launched in June 2013 for training and placement of rural poor youth from 27 LWE affected districts in 09 States
- **Intelligence sharing** and raising of a separate 66 Indian Reserved Battalion (IRBs), CRPF battalions like COBRA battalion, Bastariya battalion etc were done by the government to curb the menace of LWE organizations.

Background

- A number of Left Wing Extremist outfits have been operating in certain remote and poorly connected pockets of the country for a few decades now.
- **Maoist motto, "power flows from the barrel of gun", is their motivating force.**
- Naxalites seek to overthrow the State through violent means.
- **Naxal affected areas in India are known as the 'Red Corridor'.**
- **The Naxal movement started with the tribal-peasant uprising against landlords in Naxalbari village of Darjiling district, West Bengal in 1967.**
- Later, this militant movement spread all over West Bengal and was carried on by a large number of other groups in different States.
- Naxals are also known for their liaison with external terrorist outfits like LTTE for pooling of resources, particularly in the acquisition of weaponry, communication technology and the like.
- **The Maoist insurgency doctrine glorifies violence as the primary means to overthrow the existing socio-economic and political structures.**

Causes of left-wing extremism in India

- The failure of land reforms especially land redistribution after independence.

- **Socio-economic inequities, unemployment, despair about the future.**
- Dishonest and self-serving dominant groups
- **Political deprivation** leading to hopelessness or a sense of powerlessness.
- **Lack of title to public land cultivated** by the landless poor.
- Governance deficit in the remote parts of Red Corridor regions.
- **Lack of food security** – corruption in the Public Distribution System (which are often non-functional).
- Disruption of traditional occupations and lack of alternative work opportunities.
- **Displacement of people:** Eviction from lands traditionally used by tribals.

Issues Related to Dealing with LWE

- In the current scenario, barring a few exceptions, many of the senior police officers (IPS cadre) who are parachuted into the central police forces at senior ranks have little or no platoon/battalion experience.
- It is not ideology and revolutionary zeal that is driving people who are engaged in LWE. For many, joining these groups is the only way to survive.
- Threatening Democracy.

Way Forward

- **Innovative measures are required to be employed in preventing IED** (Improvised Explosive Device) related incidents which have caused significant casualties in recent years.
- Emphasis should be laid on the **capacity-building and modernization of the local police forces.**
- States should **rationalize their surrender policy** in order to bring innocent individuals caught in the trap of LWE in the mainstream.
- States also need to **adopt a focused time-bound approach to completely eliminate LWE groups and ensure all-round development of the affected regions.**
- What makes the LWE particularly disturbing is its correlation with the demographic youth bulge in the general Indian population. If the Indian state fails, the widespread unemployment could lead to a serious internal security situation. LWE is its first manifestation.
- The adverse casualty ratio in police-Naxal operations highlights the fact that insurgencies are best tackled by military forces that are trained and structured for this role
- The Centre and the States should make efforts in sync that are crucial in eliminating such radicalization amongst groups (like confidence-building measures, education, welfare schemes etc)



ANSWER WRITING PROGRAMME

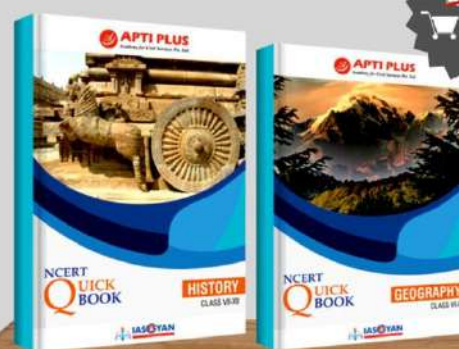
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PROJECT CHEETAH

GS-III ENVIRONMENT & ECOLOGY

Context

- African cheetahs from Namibia arrived in India on September 17, 2022. **This is the world's first intercontinental translocation of a carnivore. It is even more unique because this is the first time cheetahs will be reintroduced in an unfenced protected area (PA).**

Details

- Twelve cheetahs from South Africa will arrive by next month if the experts who visited Kuno National Park (KNP) are satisfied with the preparations and the two governments sign a memorandum of understanding.
- Cheetahs have been reintroduced several times in various African countries, according to Vincent van der Merwe, manager of Cheetah Metapopulation Project, The Metapopulation Initiative in South Africa.
- But these reintroductions were all done in fenced PAs as fencing provided safety from human-animal conflict caused due to cheetahs killing livestock. This significantly reduces anthropogenic threats to cheetahs.
- Though that this approach, known as 'fortress conservation', was however considered controversial by social scientists, as neighbouring communities were barred from making use of natural resources within these protected areas.**
- Kuno NP will be more challenging, as it is not enclosed / fenced.
- Anthropogenic threats to cheetah survival include snaring for bush meat and retaliatory killings due to livestock depredation.
- The core conservation area of KNP is largely free of anthropogenic threats. But the founder cheetahs are likely to traverse beyond the boundaries of this PA post-release.
- This would place them at the risk of human-related mortality including snaring and retaliatory killings by livestock farmers.
- Fencing has proven to be a valuable tool in eliminating cheetahs' tendency to range over wide distances in South Africa and Malawi, thus allowing for population growth. To date, there have been no successful cheetah reintroductions into unfenced systems.
- India does not fence PAs. Many Indian reserves are surrounded by buffer zones that allow neighbouring communities to utilise certain natural resources within them. This co-existence approach is considered more favourable by social scientists.**
- Success in conservation of species has been achieved using both co-existence and fortress approaches.**

More on the news

- The cheetah is the **only large carnivore that got completely wiped out from India**, mainly due to over-hunting and habitat loss.
- India came one step closer to bringing back the world's fastest animal, which has been extinct in the country since 1952, with an agreement that was signed in Delhi on between the government and the visiting Namibian Deputy Prime Minister and Minister of International Relations, Netumbo Nandi Ndaitwah.**
- The agreement, which has been negotiated for some years, will prepare the ground for the relocation of the first batch of cheetahs from southern Africa to **Madhya Pradesh's Kuno National Park**, with officials trying to complete the first transfer before August 15.
- While the current carrying capacity for the Kuno National Park is a maximum of 21 cheetahs, once restored the larger landscape can hold about 36 cheetahs
- The carrying capacity could be further enhanced by expanding the area to other parts of the Kuno wildlife division.
- Kuno had earlier been identified for the translocation of Gujarat's Gir lions, but the State government has refused to allow the Gir's lions to be transferred out, despite a Supreme Court order rejecting its pleas.**
- The project for the cheetah was put back on track in 2020 when the Supreme Court lifted a stay on the original proposal to introduce African cheetahs from Namibia into the Indian habitat on an experimental basis.**
- In May 2012, the court had stalled the plan to initiate the foreign cheetahs into the Kuno sanctuary in Madhya Pradesh fearing they would come into conflict with the plan for bringing lions into the same sanctuary.
- The court had also expressed concerns about whether the African cheetahs would find the sanctuary a favourable climate.
- The government said special programmes were being conducted to educate local villagers in Kuno including outreaches to sarpanches, local leaders, teachers, social workers, religious figures and NGOs, with a local mascot named **"Chintu Cheetah"** to sensitise populations to the importance of the project and guidelines for the cheetah-human interface.

Need of re-introduction

- Cheetah became the **only large carnivore to have gone extinct in India in the 1950s** due to **hunting and loss of habitat**.
- Action Plan for Introduction of Cheetah in India', is an effort to bring the **world's fastest cat back** to the country after 70 years.

Relocation details

- **Source:** Wildlife Institute of India and the Wildlife Trust of India, are translocating around 8-12 cheetahs from **South Africa, Namibia and Botswana** – which have the world's largest populations of the animal.
- **Destination:** The big cats will live at **Kuno Palpur National Park in Madhya Pradesh** as it is most suitable for cheetah translocation in terms of habitat and an adequate prey base.

Kuno National Park

- **Located in:** Madhya Pradesh, India.
- Also known as **Kuno-Palpur and Palpur-Kuno Wildlife Sanctuary**.

Action Plan for Introduction of Cheetah in India' details

- A cohort will be imported from Namibia and each of them will be **fitted with a satellite-GPS-very high frequency radio-collar**.
- The animals' **lineage and condition shall be checked** in the host country to **ensure that they are not from an excessively inbred stock and are in the ideal age group**, so as to conform to the needs of a founding population.
- Ministry of environment and the **Cheetah Task Force**, will **create a formal framework to collaborate** with governments of Namibia and/or South Africa, through the ministry of external affairs.

About Cheetah

- The cheetah (*Acinonyx jubatus*) is a **large cat native to Africa and central Iran**.
- It is the **fastest land animal**, capable of running at 80 to 128 km/h.
- **Habitat:** The cheetah occurs in a variety of habitats such as **savannahs in the Serengeti**, arid mountain ranges in the **Sahara and hilly desert terrain in Iran**.
- **Threats:** Habitat loss, conflict with humans, poaching and high susceptibility to diseases.
- **Protection status:** It is listed as Vulnerable on the IUCN Red List.
- **Re-introduction:** Cheetah was declared extinct from India in 1952 and is considered the only large mammal that has gone extinct since the country's independence. If the cheetah is reintroduced, **India would become probably the only country in Asia to have all the major big cats in the wild** (lions, tigers and leopards included).

PLASTIC POLLUTION

GS-III ENVIRONMENT & ECOLOGY

Context

- **National Cadet Corps (NCC) and the United Nations Environment Programme (UNEP)** have signed an MOU in the presence of Defence Minister Rajnath Singh in New Delhi.

Details

- MoU was signed to tackle the issue of plastic pollution and achieve the universal goal of clean water bodies through Puneet Sagar Abhiyan and Tide Turners Plastic Challenge programme.
- It is aimed to synergise efforts toward engaging youth for promoting clean water bodies.
- The NCC had launched Puneet Sagar Abhiyan on 1st December last year. The aim of the campaign is to clean sea shores from plastic and other waste material and create awareness about the importance of cleanliness.
- Since the launch of Puneet Sagar Abhiyan, over 100 tonnes of plastic waste have been collected from nearly 1,900 locations by more than 12 lakh NCC cadets, alumni and volunteers.

More on the topic

- **Around 3.46 million tonnes per annum (TPA) of plastic wastes were generated during 2019-20**, Ashwini Kumar Choubey, minister of state in the ministry of environment, forest and climate change, told the Lok Sabha.
- **Approximately 1.58 million TPA of the plastic waste was recycled and 0.16 million TPA was co-processed in cement kilns, he added.**
- The minister was referring to the annual report by the central pollution control board for 2019-20.
- The plastic litter collected from beaches varies from 40 per cent to 96 per cent, he said after referring to another study by National Center for Coastal Research.
- Recently, representatives from 175 countries at fifth session of the United Nations Environment Assembly (UNEA-5.2) agreed to **end plastic pollution and formulate an internationally binding treaty by 2024**.

What is Plastic Pollution?

- Plastic pollution occurs when plastic has gathered in an area and has begun to negatively impact the natural

environment and create problems for plants, wildlife, and even the human population.

- This includes killing plant life and posing dangers to local animals.
- Plastic is an incredibly useful material, but it is not biodegradable.

Various Causes of Plastic Pollution

- As plastic is **less expensive**, it is one of the most widely available and overused items in the world today.
- **Rapid urbanization and population growth** increase the demand of cheap plastics.
- Since it is an **affordable and durable material**, it is utilized in every other way possible, from packaging materials to plastic bottles and containers, straws to plastic carry bags.
- Plastic takes **400 years and even more to Decompose**. The decomposition rate of plastic typically ranges from 500 to 600 years, depending on the type.
- **Abandoned Fishing Nets**
- Disposal of plastic is often **mismanaged**; it ends up in landfills.
- **Burning plastic is incredibly toxic** and can lead to harmful atmospheric conditions and deadly illnesses.

Serious Effects of Plastic Pollution

- **Negative Effects on Human Health:** Microplastics entering the human body via direct exposures through ingestion or inhalation can lead to an array of health impacts, including inflammation, genotoxicity, oxidative stress, apoptosis, and necrosis, which are linked to an array of negative health outcomes including cancer, cardiovascular diseases.
- **Plastic-contaminated seafood:** Scientists have found micro plastics in 114 marine species, and around one-third of these end up on our plates.
- **Upsets the Food Chain:** Because it comes in sizes large and small, polluting plastics even affect the world's tiniest organisms, such as plankton.
- **Groundwater Pollution:** Most of the litter and pollution affecting the world's oceans and groundwater comes from plastics.
- **Land Pollution:** When plastic is dumped in landfills, it interacts with water and forms hazardous chemicals. When these chemicals seep underground, they degrade the water quality. The wind carries and deposits plastic from one place to another, increasing the land litter.
- **Air Pollution:** Burning of plastic in the open air leads to environmental pollution due to the release of poisonous chemicals.
- **Economic impacts:** Plastic pollution costs **\$13 billion in economic damage** to marine ecosystems per year. This includes losses to the **fishing industry and tourism, as well as the cost to clean up beaches**. Economic costs include those linked to **clean-up operations, litter removal, the repair and replacement of damaged vessels and gear, reduced fishing catches, and a decline in coastal tourism and impact on related industries**.
- **Marine life:** The most visible and disturbing impacts of marine plastics are the **ingestion, suffocation and entanglement** of hundreds of marine species. Marine wildlife such as seabirds, whales, fishes and turtles, **mistake plastic waste for prey, and most die of starvation as their stomachs are filled with plastic debris**.

Plastic Waste Management Rules, 2016

- It aims to **increase minimum thickness of plastic carry bags from 40 to 50 microns**.
- Expand the jurisdiction of applicability from the municipal area **to rural areas**, because plastic has reached rural areas also.
- **Extended Producer Responsibility:** To bring in the responsibilities of producers and generators, both in plastic waste management system and to introduce collect back system of plastic waste by the producers/brand owners, as per extended producers responsibility
- **Introduced collection of plastic waste management fee** through pre-registration of the producers, importers of plastic carry bags/multilayered packaging and vendors selling the same for establishing the waste management system
- Promote **use of plastic waste for road construction** as per Indian Road Congress guidelines or energy recovery, or waste to oil etc. for gainful utilization of waste and also address the waste disposal issue.

What are microplastics?

- Microplastics are **plastic debris smaller than 5mm in length**, or about the size of a sesame seed.
- They come from a variety of sources, one of them is when larger pieces of plastic degrade into smaller pieces, which are difficult to detect.

Why is microplastic pollution especially harmful?

- The **durability of plastic**, which implies that plastic can take hundreds to thousands of years to decompose depending on the type of plastic and where it has been dumped.
- In the oceans, plastic pollution **impacts marine life, ocean health, coastal tourism and even human health**.
- Over the past few years, various news reports have shown that **marine animals such as whales, seabirds and turtles unknowingly ingest plastic and often suffocate**.

- For humans, too, marine plastic pollution is harmful if it **reaches the food chain**. For instance, microplastics have been found in **tap water, beer and even salt**.
- One of the first studies to estimate plastic pollution in human ingestion that was published in June 2019 said that an average person eats at least **50,000 particles of microplastic each year**.

Measures taken by government

- India has pledged to **ban all single-use plastics by 2022**.
- All offices of central and state governments and major PSUs have been told to prohibit single-use plastic products.
- India has **banned imports of solid plastic waste**.
- India has passed the Plastic Waste Management Rules, 2016 and introduced **Extended Producer Responsibility**.

Way Forward

The 3R's +E Strategy

- Reduce:** To efficiently reduce plastic pollution, there is an evident need of reducing our usage of plastic.
- Reuse:** Many plastic items can be reused or used for different purposes. Before throwing plastic items, it is important to consider how they can be reused.
- Recycle:** Plastic recycling consists of collecting plastic waste and reprocessing it into new products, to reduce the amount of plastic in the waste stream.
- Educate:** Another crucial solution is education in order to increase awareness and behavioral change.

Legal layout

- Law can be framed** and used to tackle plastic pollution and support a circular plastics economy.
- Policy shifts** can reduce plastic pollution by incentivizing changes in both business and consumer behaviour, as well as in plastic design, alternatives and recycling.
- Governments can also **impose taxes** to deter the production or use of single-use plastics or **offer tax breaks, subsidies and other fiscal incentives to encourage alternatives to single-use plastic products**.
- Product standards, certifications and labelling requirements can be designed to educate the public on the environmental impacts of plastic**, and the health and safety hazards involved in their production and use.
- Extended Producer Responsibility (EPR) programs** can ensure that manufacturers maintain responsibility for single-use plastic products throughout the whole life cycle of those products.

Conclusion

- There is no silver bullet to solving the world's plastic problem. It will require governments at both the national and sub-national levels to tackle the regulation of single-use plastic products, determining what policy approaches they want to use and what type of legislation will support their objectives.



VEMBANAD LAKE

PLACES IN NEWS

Context

- Vembanad lake, the second largest wetland system in India after the Sunderbans in West Bengal, is shrinking and its unique biodiversity is under threat of ecological decay.

About

- Vembanad is the longest lake in India, as well as the largest lake in the state of Kerala.
- It is the second largest Ramsar site in India only after the Sunderbans in West Bengal. The lake is bordered by Alappuzha, Kottayam, and Ernakulam districts.
- The lake is fed by 10 rivers flowing into it including the six major rivers of central Kerala namely the Achenkovil, Manimala, Meenachil river, Muvattupuzha river, Pamba and Periyar. Kumarakom Tourist Village situated on the east coast of the lake. The Kumarakom Bird Sanctuary is located on the northern fringes of Kumarakom village.

MANASBAL LAKE

PLACES IN NEWS

Context

- Central Kashmir's Manasbal Lake is once again open for training drills.

Manasbal Lake

- Manasbal Lake is located in Ganderbal District in the State of Jammu and Kashmir.
- The name Manasbal is said to be a derivative of the Lake Manasarovar. Lake is encircled by three villages viz., Jarokbal, Kondabal and Ganderbal and is stated to be the deepest lake in India. The Mughal garden, called the Jaroka, built by Nur Jahan overlooks the lake.
- The lake is surrounded by the Baladar mountains on the east, by an elevated plateau known as 'Karewa' comprising lacustrine, fluvial and loessic deposits on the north and bounded by the Ahtung hills in the south, which are used for limestone extraction.

LOKTAK LAKE

PLACES IN NEWS

Context

- Recently, the Govt. inaugurated the first ever three-day floating photo exhibition at the Loktak Lake in Manipur.

About

- Loktak Lake is the largest freshwater lake in South Asia and hosts Keibul Lamjao the only floating national park in the world. It is located in the southern portion of the central bowl like plain of Manipur. Loktak Lake is the last natural shelter of the endangered state animal Sangai.
- The phumdis (local name) or swamps in the shape of a circle float on the surface of the Loktak Lake. These heterogeneous mass of vegetation, soil and organic matter at various stages of decomposition or swamps seem like islands with an abundance of vegetation, soil and organic matter.
- Considering the ecological status and its biodiversity values, the lake was initially designated as a wetland of international importance under the Ramsar Convention on 23 March 1990. It was also listed under the Montreux Record on 16 June 1993, "a record of Ramsar sites where changes in ecological character have occurred, are occurring or are likely to occur".



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SHORT NEWS ARTICLES

GS-I CULTURE & HISTORY

Bal Gangadhar Tilak

Context

- In the eyes of Britishers, Bal Gangadhar Tilak, also known as Lokmanya Tilak, was the 'Father of Indian unrest' against the British Raj. Recently, was his 102nd death anniversary.

About

- Bal Gangadhar Tilak was an Indian nationalist, teacher, and an independence activist.
- He was one third of the Lal Bal Pal triumvirate.
- Tilak was the **first leader of the Indian independence movement**.
- The British colonial authorities called him "**The father of the Indian unrest**."
- He was also conferred with the title of "Lokmanya", which means "accepted by the people (as their leader)".
- Mahatma Gandhi called him "**The Maker of Modern India**".

Political Ideology

- He advocated **Rashtriyatva (Nationalism)**. He joined the Indian National Congress in 1890.
- He belonged to the **extremist faction of the Indian National Congress** led Independence Movement.
- Tilak was one of the **first and strongest advocates of Swaraj ("self-rule")** and a strong radical in Indian consciousness.
- He is known for his quote in Marathi: "**Swarajya is my birthright and I shall have it!**".

Educationist

- Inspired by Vishnushastri Chiplunkar, **he co-founded the New English school for secondary education in 1880** with a few of his college friends, including Gopal Ganesh Agarkar, Mahadev Ballal Namjoshi and Vishnushastri Chiplunkar.
- Their goal was to improve the quality of education for India's youth.
- The team would then set up the **Deccan Education Society in 1884** to create a new system of education that taught young Indians nationalist ideas through an emphasis on Indian culture.
- The Society established the Fergusson College in 1885 for post-secondary studies. Tilak taught mathematics at Fergusson College.

Freedom Movement

- Following the Partition of Bengal, set out by Lord Curzon, Bal Gangadhar Tilak **propagated Swadeshi Movement** in 1905 and encouraged people to **boycott foreign goods**.
- Tilak reunited with his fellow nationalists and rejoined the Indian National Congress during the **Lucknow pact 1916**.
- Tilak helped found the **All India Home Rule League in 1916-18**, with G. S. Khaparde and Annie Besant.
- Tilak was **impressed by the Russian Revolution**, and expressed his admiration for Vladimir Lenin.
- He started his Home Rule League in **Maharashtra, Central Provinces, and Karnataka and Berar region**. Besant's League was active in the rest part of India.

Religio-Political Views

- Tilak sought to unite the Indian population for mass political action **through anti-British and pro-Hindu activism**.
- He sought justification in the original principles of the **Ramayana and the Bhagavad Gita**.
- He named this call to activism **karma-yoga or the yoga of action**.
- The events like the Ganapati festival and Shiv Jayanti were used by Tilak to build a national spirit.

Books

- "The Arctic Home in the Vedas",
- "The Orion",
- "Shrimadh Bhagvad Gita Rahasya" in prison at Mandalay.
- 'Indian Unrest' written by Valentine Chirol.

Newspapers

- Weeklies Kesari (Marathi)
- Mahratta (English)

Pandurang Khankhoje

Context

- Speaker Om Birla will unveil a statue of the freedom fighter and agricultural scientist during his visit to Mexico.

Who was Pandurang Khankhoje?

- Born in Wardha, Maharashtra, in the late 19th century, Pandurang Khankhoje came in contact with other revolutionaries early on.
- As a student, Khankhoje was an ardent admirer of the French Revolution and of the American War of Independence.
- Closer to home, the Hindu reformer Swami Dayanand and his Arya Samaj movement, which called for a spirit of reform and social change, became the hero to a young student group led by Khankhoje
- Khankhoje decided to go abroad for further training in revolutionary methods and militaristic strategy.
- At this time, the British government's suspicions of him were also growing due to his anti-government activities.
- Before leaving, he visited Bal Gangadhar Tilak, by whom he was inspired. Tilak advised him to go to Japan, which was itself a strong, anti-West Asian imperialistic force then.
- After spending time with nationalists from Japan and China, Khankhoje eventually moved to the US, where he enrolled in college as a student of agriculture. But a year later, he joined the Mount Tamalpais Military Academy in California to fulfil his original purpose of leaving India.

What was his association with the Indian independence movement?

- Khankhoje was one of the founding members of the Ghadar Party, established by Indians living abroad in 1914, mostly belonging to Punjab. Its aim was to lead a revolutionary fight against the British in India.
- Har Dayal had begun a propaganda campaign, publishing a newspaper that featured patriotic songs and articles in the vernacular languages of India. This was the seed from which the Ghadar Party would emerge

How did Khankhoje reach Mexico?

- At the military academy, Khankhoje met many people from Mexico. The Mexican Revolution of 1910 had led to the overthrow of the dictatorial regime, and this inspired Khankhoje.
- He also reached out to Indians working on farms in the US with the aim of discussing the idea of Indian independence with them. There, he met with Mexican workers as well.
- Along with the Indian workers, militant action was planned by Khankhoje in India, but the outbreak of the First World War halted these plans.
- He then reached out to Bhikaji Cama in Paris, and met with Vladimir Lenin in Russia among other leaders, seeking support for the Indian cause.
- However, as he was facing possible deportation from Europe and could not go to India, he sought shelter in Mexico.
- Soon, in part due to his prior friendship with Mexican revolutionaries, he was appointed a professor at the National School of Agriculture in Chapingo, near Mexico City.
- He researched corn, wheat, pulses and rubber, developing frost and drought-resistant varieties, and was part of efforts to bring in the Green Revolution in Mexico.
- Later on, the American agronomist Dr Norman Borlaug, called the Father of the Green Revolution in India, brought the Mexican wheat variety to Punjab.
- Khankhoje was revered as an agricultural scientist in Mexico. The renowned Mexican artist Diego Rivera painted murals that featured Khankhoje, including one titled 'Our Daily Bread' that prominently depicted him breaking bread with people seated around a table.

Lachit Borphukan

Context

- Assam Chief Minister Himanta Biswa Sarma has written a letter on August 4 to his counterparts across the country to include a chapter on Ahom army general Lachit Borphukan in the textbooks of educational institutions in their respective States.

Ahom Kingdom

- The Ahom kingdom was a late medieval kingdom in the **Brahmaputra Valley in Assam**.
- It is well known for maintaining its **sovereignty for nearly 600 years** and successfully **resisted Mughal expansion in Northeast India**.
- Established by **Sukaphaa**, a Tai prince from Mong Mao, it began as a mong in the upper reaches of the Brahmaputra based on **wet rice agriculture**.
- It expanded **suddenly under Suhungmung** in the 16th century and became **multi-ethnic in character**, casting a profound effect on the political and social life of the entire Brahmaputra valley.
- The kingdom became weaker with the **rise of the Moamoria rebellion**, and subsequently fell to repeated **Burmese invasions of Assam**.
- With the defeat of the Burmese after the **First Anglo-Burmese War** and the **Treaty of Yandabo in 1826**, control of the kingdom

passed into East India Company hands.

Lachit Borphukan

- Lachit Borphukan was a commander and Borphukan in the Ahom kingdom.
- He is known for his leadership in the **1671 Battle of Saraighat** that thwarted a drawn-out attempt by Mughal forces under the command of Ramsingh I to take over Ahom kingdom.
- He died about a year later due to illness.

Battle of Saraighat

- The Battle of Saraighat was a naval battle fought in **1671** between the **Mughal Empire** (led by the Kachwaha king, Raja Ramsingh I), and the Ahom Kingdom (led by Lachit Borphukan) on the **Brahmaputra river at Saraighat**, now in Guwahati, Assam, India.
- Although weaker, the **Ahom Army defeated the Mughal Army** by brilliant uses of the terrain, clever diplomatic negotiations to buy time, guerrilla tactics, psychological warfare, military intelligence and by exploiting the sole weakness of the Mughal forces — its navy.

Aurobindo Ghosh

Context

- 15th August 2022 not only ushered in the 75 years of independence but was also the 150th birth anniversary of the person who inspired leaders who fought for our independence and was **termed the 'Master Mind' by the British for their oust from India**.
- On this auspicious occasion of the 150th Birth Anniversary of Sri Aurobindo (15th August 2022), Sri Aurobindo Society, Puducherry, and Kolkata Sukriti Foundation, have made a documentary film on Sri Aurobindo.
- It celebrates this pioneering leader of the Freedom Movement's life and works and revolves around the period 1908 to 1909 when Sri Aurobindo was in jail in Alipore in Kolkata.
- **Titled 'The Transformation' in English and 'Naya Janma' in Hindi, the film is about 54 minutes long.**

About

- Born in Calcutta in 1872.
- He held various administrative posts in Baroda and Calcutta
- As a result of his political activities, he was imprisoned in 1908 in Alipore Bomb case.
- In 1910, he fled British India and found refuge in the French colony of Pondicherry, where he devoted himself for the rest of his life to the development of yoga.
- He founded a community of spiritual seekers, which took shape as the Sri Aurobindo Ashram in 1926.
- Literary Works: An English newspaper called Bande Mataram, Bases of Yoga, Bhagavad Gita, The Future Evolution of Man, Rebirth and Karma, Savitri: A Legend and a Symbol, Hour of God

Dara Shikoh

Context

- The Vice President, Shri Jagdeep Dhankhar said that **India had a glorious heritage of not only 'tolerance' for others' views, but a unique culture of 'engagement' with all views – a culture of pluralism and syncretism.**
- **He further said that this spirit of mutual respect was exemplified by Indian kings too - from the time of the great Asoka to the crown prince Dara Shikoh.**
- Addressing a gathering after releasing the Arabic Version of "Majma Ul-Bahrain" of Dara Shikoh, the Vice President said that Majma-ul-Bahrain (which means 'Confluence of Two Oceans') throws invaluable light on the similarities between religions and helped bring stronger unity among the people of India.
- Calling Dara Shikoh a genius, a skilled poet, and a Sanskrit scholar, the Vice President said that he was a torchbearer of social harmony and religious unity. In this book 'Majma-ul-Bahrain', Dara Shikoh listed one by one, all the commonalities between Hinduism (Vedanta) and Islam (Sufism) and came to the conclusion that the difference between Islam and Hinduism is only verbal.
- Mentioning that Dara Shikoh strove for improving dialogue between different religions, Shri Dhankhar called for reviving his legacy and applying his spiritual thought to strengthen social cohesion in the present times.

About

- He (1615-59) was the eldest son of Shah Jahan.
- He is described as a "liberal Muslim" who tried to find commonalities between Hindu and Islamic traditions.
- He is known as a pioneer of the academic movement for interfaith understanding in India. He had a deep understanding and knowledge of major religions, particularly Islam and Hinduism.
- He was inclined towards philosophy and mysticism over military pursuits in comparison to Aurangzeb.
- In 1655, his father declared him the Crown Prince, but was defeated by Aurangzeb, his younger brother, in 1657 after Shah

Jahan fell ill.

- He was assassinated by Aurangzeb, in a bitter struggle for the throne on 30th August, 1659.
- His most important works, Majma-ul-Bahrain (Mingling of Two Oceans) and Sirr-i-Akbar (Great Mystery), are devoted to the cause of establishing connections between Hinduism and Islam.
- He translated the Upanishads and other important sources of Hindu religion and spirituality from Sanskrit to Persian.

B B Lal

Context

- **Archaeologist Braj Basi Lal**, who led an excavation at the Ramjanmabhoomi site in the mid-1970s and was honoured with the Padma Vibhushan in 2021 passed away.

Details

- **Lal was the director general of the Archaeological Survey of India between 1968 and 1972, and has worked extensively on archaeological sites associated with the Harappan civilisation and the Hindu epic Mahabharata.**
- **He has also served on several UNESCO committees and was awarded the Padma Bhushan by the president of India in 2000.**
- **He is best known for his theory of a temple-like structure underneath the now demolished Babri mosque.**
- In the course of over 50 years, Lal worked on over 50 books and 150 research papers published in national and international journals.
- Some of his most notable books include, 'The Saraswati flows on: The continuity of Indian culture' published in 2002 and 'Rama, his historicity, mandir and setu: Evidence of Literature, Archaeology and other Sciences' published in 2008.
- In his book, 'The Saraswati flows on', Lal criticised the argument held by historian of ancient India R S Sharma of the Aryan invasion or immigration theory. Lal's view that the Rig Vedic people were the same as those who were part of the Harappan civilisation is largely controversial and has attracted a lot of criticism from historians.
- However, in 1990, Lal wrote of the 'pillar-base theory' on the basis of his excavations. He claimed to have found temple-like pillars which would have formed the foundation of the Babri Masjid.
- His theory of the temple-like pillars was recognised as the interpretive framework of the court appointed excavation team in 2002.

Annabhau Sathe

Context

- Maharashtra's Deputy Chief Minister are in Moscow to unveil the statue of Lok Shahir (balladeer) Annabhau Sathe at the All-Russia State Library for Foreign Literature. An oil painting of Sathe, who passed away in 1969, will also be unveiled at the Moscow's Indian consulate. The programme is part of events being held to mark 75 years of Indian Independence, and to also celebrate India-Russia relationship.

Who was Annabhau Sathe?

- Tukaram Bhaurao Sathe, who later came to be known as Annabhau Sathe, was born in a Dalit family on August 1, 1920 in Maharashtra's Wategaon village in Satara district.
- In 1934, Mumbai witnessed a workers' strike under the leadership of Lal Bawta Mill Workers Union in which he participated.
- Sathe wrote his first poem on the menace of mosquitoes in the labour camp.
- **He formed Dalit Yuvak Sangh, a cultural group and started writing poems on workers' protests, agitations.** The group used to perform in front of the mill gates.
- **Progressive Writers Association** was formed at the national level at the same time with the likes of Premchand, Faiz Ahmad Faiz, Manto, Ismat Chughtai, Rahul Sankrutyayan, Mulkraj Anand as its members. The group would translate the Russian work of Maxim Gorky, Anton Chekhov, Tolstoy, Ivan Turgenev into Marathi, which Sathe got hooked on.
- In 1943, he along with Amar Sheikh and Datta Gavhankar, formed the **Lal Bawta Kala Pathak**. The group toured across Maharashtra presenting programmes on caste atrocities, class conflict, and workers' rights.
- **He dedicated his most famous novel Fakira to Dr Ambedkar.**
- In 1943, he was part of the process that led to the formation of the **Indian Peoples Theatre Association (IPTA)**. He became its national president in 1949. Sathe's work was influenced by Marxism, but at the same time he brought out the harsh realities of the caste system.
- **Famous Marathi poet Baburao Bagul once called Sathe the Maxim Gorky of Maharashtra.** Sathe was immensely inspired by Gorky's 'The Mother' and the Russian revolution, which was reflected in his writings.
- Sathe's literature is closely related to the then Communist Russian literature which was a mixture of reality and art.

Qutb Shahi Tombs

Context

- Six walls of Qutb Shahi Tombs Complex in Hyderabad have been restored recently and it will help make a strong case for Unesco World Heritage City.

Details

- Erected in the memory of the departed kings of Golconda**, they are magnificent monuments that have withstood the test of time and nature's vagaries.
- They are **located one kilometer north of Golconda Fort's called Banjara Darwaza**.
- They are imposing marvels of architectural excellence that stand as the reminders of the glory of Golconda kings who are buried at the same spot.
- Built by the Qutub Shahis, these tombs are considered to be **among the oldest historical monuments of Hyderabad**.
- These tombs are present in a large group on a raised platform.
- They **resemble Persian, Pathan and Hindu architectural styles that makes use of grey granite, with stucco ornamentation and is a one-of-its-kind place in the world where the whole dynasty is buried at a single spot**.
- The Qutub Shahi Tombs are **located in the Ibrahim Bagh** (garden precinct), close to the famous Golconda Fort in Hyderabad, India. They contain the tombs and mosques built by the various kings of the Qutub Shahi dynasty.
- The Qutub Shahi tombs complex consists of 30 tombs, mosques and a mortuary bath. The tombs belong to the rulers of the Qutub Shahi Dynasty, their queens and children and the nobles who faithfully served them.
- It **contains the epigraphically documented tombs of five of the dynasty's seven sultans, as well as those of another four members of the royal family, spanning the 130-year period from 1543 to 1672**.
- The Qutub Shahi tombs collectively constitute an outstanding example of an Indo-Muslim dynastic necropolis and is the most extensive and best epigraphically documented in all of India.
- Qutb Shāhī dynasty, (1518–1687), **rulers of the kingdom of Golconda in the southeastern Deccan of India, one of the five successor states of the Bahmanī kingdom. The founder was Qulī Qutb Shah.**

Nizam's Sword

Context

- A 14th century ceremonial sword that was sold in Hyderabad to a British General in the early 20th century is set to return to India. The sword is among the seven objects being repatriated by Glasgow Life, which manages Glasgow's museums.

Details

- While the objects were described as stolen, the acquisition document for the sword says it was purchased from Maharaja Kishen Pershad.
- The tulwar (sword) was purchased in 1905 by General Sir Archibald Hunter, Commander-in-Chief, Bombay Command (1903-1907), from Maharaja Sir Kishen Pershad Bahadur Yamin us-Sultanat, the Prime Minister of Hyderabad.
- The tulwar was donated by Sir Hunter's nephew, Mr. Archibald Hunter Service, to Glasgow Life museums' collections in 1978.
- The sword, shaped like a snake, has serrated edges and a damascene pattern, with gold etchings of an elephant and tigers.
- According to the museum documentation, the sword was "exhibited by Mahbub Ali Khan, Asaf Jah VI, Nizam of Hyderabad (1896-1911) at the 1903 Delhi or Imperial Durbar, a ceremonial reception held to commemorate the coronation of King Edward VII and Queen Alexandra as Emperor and Empress of India."
- How this ceremonial sword exhibited by Nizam Mahbub Ali Khan was later sold by his prime minister Maharaja Kishen Pershad remains a mystery.
- Kishen Pershad hailed from the family of Maharaja Chandoo Lal, who was the prime minister for Nizam Sikander Jah twice.

Maharaja Hari Singh

Context

- After 75 years, Jammu and Kashmir observed a holiday on the birth anniversary of Dogra monarch Maharaja Hari Singh and was marked by cake-cutting and street celebrations in parts of the Jammu region.

Details

- The Lieutenant Governor's (L-G) administration announced a holiday on the birth anniversary of the Maharaja, **who signed the Instrument of Accession with India in 1947 and later shifted outside J&K in 1949 after the popular government saw a rise of Sheikh Muhammad Abdullah**.
- He was born to Maharaja Amar Singh on September 23, 1895, and died of cardiac arrest on April 26, 1961, in Mumbai
- When the British formally left on August 15, 1947, Maharaja Hari Singh, who was a Hindu ruler of a Muslim-majority state, **wanted his state to remain independent and thus had a standstill agreement with both India and Pakistan**.
- However, in the wake of an invasion by tribal raiders backed by Pakistan, Hari Singh fled Kashmir and signed an Instrument

of Accession with India on October 26, 1947.

Sittanavasal Cave

Context

- With much of the art in Sittanavasal either damaged or vandalised, Archaeological Survey of India has undertaken conservation measures and also introduced digital checks to track public access

Details

- A small village in Pudukottai district of Tamil Nadu was a major centre of Jain influence for 1,000 years just before the Christian era.
- Sittanavasal is the name used synonymously for the hamlet and the hillock that houses the Arivar Kovil (temple of Arihats - Jains who conquered their senses), 'Ezhadipattam' (a cavern with 17 polished rock beds), megalithic burial sites and the Navachunai tarn (small mountain lake) with a submerged shrine.
- Sittanavasal is considered by historians to be one of the oldest inhabited areas in the district, and a major centre of Jain influence.
- This is the only place in Tamil Nadu where we can see Pandya paintings.
- Sittanavasal's site and art was first mentioned by local historian S. Radhakrishnan Iyer in his 1916 book General History of Pudukottai State.
- The artwork on the ceiling of the sanctum and the ardha mandapam of Arivar Kovil is an early example of post-Ajanta cave paintings of the fourth to sixth centuries, done using the fresco-secco technique (a process that dispenses with preparation of the wall with wet plaster).
- The ceiling paintings show 'bhavyas' (exalted souls who work to achieve moksha or spiritual liberation) enjoying themselves in a pool, full of blooming lotuses; today much of it is obscured by patchy plastering.
- Faint outlines linger of dancing girls on the 'ardha mandapam' pillars.
- The pillars of the verandah (added by the Maharaja of Pudukottai at the instance of then Diwan Alexander Tottenham in the 1900s), were brought from Kudumiyamalai.
- The colours are a mixture of plant dyes and mineral elements such as lime, lamp black, and clay pigments such as ochre for yellow and terre verte for the greyish-green tints.
- Even though Sittanavasal is a comparatively small archaeological microcosm of Jainism in contrast to those found in Madurai and the Arcot districts, it is thought to be the best preserved example of a Jain cave temple in Tamil Nadu.
- Of the 20 cave temples in Pudukottai district, 19 belong to Saivite and Vaishnavite streams of Hinduism; Sittanavasal is the only Jain temple with sculptures.

Surjapuri and Bajjika Dialects

Context

- Bihar Chief Minister Nitish Kumar and Education Minister Prof Chandra Shekhar have asked the state education department to set up academies for the promotion of the Surjapuri and Bajjika dialects on the lines of the Hindi and Urdu academies.

What are the Surjapuri and Bajjika dialects and where are they spoken?

- Surjapuri is spoken mainly in Kishanganj and other parts of Seemanchal in northeastern Bihar, including the districts of Katihar, Purnia and Araria.
- The dialect, a mix of Bangla, Urdu, and Hindi, is also spoken in contiguous parts of West Bengal.
- The name Surjapuri comes from Surjapur pargana, which no longer exists.
- Although Surjapuri has nothing specifically to do with religion, the largest share of speakers of the language is made up of Surjapuri Muslims, who live mainly in Kishanganj, the district that has about 70 per cent Muslim population.
- Bajjika, one of five dialects spoken in Bihar, is a mix of Hindi and Maithili, and is spoken mainly in Vaishali, Muzaffarpur, and parts of Sitamarhi, Sheohar and Samastipur. Bajjika is not as well known as other dialects such as Bhojpuri and Maithili.

Navroz Festival

Context

- Recently, the PM greeted the people on the occasion of Navroz

About

- Navroz is also known as Parsi New Year.
- Though celebrated in March globally, Navroz arrives 200 days later in India and is celebrated in the month of August as the Parsis here follow the Shahenshahi calendar that doesn't account for leap years.
- In India, Navroz is also known as Jamshed-i-Navroz, after the Persian King, Jamshed.

- Interestingly in India, people celebrate it twice a year - first according to the Iranian calendar and the second according to the Shahenshahi calendar which is followed by people here and in Pakistan.
- Navroj was inscribed in the list of UNESCO Intangible Cultural Heritage of Humanity of India in 2009.

Quit India Movement

Context

- On 8th August 1942, Mahatma Gandhi called to end British rule and launched the Quit India Movement at the session of the All-India Congress Committee in Mumbai.

Details

- Gandhiji gave the call "Do or Die" in his speech delivered at the Gowalia Tank Maidan.
- Aruna Asaf Ali is known for hoisting the Indian flag at the Gowalia Tank Maidan.
- The slogan 'Quit India' was coined by Yusuf Meherally

Causes

- The immediate cause for the movement was the collapse of Cripps Mission.
- Anti-British sentiment and demands for independence became popular among the Indian public.
- The economy collapsed as a result of World War II.
- Britain abandoned its territory in Southeast Asia and abandoned its people. Indians questioned Britain's ability to protect India from Axis aggression.

Features

- The first half of the movement was peaceful with demonstrations and marches.
- The second half of the movement was violent with attacks and arson on post offices, government buildings and railway stations.
- Underground activities were undertaken by prominent leaders.
- Women actively participated in the movement.
- Many students dropped out of school and college, people quit their jobs and withdrew money from banks.
- The Muslim League, the Communist Party of India and the Hindu Mahasaba did not support the movement.
- The Indian bureaucracy also did not support the movement.

Mandala Art

Context

- Residents of Liverpool, UK, are now marvelling over a mandala the size of one and a half football pitches in length created by artist James Brunt at the Halewood Park Triangle with materials such as leaves and rocks.

About

- Mandala patterns are a centuries-old motif that are used to depict the cosmos, and have been adapted by artists the world over, each of whom have added their own interpretation and painted it as their own.
- Literally meaning "circle" or "centre" in Sanskrit, mandala is defined by a geometric configuration that usually incorporates the circular shape in some form.
- While it can also be created in the shape of a square, a mandala pattern is essentially interconnected.
- It is believed to be rooted in Buddhism, appearing in the first century BC in India.
- Over the next couple centuries, Buddhist missionaries travelling along the silk road took it to other regions.
- By the sixth century, mandalas have been recorded in China, Korea, Japan, Indonesia and Tibet. In Hinduism, the mandala imagery first appeared in Rig Veda (1500 – 500 BCE).
- It is believed that by entering the mandala and moving towards its center, one is guided through the cosmic process of transforming the universe from one of suffering to that of joy.
- A traditional Buddhist mandala, a circular painting drawn with coloured sand, aided in meditation, with the main objective of aiding its creator to discover their true self.
- In Hinduism, a mandala or yantra is in the shape of a square with a circle at its center.
- There are various elements incorporated within the mandala, each of which has its own meaning. For instance, the eight spokes of the wheel (the dharmachakra) represent the eightfold path of Buddhism (practices that lead to liberation from rebirth), the lotus flower depicts balance, and the sun represents the universe.
- Facing up, triangles represent action and energy, and facing down, they represent creativity and knowledge.
- While it continues to appear in thangka paintings, it has a central place in the practice of mainstream artists associated with the tantric and neo-tantric spiritual movements.

GEOGRAPHY

Slowing of Continental Plate Movement and Volcanism

Context

- Slow-moving continental plates may have triggered a series of volcanic eruptions and mass extinctions in the Toarcian Period – Study.

Note: Toarcian Period – it is the warmest interval of the Jurassic Period – about 183 million years ago.

Details of the new Study

- Continental plates have been on the move for hundreds of millions of years. This enabled landmasses to fuse and split during different periods.
- The new study shows that a decline in continental plate movement likely controlled the onset and duration of many of the major volcanic events throughout Earth's history. Thus, Continental Plate movement is a fundamental process in controlling the evolution of climate and life at Earth's surface throughout the history of this planet. In the future, there is a possibility that continental plates may slow down, potentially triggering volcanic activities.

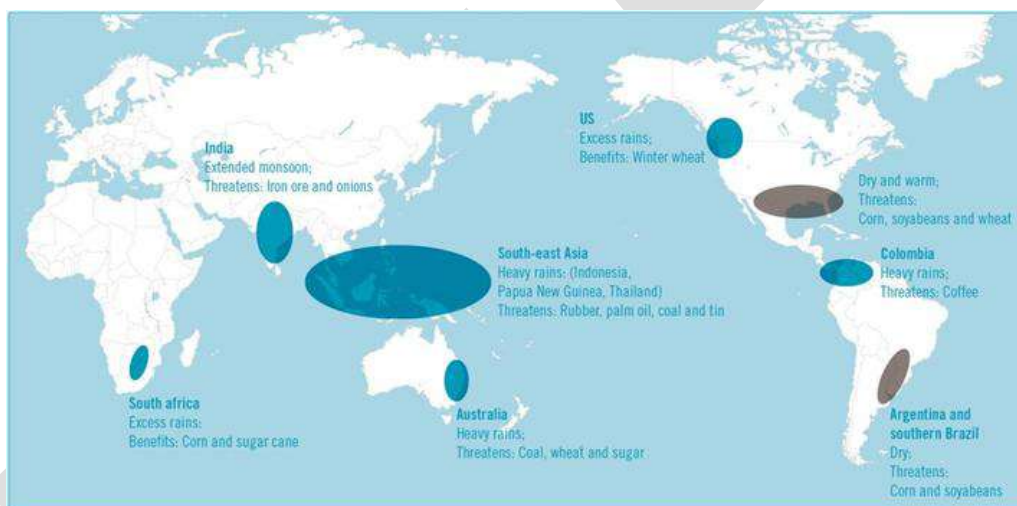
Triple Dip La Nina

Context

- The Australian Bureau of Meteorology has confirmed the occurrence of La Niña phenomenon for the third consecutive year in the Pacific Ocean making this the century's first "triple-dip" La Niña.

"Triple-dip" La Nina

- A "triple-dip" La Nina is a multiyear cooling of the surface temperature of the equatorial Pacific Ocean, which can cause droughts, fierce winds and heavy rainfall.



ENSO and La Nina

- El Niño and La Niña are the warm and cool phases of a recurring climate pattern across the tropical Pacific – the El Niño-Southern Oscillation, or "ENSO" for short.
- The pattern shifts back and forth irregularly every two to seven years, and each phase triggers predictable disruptions of temperature, precipitation.
- La Niña is a weather pattern that occurs in the Pacific Ocean. In this pattern, strong winds blow warm water at the ocean's surface from South America to Indonesia. As the warm water moves west, cold water from the deep rises to the surface near the coast of South America.

Read: <https://www.iasgyan.in/blogs/all-about-enso-and-mjo>

Tamraparni River

Context

- Researchers have initiated the restoration of the Tamirapani river. The river is stressed because of industrial effluent release, sewage and water hyacinth.

About

- The Tamraparni or Porunai is a perennial river that originates from the Agasthyarkoodam peak of Pothigai hills of the Western Ghats. It flows through Tirunelveli and Thoothukudi districts of the Tamil Nadu state of southern India into the Gulf of Mannar.
- The river supports wildlife such as the Nilgiri marten, slender loris, lion-tailed macaque, white-spotted bush frog, galaxy frog, Sri Lankan Atlas moth, and the great hornbill. The river is the primary source of water for many towns in the Tirunelveli district.

Dvorak technique

Context

- The American meteorologist Vernon Dvorak passed away at the age of 100. He is credited for developing the Dvorak technique in the early 1970s.

About

- The Dvorak technique is a method using enhanced Infrared and/or visible satellite imagery to quantitatively estimate the intensity of a tropical system. Cloud patterns in satellite imagery normally show an indication of cyclogenesis before the storm reaches tropical storm intensity.
- The Technique was first developed in 1969 and tested for observing storms in the northwest Pacific Ocean.
- From the satellite images thus obtained, the Dvorak technique helps forecasters to do a pattern recognition from the observed structure of the storm, locate its eye and estimate the intensity of the storm.
- Through this statistical technique, scientists are able to measure the cyclone's convective cloud pattern — curved bands, eye and central dense or cold region and shear. It is the Dvorak technique which gives the best estimates of the cyclone intensity — a vital component while issuing weather warnings.

Significance

- The Dvorak technique, said to be one of the greatest meteorological innovations, has undergone several advancements since its inception. Even in the present day, when forecasters have access to several state-of-the-art tools like model guidance, animations, artificial intelligence, machine learning and satellite technology, it is the advanced versions of the 50-year-old technique that continues to be widely used. It has saved the lives of millions of people across the world and will continue to do so.

Monsoon Pattern Change

Context

- Monsoon in India has undergone several changes over the years, especially on account of climate change.
- A shift in the track of monsoon systems result of this change.

Details

- A shift in the track of monsoon systems, like low pressure and depression travelling south of their position and flash floods are a result of this change. And these changes spell intense and frequent extreme unprecedented weather events over the places which once struggled to record even normal monsoon rains. With this looming threat having a bearing on food security, it is only a matter of time before it has socio-economic impact.

Trend

- The Indian Meteorological Department (IMD) has sighted that 2022 has seen the second highest extreme events since 1902. An alarming case as incidents of floods and droughts have increased, there is more evidence coming our way on how global warming has been impacting the Indian monsoon.
- There is no doubt about the fact that most of the monsoon weather systems have been travelling across central parts of the country, changing the area of rainfall. Climate change is definitely behind these changes and thus, it calls for more research on the changes in the behavioural pattern of these systems.
- States such as Madhya Pradesh, Gujarat, Rajasthan and parts of Maharashtra have been recording excess rainfall this season.

Hurricane Ian

Context

- Hurricane Ian made landfall over western Cuba and was headed for the west coast of Florida.

Details

- Hurricane Ian is one of the most powerful storms in U.S. history, tearing apart homes and buildings.
- The storm made landfall near Cayo Costa as a Category 4 storm with maximum sustained winds measured at a stunning 150 mph. This is only 7 mph slower than a Category 5 - the highest status on the Saffir-Simpson Hurricane Scale of Hurricane Intensity.

Tropical Storms

- Hurricanes, cyclones and typhoons are all types of tropical storms. But are given different names depending on where they appear.
- Hurricanes** are tropical storms that form over the North Atlantic Ocean and Northeast Pacific.

Saffir-Simpson Hurricane Category Chart	
Category	Wind Speed
Category 1	74-95 mph 33-42 m/s, 64-82 knots, 119-153 km/h
Category 2	96-110 mph 43-49 m/s, 83-95 knots, 154-177 km/h
Category 3	111-129 mph 50-58 m/s, 96-112 knots, 178-208 km/h
Category 4	130-156 mph 58-70 m/s, 113-136 knots, 209-251 km/h
Category 5	>= 157 mph >= 70 m/s, >= 137 knots, >= 252 km/h

- Cyclones are formed over the South Pacific and Indian Ocean.
- Typhoons are formed over the Northwest Pacific Ocean.

GS-II

POLITY

State of Education Report UNESCO, 2022

In News

- According to the *State of the Education Report (SOER)* report released by the United Nations Educational, Scientific and Cultural Organization (UNESCO), India should focus more on Artificial Intelligence (AI) in its education system.
- UNESCO in its report recommended AI accelerate progress would fulfil the 4th Sustainable Development Goal to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Key Recommendations in the Report

- Indian stakeholders should adopt techniques to eliminate biases, like gender, in algorithms.
- Prioritizing the ethics of AI in education.
- Providing an overall regulatory framework and creating effective public-private partnerships.
- Ensuring technology access to teachers and students.
- Expanding AI literacy efforts to inform people about the benefits and risks of the technology.
- Improving public trust.
- Requesting the private sector to include students and educationists in developing AI-based tools.

UNESCO

- UNESCO (United Nations Educational, Scientific and Cultural Organization). It seeks to build peace through international cooperation in education, sciences and culture.
 - UNESCO's programmes contribute to the achievement of the Sustainable Development Goals defined in the 2030 Agenda, adopted by the UN General Assembly in 2015.
- As early as 1942, in wartime, the governments of the European countries, which were confronting Nazi Germany and its allies, met in the United Kingdom for the Conference of Allied Ministers of Education (CAME).
- World War II was far from over, yet those countries were looking for ways and means to rebuild their education systems once peace was restored.
- The project quickly gained momentum and soon acquired a universal character.
- New governments, including that of the United States, decided to join in. Upon the proposal of CAME, a United Nations Conference for the establishment of an educational and cultural organization (ECO/CONF) was convened in London from 1 to 16 November 1945.
- Scarcely had the war ended when the conference opened. It gathered together representatives of forty-four countries who decided to create an organization that would embody a genuine culture of peace.
- In their eyes, the new organization was to establish the "intellectual and moral solidarity of mankind" and thereby prevent the outbreak of another world war.

Internal Democracy in Parties

In News

- After taking strict action against registered unrecognized political parties (RUPPs) for failing to comply with norms, now the Election Commission is soon to take up the issue of internal democracy within parties.
- Though the Representation of the People Act, 1951 does not mandate internal elections, however, the Election Commission's guidelines for parties state that "There should be a specific provision in the Constitution/rules and regulations/memorandum of the political party regarding organizational elections at different levels and the periodicity of such elections and terms of office of the office-bearers of the party (sic)".
 - The EC does not have the power to deregister parties that fail to comply with the rules.

Why internal Democracy?

- It promotes equality among party workers, Improves the quality of decision-making.
- Provides a method to resolve Conflicts, and allows room to correct mistakes.
- Guarantee transparency and accountability, and also solves the internal Problems of the party.
- Internal democracy would ensure all citizens an equal political opportunity to participate in politics and contest elections.
- This will allow decentralization of power and decision-making at the ground level.
- Challenges

- The absence of internal democracy has resulted in the growing nepotism in political parties.
- Centralized Structure of Political Parties.
- There are no dedicated guidelines for internal democratic regulation of political parties.

Central Vista Avenue

About

- Recently the Prime Minister of India inaugurated the Kartavya Path (the revamped Central Vista Avenue) at the India Gate.
 - 3 km long Central Vista Avenue (renamed Kartavya Path) was redeveloped with the construction of new bridges over canals, pedestrian underpasses, wide footpaths, new parking lots, more green areas, benches as well as trees.
- He also inaugurated the statue of Netaji at the same place spot where King George's statue once stood.

Details

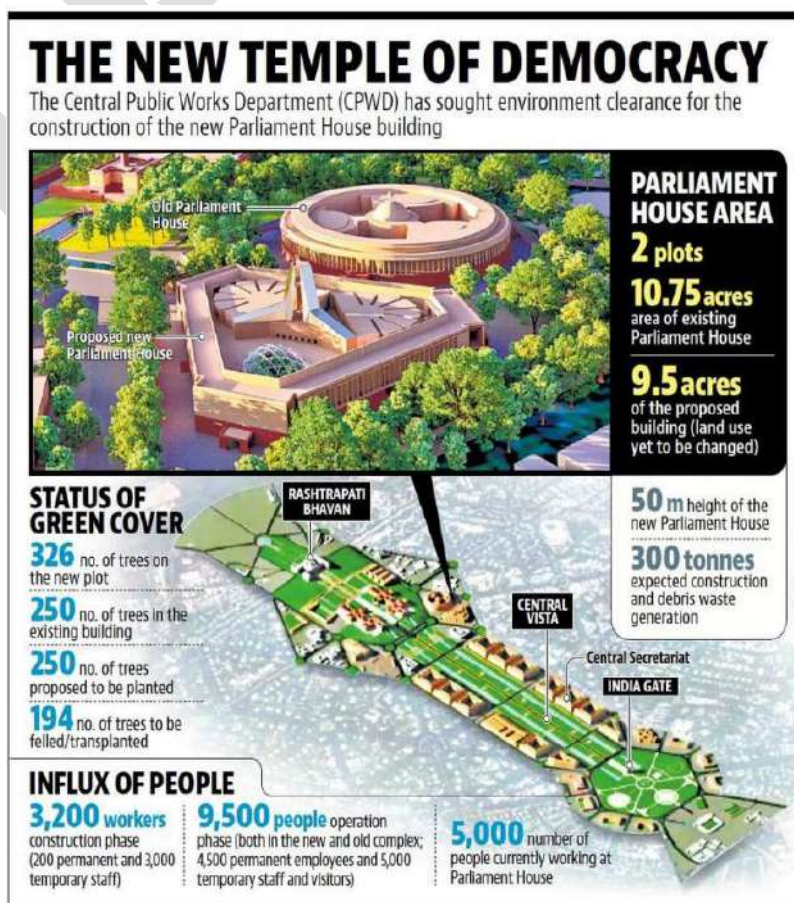
- Central Vista Redevelopment Project is the ongoing redevelopment work to rebuild Central Vista, India's central administrative area located near Raisina Hill, New Delhi.
 - The area was originally designed by Sir Edwin Lutyens and Sir Herbert Baker during British rule when the capital of the British Raj was moved from Calcutta to Delhi.
- The project aims to;
 - Redevelop a 3 km long Kartvyapath between Rashtrapati Bhavan and India Gate.
 - Convert North and South Blocks into publicly accessible museums and construct a new common Central Secretariat for all ministries.
 - A new Parliament building close to the current one with increased seating capacity for future expansion.
 - New residence and office for the Vice-President and the Prime Minister near the North Block and South Block.
 - Convert some older structures into museums.
 - Construct a building for the Special Protection Group (SPG).
- The cost of the project has been estimated to be around ₹13,450 crores (US\$1.7 billion) spread over four years.
- Monetary allocation was provided by the Finance Ministry.

Related News

- Recently, the Prime Minister revealed the National Emblem model on the roof of the new Parliament building.
- The National Emblem is cast at the top of the Central Foyer of the new Parliament building.
- It is 6.5-metre-high and is made of bronze and weighs around 9,500 kg.
- A supporting structure of steel has been constructed to support the Emblem.
- The process of casting the National Emblem on the roof of the new parliament building went through 8 different stages of preparation from clay modelling/ computer graphics to bronze casting and polishing.

New Parliament Building

- It will have 6 granite statues of important personalities.
- 4 galleries each for the 2 Houses of Parliament.
- 3 ceremonial foyers.
- 3 India galleries.
- 1 Constitution gallery.
- Each wall in the building will have a dedicated theme to the contribution of tribal leaders, or to showcase the contribution of women.
- The wall will display a mix of portraits, illustrative arts, installations, sculptures, and decorative art.
- Bimal Patel is the architect in charge of the building, which is triangular.
- The building is designed to be earthquake-resistant.
- The new Parliament has 888 seats in the Lok Sabha chamber and 384 seats in the Rajya Sabha chamber.



Draft Indian Telecommunication Bill 2022

In News

- The Department of Telecommunications (DoT) issued the **draft Indian Telecommunication Bill, 2022**.
- **The proposed Bill aims to bring changes to how the governance of the telecom sector, primarily by giving the Centre more powers in several areas to do so.**

Details

- Through the Indian Telecommunication Bill, 2022, the Centre aims to consolidate and amend the existing laws governing the provision, development, expansion and operation of telecommunication services, telecom networks and infrastructure, in addition to the assignment of spectrum.
- The draft Bill, which was published by the DoT, consolidates three separate acts that govern the telecommunications sector – Indian Telegraph Act 1885, Indian Wireless Telegraphy Act 1933, and The Telegraph Wires, (Unlawful Protection) Act 1950.
- One of the key changes is the inclusion of new-age over-the-top communication services like WhatsApp, Signal and Telegram in the definition of telecommunication services.
- As per the draft law, providers of telecommunication services will be covered under the licensing regime and will be subjected to similar rules as other telecom operators.
- This issue has been under contention for several years now with telecom service providers seeking a level-playing field with OTT apps over communication services such as voice calls, messages, etc. where operators had to incur high costs of licences and spectrum, while OTT players rode on their infrastructure to offer free services.
- The Centre is also looking to amend the Telecom Regulatory Authority of India Act (TRAI Act) to dilute the sectoral watchdog's function of being a recommendatory body.
- The current TRAI Act mandates the telecom department to seek the regulator's views before issuing a new licence to a service provider. The proposed Bill does away with this provision.
- It has also removed the provision that empowered TRAI to request the government to furnish information or documents necessary to make this recommendation.
- Additionally, the new Bill also proposes to remove the provision where if the DoT cannot accept TRAI's recommendations or needs modification, it had to refer back to the recommendation for reconsideration by TRAI.
- The DoT has also proposed that if a telecom entity in possession of spectrum goes through bankruptcy or insolvency, the assigned spectrum will revert to the control of the Centre.
- So far, in insolvency proceedings, there has been a lack of clarity on whether the spectrum owned by a defaulting operator belongs to the Centre, or whether banks can take control of it.
- The draft Bill also accords the Center's powers to defer, convert into equity, write off or grant relief to any licensee under extraordinary circumstances, including financial stress, consumer interest, and maintaining competition, among other things.
- It also proposes to replace the Universal Service Obligation Fund (USOF) with the Telecommunication Development Fund (TDF).
- USOF is the pool of funds generated by the 5% Universal Service Levy that is charged upon all telecom fund operators on their Adjusted Gross Revenue. The USOF has largely been used to aid rural connectivity. However, with the TDF, the objective is also to boost connectivity in underserved urban areas, R&D, skill development, etc.

GOVERNANCE

Competitiveness Roadmap for India @100

About

- The Economic Advisory Council to the Prime Minister (EAC-PM) has released 'The Competitiveness Roadmap for India@100'.
- The 'Roadmap for India@100' is a collaborative work between the EAC-PM and The Institute for Competitiveness.
- It suggests new guiding principles for the country's growth journey and guides different states, ministries and partners to develop sector-specific roadmaps for achieving targeted goals.
- The Competitiveness roadmap for India@100 is based on the Competitiveness framework.
 - It presents the idea of productivity as a driver of sustained prosperity.
- The India@100 roadmap guides the way for India to become a high-income country by 2047 by adopting sector-specific and region-specific policies based on the '4 S' principles.
 - This will ensure inclusive sustainable development.
- The '4 S' guiding principles stress the need for prosperity growth to be matched by social progress, to be shared across all

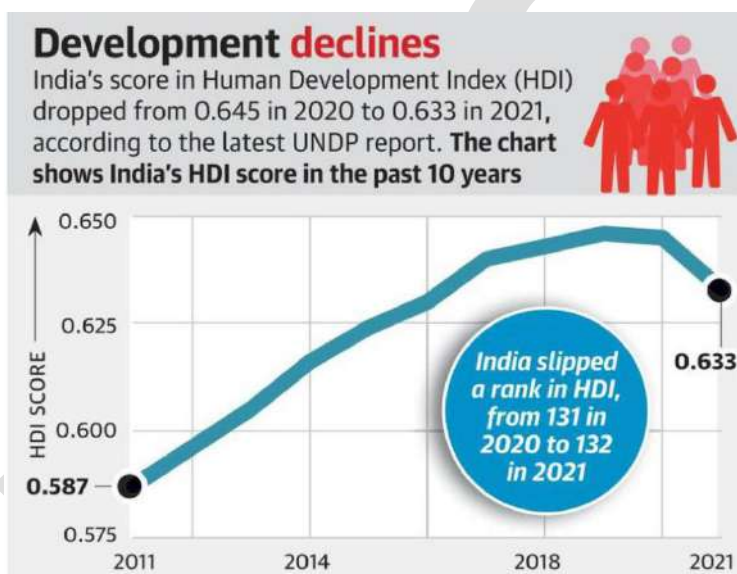
regions within India, to be environmentally **sustainable**, and to be **solid** in the face of external shocks.

- **Social Prosperity:** Economic Growth should match social development.
- **Shared Prosperity:** Opportunities should be shared across every section of society.
- **Sustainable Prosperity:** i.e. economic progress should be environmentally sustainable.
- **Solid Prosperity:** Economic system should be resilient to shocks.
- The roadmap suggests essential areas of action, including improving labour productivity and enhancing labour mobilization, boosting the creation of competitive job opportunities, and improving policy implementation through greater coordination across different ministries.

Human Development Index (HDI)

In News

- India ranked 132 out of 191 countries in the recently released Human Development Index (HDI) 2021 by the United Nations Development Programme (UNDP).
 - India's rank declined from 130 in 2020 to 132 in 2021.
- The performance of nearly 90% of the countries has declined in human development due to multiple crises such as COVID-19, the Ukraine war, violent conflicts, Climate changes, environmental challenges, etc.
- India with an HDI score of 0.633 is in the medium Human Development category.
 - Decline in HDI from 0.645 in 2020 to 0.633 in 2021.
 - Falling life expectancy at birth from 70.7 years in 2018 to 67.2 years in 2021.
- Gender inequality increased by 6.7% globally.
 - In the latest report, India has shown a slight improvement in its Gender Inequality Index value as compared to the 2020 index.
- The report raised concern over the increasing polarisation which is deteriorating democratic freedom and human rights in many parts of the world.



Human Development Index

- The United Nations Development Programme (UNDP) published its first Human Development Report (HDR) in 1990.
 - The report had a human development index (HDI) which was the first attempt to define and measure the level of development of economies.
- The 'index' was a product of a select team of leading scholars, development practitioners and members of the Human Development Report Office of the UNDP.
 - The first such team which developed the HDI was led by MahbubulHaq and IngeKaul.
- The HDR measures development by combining three indicators;
 - **Health:** Measured by the life expectancy at birth.
 - **Education:** Measured by the mean of years of schooling.
 - **Standard of Living:** Measured by GNI (Gross National Income/Product) per capita at 'Purchasing Power Parity in US Dollars (PPP \$) instead of GDP per capita (PPP \$) of the past.
- The scores for the three HDI dimension indices are then aggregated into a composite index using the geometric mean. The HDI facilitates instructive comparisons of the experiences within and between different countries.
- The HDI sets a minimum and a maximum for each dimension, called goalposts, and then shows where each country stands to these goalposts, expressed as a value between 0 and 1 (the index is prepared on the scale of one).
- The UNDP ranked the economies by their achievements on the above-given three parameters on a scale of one (0.000–1.000). As per their achievements, the countries were broadly classified into three categories with a range of points on the index:
 - **High Human Development Countries:** 0.800–1.000 points on the index.
 - **Medium Human Development Countries:** 0.500–0.799 points on the index.
 - **Low Human Development Countries:** 0.000–0.499 points on the index.

SOCIAL JUSTICE

Ban on Conversion Therapy

In News

- The National Medical Commission (NMC) has called 'conversion therapy' a "professional misconduct" and released guidelines to all State Medical Councils to ban the therapy.
 - NMC has also empowered the State bodies to take disciplinary action against medical professionals who breach the guideline.
- The guidelines highlighted that the NMC is following the Madras High Court order to issue an official notification listing conversion therapy as wrong, under the Indian Medical Council (Professional Conduct, Etiquettes and Ethics) Regulations, 2002.

Details

- Madras High Court ruling prohibited any attempt to medically "cure" or change the sexual orientation of LGBTQIA+ (lesbian, gay, bisexual, transgender, queer, intersex, asexual or of any other orientation) people.
- The court instructed the authorities to take action against professionals involved in any form or method of conversion therapy, including the cancellation of a medical licence.
- The court gave an order to the National Medical Commission mandating it to "issue an official notification by enrolling 'Conversion Therapy' as a professional misconduct."

Conversion Therapy

- Conversion therapy is a medical procedure that is aimed at changing the sexual orientation or gender identity of an individual with the use of either psychiatric treatment, drugs, exorcism or even violence, with the aim being to make the individual a heterosexual.
- It also includes steps to change the core identity of a person whose gender identity is incompatible with their sexual anatomy.
- Often, the therapy is offered by quacks with little expertise in dealing with the issue.
- According to health experts, the therapy poses the risk of causing or exacerbating mental health conditions, like anxiety, stress and drug use which sometimes even lead to suicide.

INTERNATIONAL RELATIONS

IBSA

Context

- India hosted the 10th Ministerial Commission of Foreign Ministers of the India-Brazil-South Africa Trilateral Cooperative Forum (IBSA), on the sidelines of the 77th United Nations General Assembly.

Details

- External Affairs Minister, S Jaishankar, on a 10-day official visit to the United States, met with his Brazilian counterpart Carlos Franca and South African Health Minister Dr Joe Phaahla.
- The trio reaffirmed the cooperation between them.
- The idea of South-South Cooperation (SSC) is not new.
- Its genesis can be traced back to the decades of efforts by countries and groupings working together to ensure South-South solidarity such as the Bandung conference 1955, the Non-Aligned Movement 1961, the G77 grouping, UNCTAD, the Buenos Aires Plan of Action 1978, and the 2009 Nairobi declaration
- India, Brazil and South Africa have reaffirmed the urgent need for a comprehensive reform of the UN Security Council (UNSC) to help combat contemporary challenges to international peace and security.

About IBSA

- IBSA is a trilateral, developmental initiative between the Government of India, The Government of Federative Republic of Brazil and The Government of the Republic of South Africa to promote South-South cooperation and exchange.
- The aim of the IBSA Tripartite Agreement is for strengthening relations between the member countries for economic development and for promoting cooperation in the field of tourism and expansion of tourism relations with a view to understand and appreciate each other's history, culture and way of life.
- Cooperation in IBSA is on three fronts:
 1. As a forum for consultation and coordination on global and regional political issues, such as, the reform of the global institutions of political and economic governance, WTO/Doha Development Agenda, climate change, terrorism etc.;

2. **Trilateral collaboration on concrete areas/projects**, through fourteen working groups and six People-to-People Forums, for the common benefit of three countries; and
3. **Assisting other developing countries** by taking up projects in the latter through IBSA Fund. IBSA's success demonstrates, most vividly, the desirability and feasibility of South-South cooperation beyond the conventional areas of exchange of experts and training.

G7

In News

- The Finance ministers from the G-7 countries committed to designing a system to check Russia's income from oil sales.
- **The main objective is:**
 - To reduce Russia's revenues and its ability to fund its war in Ukraine.
 - Limiting the impact of the war on global energy prices.

Group of Seven (G7)

- G-7 is an inter-governmental political forum consisting of Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.
 - The European Union is a 'non-enumerated member'.
- **G-7 members are:**
 - The advanced economies and liberal democracies.
 - They shared values of pluralism and representative government
- **G7 represents** 58% of the global net wealth (\$317 trillion), more than 46% of the global gross domestic product (GDP) based on nominal values, and more than 32% of the global GDP based on purchasing power parity.
- As of 2022, G-7 countries make up 10% of the world's population, 31% of global GDP, and 21% of global carbon dioxide emissions.
- Most G-7 countries had a high level of gross debt, especially Japan (263% of GDP), Italy (151%) and the US (133%).
- The heads of government of the member states, as well as the representatives of the European Union, meet at the annual G7 Summit.
- **Germany holds the presidency of the G7 in 2022.**
 - Japan will be president in 2023.

India UAE Trade Relations

Context

- India's non-oil exports to the UAE have grown 14% between June and August, the Commerce and Industry Ministry said, attributing the uptick to the bilateral trade deal between the two nations that came into effect this May.

Details

- India's global non-petroleum exports during the same period grew by just 3% on a year-on-year basis, the Ministry said, seeking to emphasise the much higher growth in such exports to the UAE which were at \$5.92 billion compared to \$5.17 billion a year ago.
- Excluding petroleum related imports, Indian imports from the UAE during the same three-month period grew by 1% to \$5.61 billion
- The sharpest jump in Indian exports to UAE over this period was seen in sugar (up 237%), cereals (161%), vegetables (82%), inorganic chemicals (74%) and electrical machinery and equipment (67%).
- The Commerce Ministry said it expects Indian exports to increase further in the coming months with increasing use of the India-UAE Comprehensive Economic Partnership Agreement (CEPA) by exporters and a series of trade promotion events planned in the UAE during 2022-23.

Background

- India and UAE have reiterated their commitment to achieving the goal of 100 billion US dollars of bilateral trade in the next five years.
- Both countries have also noted the possibility of linking instant payment platforms, such as through the United Payment Interface of India.
- The UAE is India's third largest trade partner. Around 35 lakh Indians live in the UAE and play a major role in the economic development of the UAE.
- Growing India-UAE economic and commercial relations contribute to the stability and strength of a rapid diversifying and deepening bilateral relationship between the two countries.
- **India-UAE bilateral trade, valued at US\$ 180 million per annum in the 1970s has increased to US\$ 60 billion making the UAE, India's third-largest trading partner for the year 2019-20 after China and the US.**
- Moreover, the **UAE is the second-largest export destination of India** (after US) with an export value of US\$ 29 billion for the

year 2019-2020.

- The **UAE is the eighth largest investor in India** with an estimated investment of US\$ 18 billion.
 - For UAE, **India was the second largest trading partner in 2018.**
 - UAE is the **10th biggest FDI investor for India.**
 - A consortium led by ONGC was awarded a 10 per cent stake in the Lower Zakum Concession in 2018.- first time that the Emirate awarded a stake in a functioning oil field to an Indian group.
 - **NRI Remittances:** The annual remittances made by the large Indian community in UAE amount to over US\$ 17.56 billion (2018).

Eastern Economic Forum

Context

- Prime Minister Narendra Modi has said that India is keen to strengthen its partnership with Russia on Arctic subjects. **Addressing the Plenary Session of 7th Eastern Economic Forum being held in Vladivostok through video conferencing, Mr Modi said, there is immense scope for cooperation in the field of energy.**

Details

- He said, along with energy, India has also made significant investments in the Russian Far East in the fields of pharma and diamonds.
- The Prime Minister said, in 2019, he had a chance to participate in this forum face-to-face and at that time he had announced the Act Far-East policy of India.
- He said, as a result, India's cooperation with the Russian Far East has increased in various fields.
- Mr Modi said, today this policy has become a major pillar of the Special and Privileged Strategic Partnership of India and Russia.
- He said, in today's globalized world, incidents in one part of the world create an impact on the whole world.
- Mr Modi said, the Ukraine conflict and the COVID pandemic had a major impact on global supply chains. He said, Foodgrain, Fertilizer and Fuel shortages are a matter of great concern for developing countries.
- The Prime Minister said, from the very beginning of the Ukraine conflict, India has emphasized the need to adopt the path of diplomacy and dialogue. He said, India support all peaceful efforts to end this conflict.
- Mr Modi said, this month, thirty years are being completed since the establishment of the Consulate of India in Vladivostok. He said, India was the first country to open a consulate in this city.

About

- Eastern Economic Forum takes place each year in Vladivostok.
- **Every year, the Eastern Economic Forum serves as a platform for the discussion of key issues in the world economy, regional integration, and the development of new industrial and technological sectors.**
- **This Forum is convened also to support Russia's the Far East which is relatively less developed and which is bordered by 5 countries = China, Japan, Mongolia, US, North Korea (Prelims Pointers).**
- The Far East lies in the Asian part of Russia and is less developed than the country's European areas.

Ex KAKADU

Context

- INS Satpura and a P8 I Maritime Patrol Aircraft of the Indian Navy reached Darwin in Australia for participation in the **multinational Exercise Kakadu – 2022, hosted by the Royal Australian Navy.**

Details

- The two week-long Exercise, both in harbour and sea, involves ships and maritime aircraft from 14 navies.
- During the harbour phase of the exercise, the ship's crew will engage in operational planning interactions and sports activities with participating Navies.
- **Exercise KAKADU, which started in 1993, is a multilateral regional maritime engagement exercise hosted by the Royal Australian Navy (RAN) and supported by the Royal Australian Air Force (RAAF).**
- The exercise is held biennially in Darwin and the Northern Australian Exercise Areas (NAXA) for undertaking maritime activities among regional navies to ensure peace in Indo-Pacific region.
- It derives its name from Kakadu National Park, which is a protected area in the northern territory of Australia, 171 km south-east of Darwin.
- KAKADU 2018, the 14th edition of the exercise, saw participation of warships and aircrafts from over 25 different countries.

JIMEX 2022

Context

- The sixth edition of Japan India Maritime Exercise 2022 (JIMEX 22) hosted by Indian Navy commenced in the Bay of Bengal on 11 Sep 22.

Details

- The Indian Naval ships welcomed JMSDF ships Izumo, a Helicopter Carrier, and Takanami, a Guided Missile Destroyer, on their arrival in the Bay of Bengal.
- The Indian Navy is being represented by three indigenously designed and built warships; Sahyadri, a multi-purpose stealth frigate and Anti-Submarine Warfare Corvettes Kadmat and Kavaratti. Additionally, Guided Missile Destroyer Ranvijay, Fleet Tanker Jyoti, Offshore Patrol Vessel Sukanya, submarines, MIG 29K fighter aircraft, Long Range Maritime Patrol Aircraft and ship borne helicopters are also participating in the exercise.
- JIMEX 22 involves two Phases; exercises at sea and a harbour phase at Visakhapatnam.
- This edition marks the 10th anniversary of JIMEX, which began in Japan in 2012. It also coincides with the 70th anniversary of establishing of diplomatic relations between India and Japan.
- JIMEX 22 seeks to consolidate the high degree of interoperability that exists between maritime forces of the two countries, through complex exercises in the surface, sub-surface and air domains.

Color Revolutions

Context

- Chinese President Xi Jinping appealed to Russia, India, and other members of the Shanghai Cooperation Organisation (SCO) to cooperate with each other in order to prevent foreign powers from destabilising their countries by inciting "colour revolutions".

What are "colour revolutions"?

- Colour revolutions refer to a series of uprisings that first began in former communist nations in Eastern Europe in the early 2000s, but are also used in reference to popular movements in the Middle East and Asia.
- Most have involved large-scale mobilisation on the streets, with demands for free elections or regime change, and calls for removal of authoritarian leaders.
- Protesters often wear a specific colour, such as in Ukraine's Orange Revolution, but the term has also been used to describe movements named after flowers like the Jasmine Revolution in Tunisia.
- In 2019, Beijing had said the protests in Hong Kong had taken on "colour revolution characteristics".
- Moscow and Beijing have long criticised colour revolutions for being destabilising influences that have been orchestrated by the United States and its Western allies to overthrow regimes in order to further their own geopolitical interests.

A look at some of the better known "colour revolutions":

- Orange Revolution:** It refers to a series of protests that occurred in Ukraine between November 2004 and January 2005. The movement was in response to reports from international and domestic observers that claimed that the country's 2004 Presidential election runoff between Viktor Yushchenko, an ally of the West, and then incumbent President Viktor Yanukovich, who was backed by Moscow, was rigged in favour of the latter.
- Tulip Revolution:** Also called the First Kyrgyz Revolution, the movement led to the ouster of Kyrgyzstan's President Askar Akayev in early 2005. These protests were in response to the parliamentary elections in February, in which Akayev's allies and family members won.
- Jasmine Revolution:** The popular uprising that occurred between December 2010 to January 2011 in Tunisia was in response to the underlying corruption, unemployment, inflation and lack of political freedoms in the country. The protests not only led to Ali's ouster in January 2011, but also inspired a wave of protests in North Africa and the Middle East, which came to be known as the Arab Spring.

G4 Grouping

Context

- Germany, Brazil, Japan and India reiterate support for each other's bids to become permanent members of the UNSC, and for representation of African countries

Details

- Reform of the United Nations has been a central theme of External Affairs Minister S. Jaishankar's visit to the United Nations, and he met with his counterparts from Germany, Brazil and Japan under The Group of Four (G4) banner.
- The group is primarily focused on U.N. Security Council (UNSC) reform, and permanent membership of the body for G4 members, among others.
- The G4 felt that the U.N. decision making bodies needed to be urgently reformed as global issues were increasingly complex

and interconnected, a joint press statement from the group said.

- The “inability” of the UNSC to “effectively” address these problems “vividly demonstrate[s] the urgent need” for UNSC reform, the statement said.
- G4 ministers expressed concern that the 76 th Session of the U.N. General Assembly (i.e., the year-long session that just concluded) did not make “meaningful progress” in the Inter-Governmental Negotiations (IGN), which, according to the G4, was constrained by a lack of transparency.
- The G4 Ministers welcomed the recommendation of the President of the 76 th General Assembly to “gradually move the process towards text based negotiations”, and hoped this principle would be followed in the 77th General Assembly Session.

HEALTH

“One Herb, One Nation and One Standard”

Context

- Recently, a Memorandum of Understanding (MoU) was signed between Pharmacopoeia Commission for Indian Medicine and Homoeopathy (Ministry of Ayush) and Indian Pharmacopoeia Commission (Ministry of Health & Family Welfare) for Inter-Ministerial cooperation for promotion and facilitation of **“One Herb, One Nation and One Standard”**.

Background

- Presently there are different standards as well as different analytical methods published in ASU&H Pharmacopoeias when compared with Indian Pharmacopoeia (IP). Ministry of Ayush desires to remove this ambiguity by through **“One Herb - One Standard” initiative**.

Objective of the Initiative

- The primary objective of this initiative is **to promote public health by facilitating the development of harmonized Herbal drug standards**.
- This MoU **will further facilitate collaboration for promoting exchange of information in the area of standardization of Traditional medicine** by sharing of scientific information and drug raw materials/extracts, seminars, workshops, training and brainstorming programs.

Significance

- Harmonization of standards will fulfill the objective of **“One Herb, One Standard and One Nation”** and **improve ease of doing business in India and also improve overall trade of Indian botanicals**. It will prove a significant step towards Atmanirbhar Bharat.
- Through this MoU each monograph will have Indian Standards along with the international quality requirements, so that all Indian quality standards become contemporary with the global standards for the same botanicals.

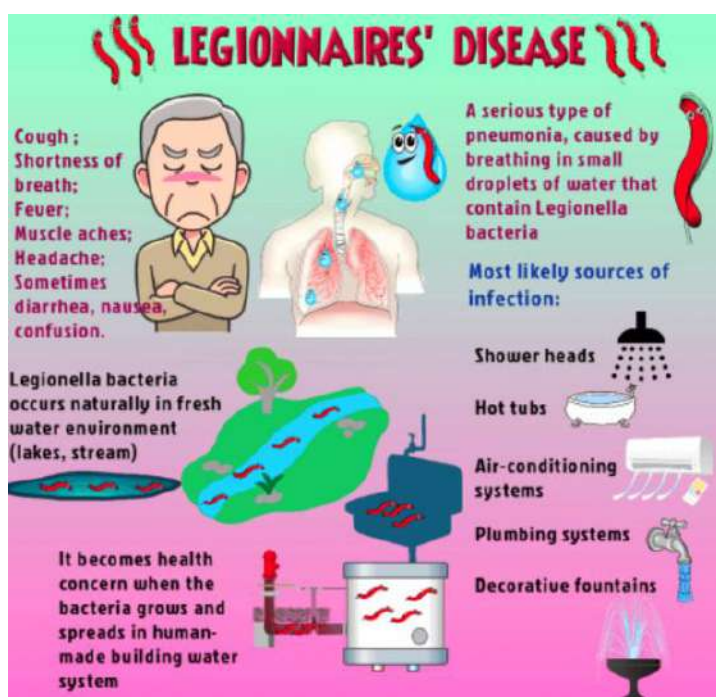
Legionellosis

Context

- Argentina’s mystery pneumonia outbreak, where 11 people have been infected and four have succumbed to the illness, has finally been identified as Legionellosis by the country’s health ministry.

Legionellosis

- **About:** Legionellosis is a **“pneumonia-like illness that varies in severity from mild febrile illness to a serious and sometimes fatal form of pneumonia,”** according to the WHO.
- **Cause:** Legionnaires' disease is a form of atypical pneumonia **caused by any species of Legionella bacteria**, quite often *Legionella pneumophila*. Other types include *L. longbeachae*, *L. feeleii*, *L. micdadei*, and *L. anisa*.
- **Signs and symptoms:** Signs and symptoms include cough, shortness of breath, high fever, muscle pains, and headaches. Nausea, vomiting, and diarrhea may also occur.
- **Occurrence:** The bacterium is found naturally in fresh



water. It can contaminate hot water tanks, hot tubs, and cooling towers of large air conditioners. It is usually spread by breathing in mist that contains the bacteria.

- **Transmission:** Legionnaires' disease is usually spread by the breathing in of aerosolized water or soil contaminated with the *Legionella* bacteria. Experts have stated that Legionnaires' disease is not transmitted from person to person
- **Vaccine, prevention and treatment:** No vaccine is available. Prevention depends on good maintenance of water systems. Treatment of Legionnaires' disease is with antibiotics.

Pradhan Mantri TB Mukh Bharat Abhiyan

Context

- Recently, Union Health Ministry launched the Pradhan Mantri TB Mukh Bharat Abhiyan.

The Initiative

- It will include community support for patients – nutritional and additional diagnostic support for them, and vocational training for their families.
- Under the scheme, individuals, NGOs and corporates can “adopt” TB patients by committing support for 1-3 years.

Objectives of the Initiative

- Provide additional patient support to improve treatment outcomes of TB patients.
- Augment community involvement in meeting India's commitment to end TB by 2025.
- Leverage Corporate Social Responsibility (CSR) activities.

The initiative will provide the following support system

- Nutritional support.
- Additional investigations for the diagnosed TB patients.
- Vocational support.
- Additional nutritional supplements

TB

- **About:** TB is a serious infectious **bacterial disease that mainly affects the lungs**.
- **Cause:** Tuberculosis (TB) is **caused by a type of bacterium called *Mycobacterium tuberculosis***.
- **Transmission:** It's spread when a person with active TB disease in their lungs coughs or sneezes and someone else inhales the expelled droplets, which contain TB bacteria.
- **Symptoms:** The general symptoms of TB disease include feelings of sickness or weakness, weight loss, fever, and night sweats. The symptoms of TB disease of the lungs also include coughing, chest pain, and the coughing up of blood.
- **TB Vaccine (BCG):** Bacille Calmette-Guérin (BCG) is a vaccine for tuberculosis (TB) disease. It is often given to infants and small children in countries where TB is common.
- **Treatment:** Antibiotics are the mainstay treatment of TB. However, the bacteria has been known to become resistant and find a way to beat these antibiotics. Drug-resistant strains of TB have become a global concern.

Rabies

Context

- The death of a 12-year-old girl in Kerala from rabies, despite having multiple inoculations of the vaccine, has raised questions on the efficacy of rabies vaccines in India and their availability.

Rabies

- **About:** Rabies is a viral disease that causes encephalitis in humans and other mammals.
- **Cause:** Rabies is caused **by lyssaviruses**, found in a range of mammals. The virus targets the central nervous system and is nearly 100% fatal to the host animal if it succeeds in infecting it.
- **Transmission:** It is spread when an infected animal bites or scratches a human or other animals. Saliva from an infected animal can also transmit rabies if the saliva comes into contact with the eyes, mouth, or nose. **Globally, dogs are the most common animal involved**.
- **Symptoms:** Early symptoms can include **fever and tingling at the site of exposure**. These symptoms are followed by one or more of the following symptoms: **nausea, vomiting, violent movements, uncontrolled excitement, fear of water, an inability to move parts of the body, confusion, and loss of consciousness**.
- **Prevention:** A shot of rabies immunoglobulin (rabies-antibodies against the virus derived either from people or horses) followed by a four-week course of anti-rabies vaccine, is nearly guaranteed to prevent rabies.
- **Government initiative:** Because dogs are deemed responsible for 99% of all rabies infections in people, the government in its 2021 plan, called the **'National Action for Plan – Rabies Elimination'**, aims to vaccinate at least 70% of all dogs in a defined geographical area annually for three consecutive years. With this, a degree of herd immunity is expected leading to **eventual elimination within eight years**.

Trachoma

Context

- Malawi has become the first country in southern Africa to eliminate trachoma, the World Health Organization (WHO) announced.
- This makes Malawi the fourth country in WHO's Africa region to achieve this milestone after Ghana (June 2018), Gambia (April 2021) and Togo (May 2022).

Trachoma

- Trachoma is the world's leading infectious cause of blindness and is one of the conditions known as neglected tropical diseases.
- It is a public health problem in 44 countries and is responsible for the blindness or visual impairment of about 1.9 million people. Around 136 million people live in trachoma endemic areas and are at risk of trachoma blindness.
- Trachoma is a disease of the eye caused by infection with the bacterium *Chlamydia trachomatis*. Blindness from trachoma is irreversible.
- It's very contagious. Trachoma almost always affects both eyes. Symptoms begin with mild itching and irritation of the eyes and eyelids. They may progress to blurred vision and eye pain.
- Infection spreads through personal contact (via hands, clothes or bedding) and by flies that have been in contact with discharge from the eyes or nose of an infected person.
- Environmental factors associated with more intense transmission of *C. trachomatis* include:
 - Inadequate hygiene
 - Crowded households
 - Inadequate access to water
 - Inadequate access to and use of sanitation.
- The elimination strategy is summarized by the acronym "SAFE", which means Surgery for advanced disease, Antibiotics to clear *C. trachomatis* infection, Facial cleanliness and Environmental improvement to reduce transmission.

Ayushman Bharat Digital Mission

Context

- The Government announced that informed that Ayushman Bharat Digital Mission (ABDM) has crossed the landmark of 1 crore digitally linked health records with over 27 lakh records linked in a day.
- Background: Ayushman Bharat**
- Ayushman Bharat is a flagship scheme of Government of India, was launched as recommended by the National Health Policy 2017, to achieve the vision of Universal Health Coverage (UHC).
- It was launched in September 2018 by the Ministry of Health and Family Welfare.
- It is a national public health insurance fund of the Government of India that aims to provide free access to health insurance coverage for low income earners in the country. Roughly, the bottom 50% of the country qualifies for this scheme.
- It is a centrally sponsored scheme and is jointly funded by both the union government and the states.
- By offering services to 50 crore (500 million) people it is the world's largest government sponsored healthcare program.
- This initiative has been designed to meet Sustainable Development Goals (SDGs) and its underlining commitment, which is to "leave no one behind."

Ayushman Bharat Digital Mission

- This is to provide a digital health ID to people which will contain their health records.
- The key components of this scheme, which is also called the National Digital Health Mission or the PM Digital Health Mission, are a health identity card for every citizen, a healthcare professionals registry, and healthcare facilities registries.
- Under the ABDM, citizens will be able to create their ABHA (Ayushman Bharat Health Account) numbers, to which their digital health records can be linked. This will enable the creation of longitudinal health records for individuals across various healthcare providers, and improve clinical decision-making by healthcare providers. The mission will improve equitable access to quality healthcare by encouraging use of technologies such as telemedicine and enabling national portability of health services.

Significance

- Based on the foundations laid down in the form of Jan Dhan, Aadhaar and Mobile (JAM) trinity and other digital initiatives of the government, Ayushman Bharat Digital Mission will create a seamless online platform through the provision of a wide range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems while ensuring the security, confidentiality and privacy of health-related personal information.
- It will enable access and exchange of longitudinal health records of citizens with their consent.
- This will ensure ease of doing business for doctors and hospitals and healthcare service providers.
- This mission will create interoperability within the digital health ecosystem, similar to the role played by the Unified

Payments Interface in revolutionizing payments.

- Not only will ABDM facilitate evidence-based decision-making for effective public health interventions, but it will also catalyze innovation and generate employment across the healthcare ecosystem.

GS-III

ECONOMY

Financial Stability and Development Council

Context

- The 26th Meeting of the Financial Stability and Development Council (FSDC) was chaired by the Union Finance and Corporate Affairs Minister Smt. Nirmala Sitharaman in Mumbai.

Details

- **The Council, inter alia, deliberated on:**
 - the Early Warning Indicators for the economy and our preparedness to deal with them,
 - improving the efficiency of the existing Financial/Credit Information Systems,
 - issues of governance and management in Systemically Important Financial Institutions including Financial Market Infrastructures,
 - strengthening cyber security framework in financial sector,
 - Common KYC for all financial Services and related matters,
 - update on Account Aggregator and next steps,
 - Issues relating to financing of Power Sector,
 - strategic role of GIFT IFSC in New Aatmanirbhar Bharat, inter-regulatory Issues of GIFT-IFSC, and
 - need for utilisation of the services of Registered Valuers by all Government Departments.
- It was noted that there is a need to monitor the financial sector risks, the financial conditions and market developments on a continuous basis by the Government and the regulators so that appropriate and timely action can be taken so as to mitigate any vulnerability and strengthen financial stability.
- The Council also took note of the preparation in respect of financial sector issues to be taken up during India's G20 Presidency in 2023.
- **It is a non-statutory apex council under the Ministry of Finance constituted by the Executive Order in 2010.**
- The Raguram Rajan committee (2008) on financial sector reforms first proposed the creation of FSDC.
- **It is chaired by the Finance Minister** and its members include the heads of all Financial Sector Regulators (RBI, SEBI, PFRDA & IRDA), Finance Secretary, Secretary of Department of Economic Affairs (DEA), Secretary of Department of Financial Services (DFS), and Chief Economic Adviser.
- In 2018, the government reconstituted FSDC to include the Minister of State responsible for the Department of Economic Affairs (DEA), Secretary of Department of Electronics and Information Technology, Chairperson of the Insolvency and Bankruptcy Board of India (IBBI) and the Revenue Secretary.
- **It aims to strengthen and institutionalize the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development.**

National Technical Textile Mission

Context

- The Ministry of Textiles cleared 23 strategic research projects worth around Rs 60 crores in the areas of specialty fibres, sustainable textiles, geotextiles, mobiltech and sports textiles under the chairmanship of Union Minister of Textiles Piyush Goyal, on Wednesday, informed the Ministry of Textiles.

Details

- These strategic research projects fall under the flagship programme 'National Technical Textiles Mission (NTTM).
- Among these 23 Research projects, 12 Projects of Speciality Fibres having application areas in Agriculture, Smart Textiles, Healthcare, Strategic Application and Protective gears were cleared. 4 Projects from Sustainable Textiles having application areas in Agriculture and Healthcare sectors were cleared. Also, five projects from Geotextile, one from Mobiltech and one from Sportech were cleared, informed the Ministry.

About "National Technical Textile Mission"

- It was launched by the Ministry of Textiles.
- **Period:** 4 years (2020-21-2023-24)
- The purpose of the mission is to position India as a world leader in technical textiles.

- This mission aims to **expand the domestic market size of the technical textile sector to US \$ 450 billion by 2024** and to achieve an average annual growth rate of 15-20%.
- It also **supports the Make in India initiative to promote the domestic production of related machinery and equipment.**
- The mission consists of **four components: Research, innovation, development Promotion and market development Export promotion Education, training, skill development.**
- The Indian **technical textiles** segment is estimated at \$16 bn, approximately **6% of the global market.**
- The Indian **technical textiles market** was estimated at \$17.6 bn in 2020-21 and **grew at a CAGR of 10% since 2015-16.**
- Technical textiles are functional fabrics that have applications across various industries including automobiles, civil engineering and construction, agriculture, healthcare, industrial safety, personal protection etc.
- Technical Textile products derive their demand from development and industrialization in a country.
- **Based on usage, there are 12 technical textile segments: Agrotech, Meditech, Buildtech, Mobiltech, Clothtech, Oekotech, Geotech, Packtech, Homotech, Protech, Indutech and Sportech.**

Cabinet Committee on Economic Affairs (CCEA) approves

National Technical Textiles Mission
at an outlay of Rs. 1480 crore

Components:

- Research, Innovation & Development
- Export Promotion
- Promotion & Market Development
- Education, Training, Skill Development

Objectives:

- Encourage technological Start-ups & Innovation
- Provide Skill Training to at least 50,000 people
- Develop higher technological education for technical textiles in higher educational institutes
- Encourage fundamental research in technical textiles (geo-textiles, agro-textiles, medical textiles) used in agriculture, infrastructure, defence equipments, space missions, etc.

Outcome: Indian Technical Textiles Market Size to increase from \$16 billion (2018-19) to \$40 billion by 2023-24. Register export growth of 10% per annum

International Year of Millets

Context

- **FAO side event on International Year of Millets (IYOM) 2023** was held during the Ninth Session of the Governing Body (GB-9) of the **International Treaty** (Food and Agricultural Organisation) being hosted by the Government of India in New Delhi.

About Millets

- Millets are cereal crops with **high nutritive value and categorized as small-seeded grasses.**
- The key varieties of millets include **Sorghum, Pearl Millet, Ragi, Small Millet, Foxtail Millet, Barnyard Millet, Kodo Millet and others.**
- Major producers include **Rajasthan, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Maharashtra, Gujarat and Haryana.**
- High in dietary fibre, nutri-cereals are a **powerhouse of nutrients including iron, folate, calcium, zinc, magnesium, phosphorous, copper, vitamins and antioxidants.**

International Year of Millets

- In March, 2021, the **United Nations General Assembly (UNGA)** has declared 2023 as **International Year of Millets.**
- **Intensive Millets Promotion (INSIMP):** Launched in 2012 as a part of the Rashtriya Krishi Vikas Yojana (RKVY), to advance equipment and technology related to millet harvest and increasing productivity of inefficient areas.

All India Quarterly Establishment based Employment Survey

Context

- Recently, the fourth round (January-March 2022) of the Quarterly Employment Survey (QES), which is a part of the **All India Quarterly Establishment based Employment Survey (AQEES)** was released by the Labour Bureau .

All India Quarterly Establishment based Employment Survey (AQEES)

- The AQEES has been taken up by the Labour Bureau to provide quarterly updates about the employment and related variables of establishments in both organized and unorganized segments of nine selected sectors, which account for a majority of the total employment in the non-farm establishments.
- The AQEES had two components such as the **"Quarterly Employment Survey (QES)"** and the **"Area Frame Establishment Survey (AFES)"** and simultaneously the Bureau was also studying about migrant and domestic workers too.
- QES captures employment data in respect of establishments employing 10 or more workers, mostly constituting the organized

segment, in the nine selected sectors. These sectors are Manufacturing, Construction, Trade, Transport, Education, Health, Accommodation & Restaurants, IT/ BPOs and Financial Services.

Findings

- Manufacturing continues to be the largest institutional employer in the country, employing about 38.5% of the workers.
- Around 3.18 crore workers were employed in about 5.31 lakh establishments between January and March. It claimed an increase of about four lakh workers compared with the third round of QES.
- Education, manufacturing, trade and financial services together accounts for 84% of the total estimated units.
- Manufacturing sector accounts for the largest percentage (38.5%) of the total number of workers, followed by education sector with 21.7%, IT/BPO sector with 12% and Health sector 10.6%.
- The participation of women workers witnessed a marginal increase from 31.6% in the third quarter to 31.8% in the fourth quarter report. However, women workers constituted about 52% of the workforce in the health sector, while the corresponding percentages in education, financial services and IT/ BPO sectors stood at 44%, 41% and 36%, respectively. In financial services, women far outnumber males among self-employed persons.
- 86.4% of the workers were regular employees, and 8.7% were contractual employees followed by casual employees (2.3%) and self-employed (2%). The share of fixed term employees in the establishments was found to be the least (0.7%) over all.
- Employment was showing an increasing trend and estimated employment rose from 3.14 crore in the third quarter (September-December 2021) to 3.18 crore in the fourth quarter (January-March 2022).
- The total employment in these nine selected sectors taken collectively was reported as 2.37 crore in the sixth economic census (2013-14).

Fund of Funds for Startups

Context

- **Fund of Funds for Startups (FFS), launched under Startup India initiative in 2016 by the Prime Minister, Shri Narendra Modi has committed Rs. 7,385 crore to 88 Alternative Investment Funds (AIFs) as of 24th September 2022.**

Details

- These AIFs in turn have invested Rs. 11,206 crore in 720 startups.
- FFS has been playing a monumental role in mobilizing domestic capital in Indian startup ecosystem.
- FFS was announced with a corpus of Rs. 10,000 crore.
- The corpus is to be built up over 14th and 15th Finance Commission Cycles (FY 2016-2020 and FY 2021-2025) through budgetary support by Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry, Government of India.
- Under FFS, support is extended to SEBI registered Alternative Investment Funds (AIFs), which in turn invest in startups.
- FFS has not only made capital available for startups at early stage, seed stage and growth stage but also played a catalytic role in terms of facilitating raising of domestic capital, reducing dependence on foreign capital and encouraging home grown and new venture capital funds.
- Collectively, the AIFs supported by FFS have a target corpus of over Rs. 48,000 crore.
- Among the prominent AIFs of leading startup investment firms supported under FFS are Chiratae Ventures, India Quotient, Blume Ventures, IvyCap, Waterbridge, Omnivore, Aavishkaar, JM Financial, Fireside Ventures, and more.
- FFS has helped anchor 67 AIFs out of 88 AIFs supported and 38 of these are first time fund managers which is line with FFS's core objective of anchoring venture capital investments for Indian startups.

AGRICULTURE

Nano Urea

Context

- Nano urea, a product developed by the Indian Farmers and Fertiliser Cooperative (IFFCO) and heavily advertised by the Central government as a panacea to reduce farmer dependence on packaged urea.

About

- Nano Urea is a nutrient to provide nitrogen to plants as an alternative to the conventional urea.
- Nano Urea Liquid can curtail the requirement of the same by at least 50%.
- It contains 40,000 ppm of nitrogen in a 500 ml bottle which is equivalent to the impact of nitrogen nutrient provided by one bag of conventional urea.
- Nano nitrogen (Nano Urea) can enhance farmer's crop yields beside nitrogen saving to the extent of 50%.

Significance

- The excess conventional urea causes an environmental pollution, harms soil health, and making plant more susceptible for disease & insect infestation, delayed maturity of the crop & production loss.
- Nano Urea Liquid makes the crops stronger, healthy and protects them from lodging effect.
- It will lead to reduction in Global Warming
- It will improve the quality of underground water by polluting it less.
- It will cut down post harvesting costs and increase farmers' income.

Southern Rice Black-Streaked Dwarf Virus (SRBSDV)

Context

- Weeks after a mystery disease hit the paddy crop causing “dwarfing” of the plants in Punjab and Haryana, the scientists at Punjab Agricultural University decoded the mystery blaming it on ‘Southern Rice Black-Streaked Dwarf Virus’ (SRBSDV).

Southern rice black-streaked dwarf virus (SRBSDV)

- **About:** Southern rice black-streaked dwarf virus (SRBSDV), sometimes known as rice black-streaked dwarf virus 2 (RBSDV-2), is a novel virus threatening crop production in eastern Asia. It naturally infects rice, maize, sorghum and other grassy weeds.
- **First reported:** Southern rice black-streaked dwarf virus (SRBSDV) was first reported in southern China in 2001.
- **Impact:** It causes a striking disease on rice and maize that leads to serious yield losses in several East Asian countries, such as China, Vietnam and Japan. Now, it has been observed in India as well.
- **Transmission:** Southern Rice Black-Streaked Dwarf Virus (SRBSDV) is spread by the white-backed plant hopper, an insect pest, which injects it while sucking the sap from mostly young plants. The virus is specific to the phloem (plant tissues that transport sugar and organic nutrients from the leaves to other parts) and is not transmitted by seed or grain.
- **Symptoms:** Pronounced stunting, darkening of leaves, and white waxy or black-streaked swellings along the veins on stems.
- **Disease Management:** Development of resistant cultivars, covering the seedlings with insect-proof nylon mesh or plastic film to protect them or changing the sowing date to avoid the peak of the vector migratory population.

Natural Rubber Plantations

Context

- After a moderate post-pandemic revival, the price of natural rubber (NR) has crashed to a 16-month low of ₹150 per kg (RSS grade 4) in the Indian market.

Details

- The price of latex, which soared during the pandemic due to huge demand from glove makers, took a more severe drubbing with its prices rolling down below ₹120.
- With the impact of the falling prices beginning to reflect in their daily lives as well as the local economy, the growers are up in arms against the authorities for their perceived delay in checking the slide.
- Under the aegis of the National Consortium of Regional Federations of Rubber Producer Societies India, an umbrella organisation for rubber growers, a day-long sit-in protest was staged in front of the Rubber Board headquarters in Kottayam, Kerala.
- **The current fall in prices is attributed primarily to a weak Chinese demand and the European energy crisis, along with high inflation and an import glut, among other things.**
- While the unremitting zero COVID strategy in China, which consumes about 42% of the global volume, has cost the industry dearly, analysts have also flagged the acceleration of imports.
- The domestic tyre industry is sitting pretty on an ample inventory, especially in the form of block rubber from the Ivory Coast and compounded rubber from the Far East.

Where does India stand in terms of the production and consumption of natural rubber?

- India is currently the world's fifth largest producer of natural rubber while it also remains the second biggest consumer of the material globally.
- About 40% of India's total natural rubber consumption is currently met through imports
- A latest report by the Rubber Board has projected the natural rubber production and consumption in India during 2022-23 as 8,50,000 tonnes and 12,90,000 tonnes respectively.
- The production of the material improved by 8.4%, to 7,75,000 tonnes, during 2021-22 compared to 7,15,000 tonnes in the previous year.
- An increase in yield, tappable area and area tapped during the year contributed to the rise in production.
- On the demand side, the domestic consumption rose by 12.9%, to 12,38,000 tonnes in 2021-22 from 10,96,410 tonnes in the previous year.

- The auto-tyre manufacturing sector accounted for 73.1% of the total quantity of natural rubber consumption.
- Import of the material, meanwhile, increased to 5,46,369 tonnes from 4,10,478 tonnes.

How does the falling price affect the growers?

- The turnaround has exposed the growers — mostly small and medium scale — to a painful reckoning, contributing to wide-spread panic in Kerala, which accounts for nearly 75% of the total production.
- The precipitous plunge in prices coupled with high costs have also left them staring at an uncertain future, forcing some to stop production for the time being.
- The impact of the price fall is felt more in the rural areas, where most people are solely dependent on rubber cultivation and have no other option but to cut expenses.
- This has caused a sluggishness in the respective local economies, which also coincided with the festive season in Kerala.
- If a reversal in prices seem distant, the trend may also trigger a crop switch or even a fragmentation of the rubber holdings in the long run.
- The key demands farmers have raised to the Union government include raising the import duties on latex products and compound rubber to make it on par with natural rubber, by either 25% or ₹30 per kg, whichever is lower.

KRITAGYA

Context

- Indian Council of Agricultural Research with its National Agricultural Higher Education Project and Crop Science Division is organizing Hackathon 3.0 “KRITAGYA” on promoting ‘speed breeding for crop improvement’.

Details:

- Taking forward the vision of Prime Minister Shri Narendra Modi through National Education Policy-2020, this program will provide an opportunity to students/faculties/entrepreneurs/innovators and others to showcase innovative approaches and technology solutions to promote innovation for crop improvement.’
- Under the guidance of the Union Minister of Agriculture and Farmers Welfare, Shri Narendra Singh Tomar, such initiatives will give impetus to the desired rapid results in the crop sector with the ability to learn, innovation and solutions, employability and entrepreneurship.
- It will also encourage greater adoption of technology-enabled solutions in the country.
- The definition of KRITAGYA is: KRI for Krishi meaning Agriculture, TA for Taknik meaning Technology and GYA for Gyan meaning Knowledge.
- In this competition, students, faculty and innovators/entrepreneurs from any university/technical institute across the country can apply and participate in the program as a group.
- The participating group shall consist of maximum 4 participants, with not more than one faculty and / or more than one innovator or entrepreneur.
- Participating students can collaborate with local start-ups, students from technology institutes and can win up-to INR 5 Lakhs.
- During 2020-21 and 2021-22 NAHEP in association with Agricultural Engineering and Animal Science Divisions of ICAR organized Hackathon 1.0 and 2.0 to promote the innovation in Farm Mechanization and in Animal Science, respectively.
- ICAR commenced NAHEP with the assistance of World Bank (WB) in November 2017. The overall objective of NAHEP is to support participating Agricultural Universities (AUs) and ICAR in providing more relevant and higher quality education to the students.

Palm Oil Alliance

Context

- Edible oil trade associations from five palm oil importing countries in South Asia – India, Pakistan, Sri Lanka, Bangladesh and Nepal –announced the setting up of Asian Palm Oil Alliance (APOA).

Details

- The idea is to gain collective bargaining power and make imports sustainable.
- Through APOA, the aim is at safeguarding the economic and business interests of the palm oil consuming countries and will work towards increasing the consumption of palm oil in member countries.
- According to the APOA statement, the alliance would work towards ensuring that palm oil is recognised as a high-quality, economical, and healthy vegetable oil and to change the negative image of palm oil.
- The membership of APOA would be further expanded to include companies or industry bodies associated with production or refining of palm oil across the continent.
- The next meeting of APOA is expected to be held in Indonesia early next year.
- India’s annual imports of edible oil is around 13-14 million tonne (MT). Around 8 MT of palm oil is imported from Indonesia and Malaysia, while other oils, such as soya and sunflower, come from Argentina, Brazil, Ukraine and Russia.
- Asia accounts for around 40% of the global palm oil consumption while Europe accounts for 12% of palm oil trade. Indonesia

and Malaysia are the biggest palm oil exporters in the world.

- India is the largest importer of palm oil in Asia, accounting for 15% of global imports, followed by China (9%), Pakistan (4%) and Bangladesh (2%).

SCIENCE & TECHNOLOGY

Dark Sky Reserve

Context

- In a first Department of Science & Technology (DST) has announced the setting up of India's first Dark Sky Reserve in Hanle, Ladakh.

What is a Dark Sky Reserve?

- A Dark Sky Reserve is public or private land with a distinguished nocturnal environment and starry nights that has been developed responsibly to prevent light pollution. These reserves "consist of a core area meeting minimum criteria for sky quality and natural darkness, and a peripheral area that supports dark sky preservation in the core."
- These areas offer exceptional starry nights and are specifically protected for scientific, natural, educational, cultural, heritage and/or public enjoyment.

How does a site become a 'Dark Sky Reserve'?

- Individuals or groups can nominate a site for certification to the International Dark Sky Association (IDSA). There are five designated categories, namely International Dark Sky parks, communities, reserves, sanctuaries and Urban Night Sky Places.
- Between 2001 and January 2022, there have been 195 sites recognised as International Dark Sky Places globally.

Hanle Dark Sky Reserve

- To be situated at a height of 4,500 metres above sea level, the Hanle Dark Sky Reserve (HDSR) will come up within the Changthang Wildlife Sanctuary.
- Here, scientists have been carrying out astronomical observations using the existing gamma ray, an infrared and an optical telescope to study exoplanets, galaxies and stars through the pristine skies of Hanle.

Significance of Dark Sky Reserve in HanleLadakh

- The site will have activities to help in boosting local tourism and economy through interventions of Science and Technology.
- It will boost Astro tourism in India and will be one of the world's highest-located sites for optical, infra-red, and gamma-ray telescopes.
- The primary objective of the proposed Dark Sky Reserve is to promote astronomy tourism in a sustainable and environment-friendly manner.

Inflatable Aerodynamic Decelerator

Context

- (ISRO) has successfully tested a technology called- The Inflatable Aerodynamic Decelerator (IAD).

What is IAD?

- Inflatable Aerodynamic Decelerator or IAD in short is a technique used for an atmospheric entry payload. **Note:** Atmospheric entry is the movement of an object from outer space into and through the gases of an atmosphere of a planet, dwarf planet, or natural satellite.
- An inflatable envelope and an inflatant (anything that inflates the envelope, like air or helium) make up the inflatable aerodynamic decelerator. While entering the atmosphere, it inflates like a balloon and decelerates the lander.
- IAD is designed to increase drag upon entering the atmosphere of any planetary body, like Earth, Mars, or even Moon. Its shape is maintained by a closed, gas-pressured body and the inflatant gas is also generated internally. Its use was first proposed by NASA more than 50 years ago for planetary entries.



ISRO's IAD

- ISRO's IAD is fitted with a booster motor. It also has a spin rocket that is ejectable. The inflatable structure is made out of

Kevlar fabric, which is a very strong synthetic fibre and also **heat resistant to withstand atmospheric pressure** and temperature changes.

- On top of it, it's **coated with polychloroprene**, an oil and wax resistant rubber, which can also withstand extreme temperatures.
- In the inflation system, **it uses compressed nitrogen stored in a bottle**.
- It will consistently decrease the payload's velocity through aerodynamic drag** while maintaining the expected trajectory during the flight.

Where does ISRO intend to use it?

- The IAD will help ISRO in performing many space tasks effectively including **recovery of spent stages of rockets, for landing payloads on missions to other planetary bodies**.

Significance

- Demonstration of ISRO's IAD opens a gateway **for cost-effective spent stage recovery** using the Inflatable Aerodynamics Decelerator technology and this IAD technology **can also be used in ISRO's future missions to Venus and Mars**.

Cyborg Cockroaches

Context

- Japanese researchers have devised a system that can create **cyborg cockroaches, that are part insect and part machine**.

Cyborg

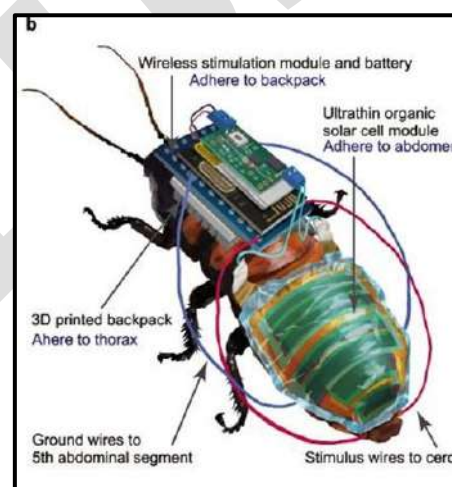
- A cyborg is a being with both organic and biomechatronic body parts. The term was coined in 1960 by Manfred Clynes and Nathan S. Kline.

About Cyborg Cockroaches (Recently developed)

- Researchers in Japan have designed a remote-controlled, rechargeable cyborg cockroach.
- These are live cockroaches that are laden with technology that allows scientists to control their movements.
- The cockroach's movements are remotely controlled by **stimulating the wires attached to the cockroach's legs powered by the solar battery**. They send electrical impulses that cause the insect to move left or right.

Significance

- The cyborg cockroaches, are intended to **enter hazardous areas, monitor the environment or undertake search and rescue missions without needing to be recharged**.
- They will be able to conduct surveillance in procedures like urban search and rescue, environmental monitoring and inspection of areas dangerous to humans.



QIMINGXING 50

Context

- 'QIMINGXING 50' - China's first fully solar-powered unmanned aerial vehicle has successfully completed its maiden test flight.

Details

- Named the Qimingxing-50, or Morning Star-50, **this drone flies above 20-km altitude where there is stable airflow with no clouds**.
- The drone is a large machine **powered entirely by solar panels**. The high-altitude, long-endurance (HALE) UAV can stay airborne for long durations.

Significance

- The fact that the drone can operate in near-space – 20 km to 100 km above the Earth's surface – **makes it capable of carrying out satellite-like functions**.
- If satellite services are not available for, say, time-sensitive operations or in case of wartime disruption, then **near-space UAVs can step in to fill the operational gap**. These drones are also referred to as **'High Altitude Platform Stations' or pseudo-satellites**.
- These drones can undertake surveillance missions that require them to stay operational, watching over borders or oceans, for months.
- Drones like the Morning Star-50 are **cost-effective to build and are also easy to launch and operate**.
- This HALE UAV is **capable of conducting high-altitude reconnaissance**, apart from **monitoring forest fires, providing communication and environment relay**.

Chimeric Antigen Receptor T Cells

Context

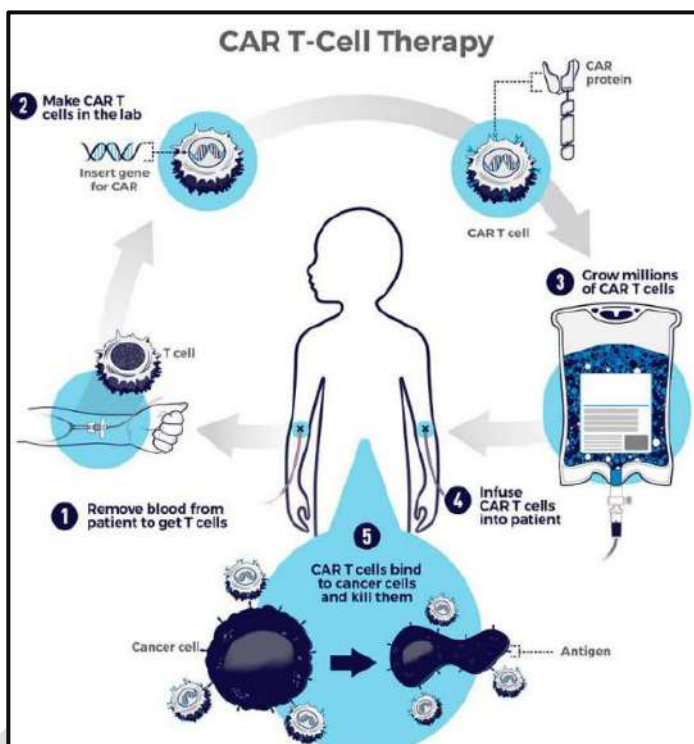
- The clinical trial of an indigenously developed CAR T-cell therapy for blood cancer treatment has begun at Mumbai's Tata Memorial Centre.

T Cells

- A T cell is a type of lymphocyte. T cells are one of the important white blood cells of the immune system and play a central role in the adaptive immune response. T cells can be distinguished from other lymphocytes by the presence of a T-cell receptor (TCR) on their cell surface.
- T Cells develop from stem cells in the bone marrow. They help protect the body from infection and may help fight cancer.

Chimeric antigen receptor T cells

- Chimeric antigen receptor T cells are T cells that have been genetically engineered to produce an artificial T cell receptor for use in immunotherapy. It is widely used in developed nations for immunotherapy during cancer treatment.
- CAR T cells can be either derived from T cells in a patient's own blood (autologous) or derived from the T cells of another healthy donor (allogeneic). After CAR T cells are infused into a patient, they act as a "living drug" against cancer cells.



DART (Double Asteroid Redirection Test)

Context

- NASA's DART (Double Asteroid Redirection Test) spacecraft intentionally crashed into the asteroid Dimorphos, which orbits a larger asteroid Didymos.

All about DART Mission

- DART, or Double Asteroid Redirection Test, is the first ever mission to attempt to redirect the path of an asteroid by crashing a spacecraft into it.
- The mission is part of NASA's planetary defence strategy and aims to build on our ability to model, predict and prepare for an asteroid that might provide a threat to Earth.
- Dart is the world's first test of defending the planet from asteroids using kinetic impact, but the goal is not to destroy the offending space rock but rather to alter its orbit. This is achieved by crashing into the asteroid, at speed and with force, to knock it slightly off course so it passes by Earth, instead of potentially crashing into it.

Ethereum

Context

- Recently, the Ethereum blockchain fully transitioned to a new way of processing transactions.

What is Ethereum?

- Ethereum is one of the most used platforms by developers to build decentralised apps (dApps), smart contracts, and even crypto tokens. The platform's currency, Ether is only second to Bitcoin (BTC) in terms of market capitalisation.

Ethereum Merge Event

- Ethereum is about to undergo its most transformative upgrade since its inception. The Merge is transitioning from a proof-of-work (PoW) to a proof-of-stake (PoS) consensus

Proof of Stake	Proof of Work
<ul style="list-style-type: none"> Block creators are called validators Participants must buy coins or tokens to become a validator Energy efficiency Allows for more scalability Network control can be bought Validators receive transactions fees as rewards 	<ul style="list-style-type: none"> Block creators are called miners Participants must buy equipment and energy to become a miner Not energy efficient Does not allow for more scalability Robust security due to expensive upfront requirement Miners receive block rewards

mechanism, which is used for authenticating transactions.

Difference between PoW and PoS

- Cryptocurrencies do not depend on centralized entities to verify the validity of new transactions added to the blockchain network, instead they **rely on a distributed network of miners to do so.**

- Cryptocurrency mining is the process in which transactions between users are verified and added to the blockchain public ledger. The process of mining is also responsible for introducing new coins into the existing circulating supply and is one of the key elements that allow cryptocurrencies to work as a peer-to-peer decentralized network, without the need for a third party central authority.
- **Watch this video for better understanding:** <https://youtu.be/2VtH-XAOjXw>

- In 2021 a study by the University of London found that in general the energy consumption of the proof-of-work based Bitcoin was about a thousand times higher than that of the highest consuming proof-of-stake system. Hence, **this mechanism can be adopted by other crypto platforms keeping the Environment under consideration.**

Hybrid Propulsion Vehicle

Context

- ISRO said that it has successfully demonstrated a hybrid propulsion system that uses a solid fuel and liquid oxidiser.

Hybrid propulsion

- Hybrid propulsion is **any vehicle propulsion system that includes two or more sources of propulsion in one design**, usually which can be used either together or alternately.

Hybrid Propellant Rocket

- A hybrid-propellant rocket is a rocket with a rocket motor that uses rocket propellants in two different phases: one solid and the other either gas or liquid. The hybrid rocket concept can be traced back to the early 1930s.
- The advantages of the hybrid rocket are thought to be **safety, high-performance, environmental friendliness, functionality including controllability of combustion cutoff/reignition/thrust throttling, and low-cost.**

The recent demonstration of Hybrid Propulsion System by ISRO

- In the ground-based test, the flight motor used **Hydroxyl-terminated polybutadiene (HTPB)-based aluminised solid fuel and liquid oxygen (LOX)** as the oxidiser. Conventional HTPB-based solid propellant motors used in rockets use ammonium perchlorate as oxidiser. While both HTPB and LOX are green, the cryogenic LOX is safer to handle.

Significance

- The hybrid system is more efficient, **"greener" and safer to handle** and paves the way for new propulsion technologies for future missions.
- The technology demonstration **paves the way for hybrid propulsion-based sounding rockets** and an exciting **platform for vertical landing experiments** for spent-stage recovery.

DEFENCE & SECURITY

Cyber Security Exercise "SYNERGY"

Context

- Indian Computer Emergency Response Team (CERT-In) under the Ministry of Electronics and IT, in collaboration with the Cyber Security Agency of Singapore successfully designed and conducted the Cyber Security Exercise "Synergy" for 13 Countries.

Details

- It was a part of the International Counter Ransomware Initiative- Resilience Working Group.
- The Group is being led by India under the leadership of the National Security Council Secretariat.
- **The theme of the exercise was "Building Network Resiliency to counter Ransomware Attacks".**
- The exercise scenario was derived from real-life cyber incidents, in which a domestic level (limited impact) ransomware incident escalates to a global cyber security crisis.
- The Exercise "Synergy" was hosted by CERT-In on its exercise simulation platform.
- Each State participated as a National Crisis Management Team having composition from different government agencies.
- The specific objective of the exercise was to Assess, Share and Improve strategies and practices among Member-States to build network resiliency against ransomware & cyber extortion attacks.

VSHORADS

Context

- DRDO conducted two successful test flight of Very Short Range Air Defence System (VSHORADS) missile on 27 Sep 2022 from a ground based portable launcher at the Integrated Test Range, Chandipur, off the coast of Odisha.

Details

- VSHORADS is a Man Portable Air Defence System (MANPAD) designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad in collaboration with other DRDO laboratories and Indian Industry Partners.
- VSHORADS missile incorporates many novel technologies including miniaturized Reaction Control System (RCS) and integrated avionics, which have been successfully proven during the tests.
- The missile, meant for neutralizing low altitude aerial threats at short ranges is propelled by a dual thrust solid motor.
- The design of the missile including launcher has been highly optimized to ensure easy portability.
- Both the flight tests have completely met the mission objectives.

QRSAM

Context

- Flight tests of the Quick Reaction Surface to Air Missile (QRSAM) system were performed from Integrated Test Range (ITR) Chandipur, Odisha coast.

Details

- The flight tests were conducted by the Defence Research and Development Organisation (DRDO) and the Indian Army.
- The tests were carried out against high-speed aerial targets parodying various types of threats to evaluate the capability of the weapon systems under diverse scenarios.
- The performance was also evaluated under day and night operation scenarios. The performance has been demonstrated from the data captured by several Range instruments like Telemetry, Radar and Electro-Optical Tracking Systems (EOTS).
- The QRSAM weapon system can operate on the move with search and track capability and fire on short halt.

Adivasi Groups Agreement

Context

- The Union Minister of Home Affairs headed over the signing of an agreement between the Government of India, the Government of Assam and representatives of 8 Adivasi Groups in New Delhi.

Details

- The agreement was signed to end the decades-old problem of Adivasis and tea garden workers in Assam.
 - In the agreement, provisions have been made to protect the social, cultural, ethnic and linguistic identity of Adivasi groups as well as to further strengthen them.
 - The agreement also provides for the establishment of a Tribal Welfare and Development Council to ensure speedy and focused development of tea gardens.
 - The agreement also provides for rehabilitation and resettlement of armed cadres and measures for the welfare of tea garden workers.
 - A special development package of Rs.1000 crore (Rs.500 crore each by the Government of India and the Government of Assam) will be provided over a period of 5 years for infrastructure development in villages/areas with tribal populations.
- The Union Home Minister highlighted that this agreement will prove to be an important landmark and is in the direction of the government's vision of a peaceful and prosperous North East and making North-East extremism free by 2025.
- The Minister stated that the government has taken many efforts in the direction of making the Northeast peaceful and developed by;
 - Promoting and developing the rich culture of the region.
 - Settling all disputes.
 - Establishing peace and accelerating development in the Northeast to make it peaceful and prosperous.
 - NLFT agreement in 2019.
 - BRU-REANG and Bodo accord in 2020.
 - Karbi Anglong agreement in 2021.
 - Assam-Meghalaya Inter-State Boundary Agreement in 2022.
- The Home Minister announced that the Union Government has decided that before 2024, all border disputes between the North Eastern states and all disputes related to armed groups will be resolved.

ENVIRONMENT & ECOLOGY

Rising Sea Level and Greenhouse Gas

Context

- Greenhouse gas and sea levels touched new highs in 2021, according to a report by the United States National Oceanic and Atmospheric Administration (NOAA).

Details

- The amount of greenhouse gases in the atmosphere was 414.7 parts per million in 2021, which is 2.3 parts higher than in 2020, according to the NOAA report.
- The rise in greenhouse gas levels has been due to easing fossil fuel emissions last year, as much of the global economy has slowed sharply due to the COVID-19 pandemic.
- Sea levels rose for the tenth year in a row. They reached a new record of 3.8 inches or 97 millimetres above the average for 1993, when satellite measurements began.
- The year 2021 was among the seven-warmest years since global records began in the mid-to-late 1800s. It was also one of the six-warmest years on record as measured by global mean surface temperature.
- The low average temperature was due to La Nina, an occasional phenomenon in the Pacific that cools waters. La Nina prevailed for all but two months of the year – June and July.
- The month of February had the smallest temperature anomaly of the year for the globe and was the coldest since February 2014.
- But water temperatures were also exceptionally high. Lakes in Tibet, an important region since it is a water source for many of Asia's major rivers, recorded high temperatures
- Tropical storms, which increase as the Earth warms, spiked in 2021, the report said. These included Super Typhoon Rai, which killed nearly 400 people in the Philippines in December. Hurricane Ida wrought havoc in the Caribbean before becoming the second most dangerous storm to kill people in Louisiana after Katrina.
- Among other extraordinary events mentioned in the report was the premature blooming of cherry trees in Kyoto, Japan, for the first time after 1409.
- The incidence of wildfires, which are also expected to increase due to climate change, was comparatively low after recent years, although devastating fires were seen in both the American West and Siberia.
- The 2021 report comes days after a study said Greenland's ice sheet is already beginning to melt to dangerous levels, even as it will raise sea levels without any heat in the future. This is expected to submerge the homes of hundreds of millions of people living in low-lying areas around the world.
- The goal to limit temperatures above pre-industrial levels to 1.5 degrees Celsius to avoid the worst effects of climate change was set by the Paris Climate Agreement in 2015.

Zombie Ice

In News

- Zombie ice from the massive Greenland ice sheet will eventually raise global sea level by at least 27cm on its own, according to a study released
- Zombie or doomed ice is ice that is still attached to thicker areas of ice, but is no longer getting fed by those larger glaciers. That's because the parent glaciers are getting less replenishing snow. Meanwhile the doomed ice is melting from climate change, said study co-author William Colgan, a glaciologist at the Geological Survey of Denmark and Greenland.
- The unavoidable 27cm in the study is more than twice as much sea level rise as scientists had previously expected from the melting of Greenland's ice sheet. The study in the journal Nature Climate Change said it could reach as much as 78cm. By contrast, last year's Intergovernmental Panel on Climate Change report projected a range of 6cm to 13cm for likely sea level rise from Greenland ice melt by the year 2100.
- According to a recent study, **nearly 75% of Greenlanders are in the favour of extracting and exporting sand left by melting ice sheets.**
 - The melting of glaciers due to climate change has resulted in the deposition of sand and gravel along the coasts of Greenland.
- The majority of Greenland's indigenous population wants their government to evaluate the outcomes of sand exports and extraction on the country's economic development and environment.
- Arctic countries like Greenland have been struggling with the long-term implications of climate change, primarily due to their **over-reliance on the commercial fishing industry.**
- Greenland is **trying to diversify its economy through mining, oil extraction and tourism.**

About Greenland

- Greenland is an island country that is a **part of Denmark**.
- It is **located between the Arctic and Atlantic oceans**.
- Greenland is the **world's largest island**.
- The citizens of these countries are all Danish nationals.
- With a population of 56,081 (2020 data), it is the least densely populated region in the world.
- Greenland's capital is Nuuk, About a third of the population lives in Nuuk.
 - It is the **capital and largest city of Greenland**.
- Though a part of the continent of North America, Greenland has been politically and culturally associated with Europe.
- The population is concentrated mainly on the southwest coast, while the rest of the island is sparsely populated.
- Nearly 75% of Greenland is covered by a permanent ice sheet.

Sea Cucumber

Context

- Citing media reports of a Chinese firm investing in a sea cucumber farm in Pungudutivu, off Jaffna Peninsula in northern Sri Lanka, local fishermen have raised concern over its potential impact on their livelihoods, marine ecosystem, and land.

About sea cucumber

- It is a **banned marine species**.
- Sea cucumbers are in high demand in China and Southeast Asia.
- It is primarily smuggled from Tamil Nadu to Sri Lanka.
- **Protection status:** Sea cucumber in India is treated as an **endangered species listed under schedule I of Wildlife Protection Act of 1972**.
- It serves a useful role **in the marine ecosystem as they help recycle nutrients, breaking down detritus and other organic matter**.

Black Garden Queen Ant

Context

- According to a recent study, insulin-suppressing protein may be responsible for the five-fold increase in **longevity in queen ants** compared to worker ants.

Details

- Generally, species with a faster metabolism for reproduction are associated with a shorter life span.
- Ants are a notable exception to this generally accepted rule
- The queen ants, who are in charge of the colony's reproduction, have a substantially longer lifespan than the worker ants despite having the same DNA.
- For instance, a **black garden queen ant can produce one million eggs and live for 30 years**, unlike her sterile worker sisters, who only have one year's lifespan.
- Queen ants and worker ants are the two female groups in ant colonies
- Queen ants lay eggs and worker ants stay in the nest and complete tasks like tending to the young.
- Queen ants **produce an anti-insulin protein** that blocks a portion of the insulin chemical pathway in the body, responsible for ageing.

Climate Reparation

In News

- Pakistan is facing the **worst flooding disaster in its history**, now the country is **demanding reparations or compensation, from the rich countries that are mainly responsible for provoking climate change**.
 - Pakistan's Minister for Climate Change has said that Pakistan makes negligible contributions to global warming, but still, it has been among the most vulnerable to climate change.
- The floods have already claimed over 1,300 lives and **caused economic damage worth billions of dollars**.

Details

- The principles behind Pakistan's demand for reparations appear to be fairly **well-established in Environmental Justice**.
- Pakistan is not alone in making this demand. **Nearly the entire developing countries, mainly the small island states are insisting on setting up an international mechanism for financial compensation for loss and damage caused by climate disasters**.
 - The topic has come up frequently at international climate change negotiations and on other platforms.
- The demand for compensation for loss and damage from climate disasters is a stretching of the universally acknowledged

"Polluter Pays" principle that makes the polluter liable for paying not just for the cost of remedial action, but also for compensating the victims of environmental damage caused by their actions.

- The responsibility falls on those rich countries that have contributed most of the greenhouse gas emissions since 1850, generally considered to be the beginning of the industrial period.
- The **United States, European Union, UK, Russia, Canada, Japan, and Australia's combined contribution goes past 65% or almost two-thirds of all emissions.**
- Currently, India is the third largest emitter, accounting for only 3% of historical emissions. China is the world's biggest emitter for over 15 years now and has contributed about 11% to total emissions since 1850.

Red-Eared Slider Turtle

Context

- **The presence of invasive and non-native south red-eared slider turtles would lead to the extinction of native species of their own kind, according to experts.**

Details

- India is home to 29 freshwater turtles and tortoise species of the 356 turtle species recognised worldwide and around 80 per cent of them are threatened, according to a 2020 study published in journal *Reptile and Amphibians conservation and Natural History*.
- The red-eared sliders are native to south-eastern USA and Mexico, but have found their way across the globe including India through trade of exotic animals
- **In India, keeping indigenous turtles as pets is prohibited under the wildlife protection act.** But the foreign breeds are not restricted and are kept as pets in many families across India.
- It is also **not mentioned in the Convention on International Trade in Endangered Species of Wild Fauna and Flora.**
- The small and easy-to-maintain species is a hit in the pets market. The species breeds faster compared to other local turtle varieties.
- As their size increases, they no longer fit in small tanks or ponds. The owners release them in the wild or nearby waterbodies and once released, they become a threat to the local fauna
- The species has a wide set of diet and eats almost all vegetation, unlike native species.
- **The red-eared slider is also aggressive, it drives away the native species. Its paws are also lethal**
- The species is already spread across many Indian states and poses a threat to all species of its kind, including soft-shell and hard-shell turtles.
- **It is widely found in urban wetlands, such as – Sukhna lake in Chandigarh, temple ponds of Guwahati, lakes of Bengaluru, Sanjay Gandhi national park in Mumbai, Yamuna river in Delhi – among other water bodies**
- **The species is considered as one of the world's 100 worst invasive non-native species.**
- Scientific Name: *Trachemys scripta elegans*
- **The red-eared slider derives its name from red stripes around the part where its ears would be and from its ability to slide quickly off any surface into the water.**

Swachh Vayu Diwas

Context

- Union Ministry of Environment, Forest and Climate Change organized **3rd International Day of Clean Air for blue skies as 'Swachh Vayu Diwas ("Swachh Vayu Neel Gagan")'** to raise awareness and facilitate actions to improve air quality under National Clean Air Programme (NCAP).

Details

- Union Minister for Environment, Forest and Climate Change released brochures on Capacity building and public outreach under NCAP with best practices in eight cities: Srinagar (All Hands on Board), Varanasi (Nothing goes to waste), Bengaluru (Clean Road, Clean City), Pune (The Right Drive), Hyderabad (The Green Way), Akola (Water Woes), Thootukudi (Treasure from Trash) and Lucknow (Under Control).
- He reiterated that the LiFE mission stated by the Prime Minister at COP 26 in Glasgow, needs to be taken forward not only across the country but all over the world. The meaning of LiFE Mission is that there should be a mindful utilization of resources.
- The Minister stated that what we aim for in the National Clean Air Mission program is to address the problems of air pollution at the regional level keeping in mind the peculiarities of different regions. The solutions to this issue have to be socio-economic. In National Clean Air Mission program, new startups should be promoted to work towards innovative solutions, said the Minister.
- **United Nations General Assembly has designated 7th September as the "International Day of Clean Air for blue skies" with an aim to raise awareness and to promote actions to improve air quality.** This year, it raises awareness on the urgency

of strengthening national action and regional collaboration to improve air quality, with the global theme of "The Air We Share".

- **National Clean Air Programme** aims at improving air quality by reducing Particulate Matter concentrations by 20-30% in 131 cities in the country. It includes 123 Non-Attainment Cities (NAC) which exceed the National Ambient Air Quality Standards (NAAQS) for 5 consecutive years and 42 Million Plus Population Cities/Urban Agglomerations. 34 cities are common in both categories.

Satat Initiative

Context

- Sustainable transport initiative of Petroleum Ministry is **targeting production capacity of over 15 million tonnes of compressed biogas**

Details

- The Indian Biogas Association (IBA) said it has recommended setting up testing labs in all States in the next two years to achieve the Sustainable Alternative Towards Affordable Transportation (SATAT) target, which **aims to establish 5,000 compressed biogas (CBG) plants by 2025**.
- Recently the Minister of Petroleum and Natural Gas has handed over the 100th Letter of Intent (LOI) to the Compressed Bio-Gas (CBG) Entrepreneur (producer) under the Sustainable Alternative Towards Affordable Transportation (SATAT) scheme.
- **SATAT has following four objectives:**
 1. Utilising more than 62 million metric tonnes of waste generated every year in India,
 2. Cutting down import dependence,
 3. Supplementing job creation in the country, and
 4. Reducing vehicular emissions and pollution from burning of agricultural / organic waste.

Eco Sensitive Zones

Context

- **The Supreme Court of India dismissed a public interest litigation filed by Krashak Shabdam, a Kerala farmers' non-profit.** The group had **challenged the Madhav Gadgil and K Kasturirangan Committees** demarcating an area of 56,825 square kilometres spread across six states as the Western Ghats Ecologically Sensitive Area (ESA).

Details

- The six states are Gujarat, Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu.
- The petitioner had pleaded to the apex court to not implement the recommendations of the Western Ghats Ecologically Expert Panel (Gadgil Committee Report) and the High-Level Working Group (Kasturirangan Committee Report).
- **The Madhav Gadgil Report had classified the whole of the Western Ghats, spread across six states and covering 44 districts and 142 talukas, as an Eco-Sensitive Zone (ESZ).**
- **The Kasturirangan Committee had reduced the ESZ to 37 per cent of the total area, covering about 60,000 sq km. It had recommended that 123 revenue villages be demarcated as ESA.**

Eco-Sensitive Zones (ESZs)?

- Eco-Sensitive Zones or Ecologically Fragile Areas are **areas within 10 kms around Protected Areas, National Parks and Wildlife Sanctuaries.**
- ESZs are **notified by MoEFCC, Government of India under Environment Protection Act 1986.**
- In case of places with sensitive corridors, connectivity and ecologically important patches, crucial for landscape linkage, even area beyond 10 km width can also be included in the eco-sensitive zone.
- The basic aim is to regulate certain activities around National Parks and Wildlife Sanctuaries so as to minimise the negative impacts of such activities on the fragile ecosystem encompassing the protected areas.
- **Prohibited activities:** Commercial mining, saw mills, industries causing pollution (air, water, soil, noise etc), establishment of major hydroelectric projects (HEP), commercial use of wood, Tourism activities like hot-air balloons over the National Park, discharge of effluents or any solid waste or production of hazardous substances.
- **Regulated activities:** Felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, e.g. adoption of heavy technology, pesticides etc, widening of roads.
- **Permitted activities:** Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities.

GEF Small Grants Programme

Context

- MoEFCC, UNDP & TERI come together to launch GEF Small Grants Programme

Details

- The Global Environment Facility Small Grants Programme **provides financial and technical support to projects that conserve and restore the environment while enhancing the lives of local communities.**
- This year marks the seventh operational phase of this programme and is **jointly implemented by the Ministry of Environment, Forest and Climate Change, the United Nations Development Programme and The Energy and Resources Institute (TERI).**
- The grants are given to NGOs working in particular landscapes; Virudhunagar and Ramanathapuram have been chosen as two districts representing the Indian coastal region in the state.
- The project aims to study and work on the themes of biodiversity, climate change and land degradation through NGOs.
- The regional inception workshop, hosted by TERI, was attended by representatives of NGOs and served as an introduction to the programme and allowed them to interact with industry experts and officials.
- The workshop included a session that discussed the alignment of SGP with state level policies and interventions by the State government and private institutions.
- In consultation with **UNDP and the MoEFCC**, SGP will release a request for proposal which will contain guidelines regarding a working plan of action. NGOs can choose different levels of grants, the highest is at 50,000 USD. Applications are reviewed by regional advisory committees before being passed onto the National Steering Committee.

Caracal

Context

- The cheetah is returning to India today after seven decades. **But the caracal, which was used by India's nobility in the sport of coursing like the cheetah, is struggling to survive, although both species had a similar distribution in the past. A team of researchers have now mapped out the most suitable areas for the species to survive in India.**

Details

- **The Asiatic caracal (*Caracal caracal schmitzi*) is an elusive medium-sized and locally threatened felid (cat) species, which has been widely reported to be on the brink of extinction in India.**
- The reasons are large-scale hunting, illegal trading and loss of natural habitats are considered significant threats to the species.
- **The caracal is currently included in Schedule I of the Wild Life (Protection) Act, 1972 and the Near Threatened category by the Conservation Assessment and Management Plan and International Union for Conservation of Nature Red list assessment in India**
- The most suitable areas for caracals on the district level were found to be in the Kutch district of Gujarat; Sheopur, Morena, and Shivpuri of Madhya Pradesh and Sirohi, Jalore, Alwar, Karauli, Sawai Madhopur, Kota, Dhaulpur, Bundi, Baran, Jaipur, Tonk and Dausa of Rajasthan.
- The most suitable habitat for caracals in Rajasthan, Gujarat and Madhya Pradesh is located in **Kutch, the Malwa Plateau, the Aravalli hill range and the Bundelkhand region**, according to the researchers.
- They also noted that large amounts of caracal suitable habitats in India fell within protected areas, thus providing an excellent opportunity for its conservation in the already existing management and conservation setup.
- The protected areas which provided high conservation potential for caracals included Kachchh Wildlife Sanctuary (WLS) in Gujarat, the tiger reserves of Ranthambhore, Mukundra hills and Sariska and the WLS of Kumbhalgarh, Mount Abu and Todgarh-Raoli in Rajasthan, as well as Gandhi Sagar WLS in Madhya Pradesh.
- **The caracal was the only other feline which was used for hunting in India.**
- The *Saidnamah-i-Nigarin* manual from the Bundela Rajput princely state of Ajaigarh in Central India records that the caracal can be trained to hunt squirrels as well as birds such as kites, cranes and crows. It can also be trained to hunt animals far larger than itself such as the cheetah, the barasingha and the nilgai.
- **In 2021, the National Board for Wildlife and the Ministry of Environment, Forest and Climate Change included Caracal in the list of Critically Endangered species under critically endangered species recovery programme.**

Green Fins Hub

Context

- **The United Nations Environmental Programme (UNEP), along with UK-based charity Reef-World Foundation, recently launched the Green Fins Hub, a global digital platform they said would give sustainable marine tourism a 'major boost'.**

Details

- The platform will help diving and snorkelling operators worldwide to make simple, cost-efficient changes to their daily practices by utilising tried and tested solutions, a statement by UNEP said.
- It would also help them keep track of their annual improvements and communicate with their communities and customers.
- Green Fins Hub will host two types of membership. One would be digital membership available for diving, snorkelling and liveaboard operations globally.

- "Throughout every year of membership, operators will receive environmental scores based on a detailed online self-evaluation and progress made on their action plans," the statement said.
- Green Fins Certified Members will continue to be assessed annually and trained in person at their operation. The assessment process will continue to be based on set criteria using a scoring system (0-330 point system, with a low score implying low impact of a business on coral reefs).
- There will be a minimum threshold (>200 of a maximum environmental impact score) for becoming a Green Fins Certified Member and a ranking of bronze, silver or gold certified members according to performance.
- The platform will have other features too. The Green Fins Community Forum will be for operators around the world to raise industry needs, discuss environmental issues and share lessons and ideas with like-minded industry leaders, non-profits and governments.
- The Green Fins Solutions Library will give access to over 100 proven environmental solutions to common daily operational challenges.
- The Action Plan Tracker will enable members to receive an annual sustainability action plan with set goals. An advanced user interface will allow them to track their progress over time.
- Green Fins Hub is expected to scale up reach to a potential 30,000 operators worldwide from about 700 operators across 14 countries today

Tomistoma

In News

- The Tomistoma (*Tomistoma schlegelii*) is a shy and unsociable species that typically withdraws from areas with a high degree of human activity.
 - However, increasing human activities in their habitat are making them attack people.
 - According to the study; in Indonesia, human activities such as oil palm plantations, settlements and illegal gold mining resulted in the declining habitat of tomistoma and made them attack people.

About Tomistoma

- The Tomistoma is a large crocodilian species native to Southeast Asia.
- It is found in Indonesia, Malaysia and Brunei.
- It is a freshwater species and is frequently associated with peat swamp forests.
 - It shares its habitat with two other types of crocodilians; the Saltwater crocodile and the Siamese crocodile.
- It is recorded as endangered species on the International Union for the Conservation of Nature Red List of Threatened Species.
- It was primarily believed to be piscivorous (fish-eating), but, in recent decades it has been found that the species has a much broader diet.
 - Tomistoma also preys on birds, monitor lizards, monkeys and deer, etc.
- Human-Tomistoma conflict was relatively rare and mitigation of conflict might be possible without removing animals.
- The study urged cooperation with local authorities and communities to create a crocodile exclusion zone and investigate the causes of human-Tomistoma conflict.

Fly Ash

Context

- The National Green Tribunal (NGT) noted that there was an urgent need to augment the utilisation and disposal of fly ash in Chhattisgarh.

Details

- The NGT order was in response to an application filed regarding fly ash disposal by the management of Bharat Aluminium Company Ltd (BALCO) in Korba district.
- The application alleged that the fly ash disposal was in violation of rules and was causing adverse effects on human health and agriculture fields.
- Fly ash has been a big menace for years now because it usually dumped illegally into water bodies. Also, the presence of fly ash in ambient air deteriorates air quality.
- The under-utilisation of fly ash, a by-product, over the years has led to the accumulation of 1,670 million tonnes of it. This is according to the Summary of Ash Generation and Utilisation during

Health and environmental impact of fly ash

- Fly ash comprises **toxic heavy metals** like nickel, cadmium, arsenic, chromium, lead.
- Minute, poisonous fly ash particles can accumulate in the respiratory tract, and cause **gradual poisoning**
- 80,000–1,15,000 premature deaths in India in 2011–12 due to **emissions from coal power plants** – of them 10,000 were children under the age of five
- 20 million cases of **respiratory ailments** can be directly linked to exposure to fly ash
- Fly ash contains 100 times **more radiation than nuclear waste**
- Ash sludge from coal power plants in the Rann of Kutch has led to **destruction** of mangroves, drastic reduction in crop yields, and pollution of groundwater

2020-2021 by the NGT-constituted joint committee on fly ash.

- There has been a question mark over fly ash usage and compliance norms for a long time. Several incidents involving breaches in ash dykes have also been reported.
- Sometimes, ash flooding has led to the loss of lives in nearby settlements as well.
- Delhi-based think tank Centre for Science and Environment (CSE) reported in 2021 that **40-50 per cent power plants in India were still in non-compliance of achieving 100 per cent fly ash utilisation 22 years since the 1999 notification was introduced. There are some plants that do not even utilise 30-40 per cent of their generated ash.**
- Thus, generating approximately 9,000 megawatt of electricity leads to an average generation of 72,000 tonnes of fly ash daily. The rate of fly ash generation in general is much higher than the rate of disposal and utilisation.

What is Fly ash?

- Fly ash is a **fine gray powder** consisting mostly of spherical, glassy particles that are produced as a byproduct in coal-fired power stations.
- Fly ash has pozzolanic properties, it **reacts with lime to form cementitious compounds.**
- It is commonly known as a **supplementary cementitious material.**
- Fly ash is also known as flue-ash or simply ash.

Application or uses of Fly Ash

Fly ash is suitable for a wide variety of applications and uses, including:

- Concrete
- Dams
- Flowable fill
- Mines
- Landfills
- Geopolymer concrete

Peatlands

Context

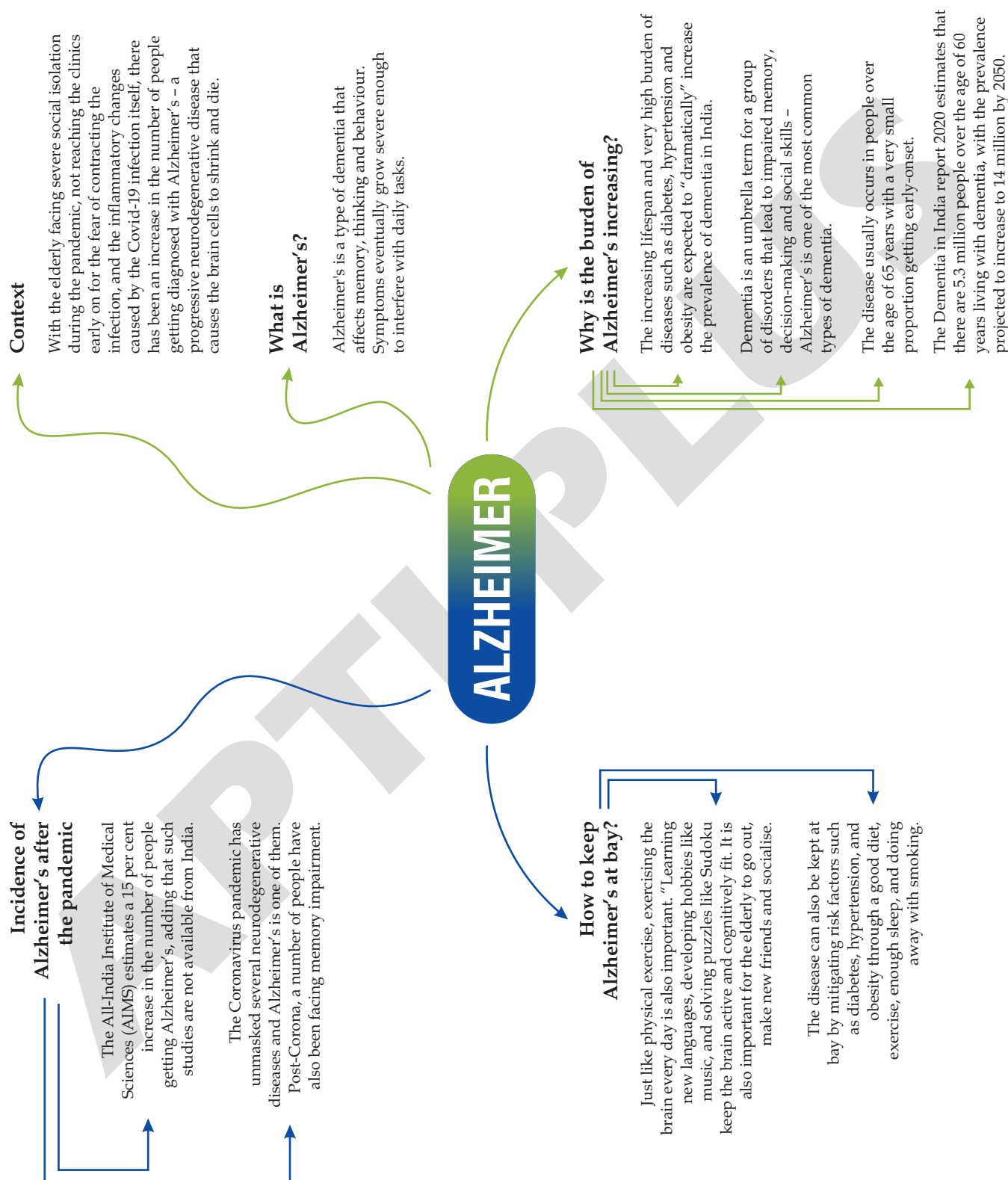
- **The peatlands in the central Congo basin require significant investment and more research to safeguard them, according to a new report. The peatlands face significant threats due to hydrocarbon exploration, logging, palm oil plantations, hydroelectric dams and climate change.**

More on the news

- The peatlands are located in both the Democratic Republic of Congo as well as the Republic of Congo, which are largely unprotected.
- The Central African Forests Commission, an intergovernmental organisation, came out with the report Congo Basin Forests - State of the Forests 2021 through its technical unit, the Central African Forest Observatory.
- **Congo basin has the world's largest tropical peatlands, discovered in 2017. Scientists estimate that these peatlands store carbon worth about 20 years of the fossil fuel emissions of the US. The basin is also rich in biodiversity and in minerals.**
- Also known as the Cuvette Centrale peatlands, the world's largest tropical peatland complex covers over 145,500 square kilometres. They store 30 gigatonnes of carbon in the peat, approximately equivalent to the above-ground biomass of trees in the entire Congo basin forest, according to the report.
- The two countries will require considerably more funding in the coming years to conserve these high-carbon and biodiversity-rich peatland regions from overexploitation and land-use changes, said the report.
- Relatively little is known about these ecosystems, including the activities of communities in the region, found the report. A large amount of investment in regional capacity is needed.
- Ongoing and expected future programmes provide some of the needed support. However, significant additional investment is required to support national governments and further interdisciplinary research into these important landscapes, the analysis said.

About Peatlands

- Peatlands are formed due to the accumulation of partially decomposed plant remains over thousands of years under conditions of waterlogging.
- They are important not just for their carbon but also for their crucial role in the storage and cycling of water and nutrients.
- Peatlands provide drinking water, mitigate the risk of climate change and flood risk and secure the livelihoods of communities that live in these landscapes.
- There are several international and regional agreements and conventions exist, such as the Ramsar Convention, the United Nations Environmental Assembly Resolution and the Brazzaville Declaration on Peatlands, with provisions for sustainable management of peatlands and their protection.
- Peatlands occur in almost every country on Earth, currently covering 3% of the global land surface.
- Peatlands are the largest natural terrestrial carbon store.
- Damaged peatlands are a major source of greenhouse gas emissions, annually releasing almost 6% of global anthropogenic CO₂ emissions.



NATIONAL HEALTH ACCOUNTS ESTIMATES 2018-19

Context

According to the National Health Accounts Estimates 2018-19, government spending as a percentage of total health expenditure increased by more than 11 percentage points over the previous five years, from 23.2% in 2013-14 to 34.5% in 2018-19.

The National Health Accounts (NHA) Estimates describe the country's total expenditure on healthcare — whether by the government, the private sector, individuals, or NGOs — and the flow of these funds. It answers questions such as what are the sources of healthcare spending, who manages this spending, who provides healthcare services, and which services are utilised.

Major findings of the report

One of the most important findings of the 2018-19 report is that government spending as a proportion of the country's Gross Domestic Product (GDP) went down to 1.28% from 1.35% in the previous year's (2017-18) report.

The total health spending — which includes spending by both government and non-government agents — declined from 3.9% of the GDP to 3.2% in the five years up to 2018-19.

More importantly though, the 2018-19 report shows that the massive fall in out-of-pocket expenditure by patients at the point of care recorded in the previous report has been sustained.

Out-of-pocket expenditure

The current health expenditure — not accounting for any expenses that can be utilised over a few years — stood at Rs 5.4 lakh crore, which was 90.6% of the total health expenditure.

The Centre's share in the current health expenditure stood at 11.71%, state governments accounted for 19.63%, local bodies 1.01%, and households (including insurance contributions) 60.11% of the current health expenditure. The rest was accounted for by corporates (as insurance contributions), NGOs, and external or donor funding.

The total government health expenditure, which is spending by any government body for any purpose, for the year stood at Rs 2.42 lakh crore and accounted for 40.6% of the total spending on healthcare.

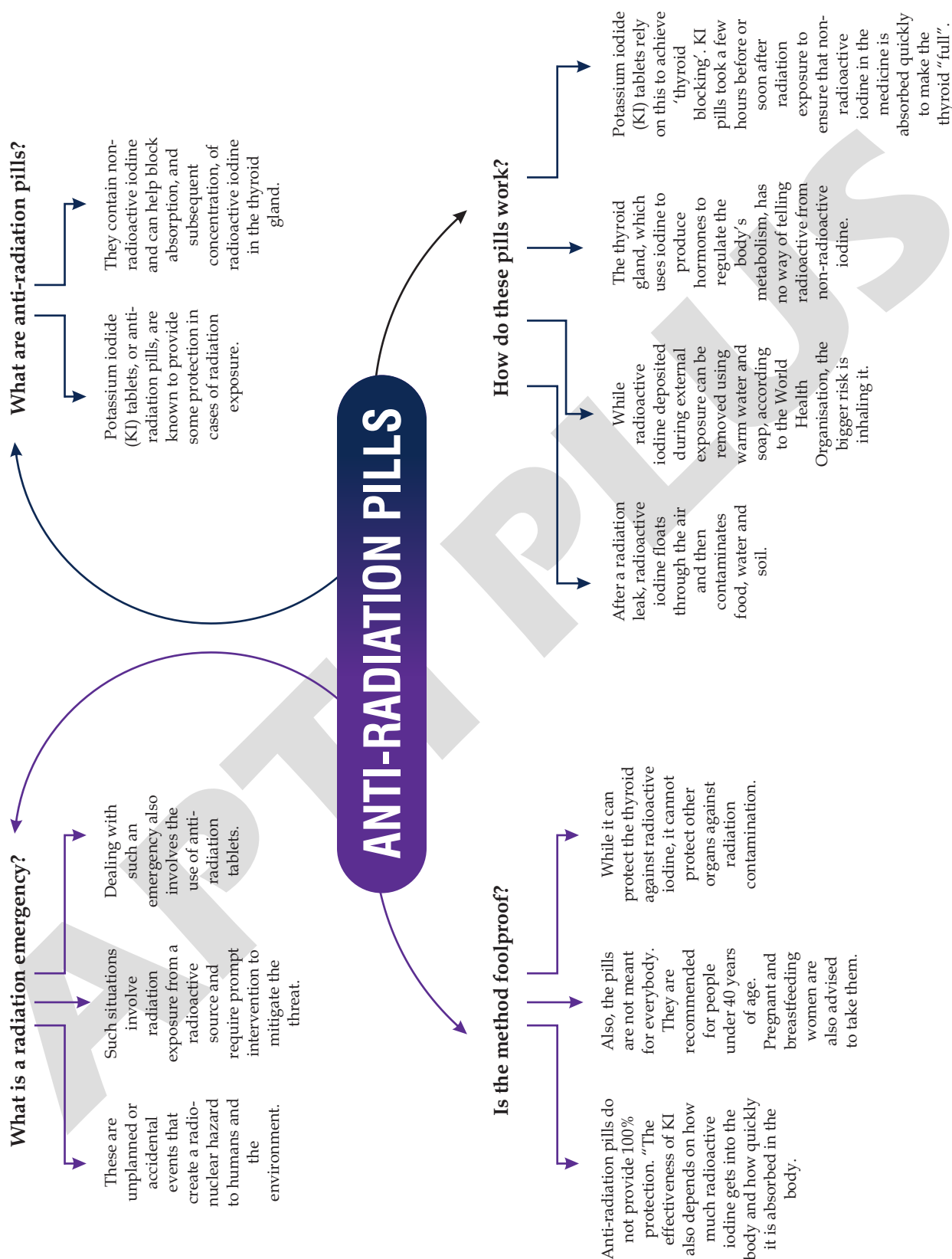
The government's share in the total expenditure has increased by over 11 percentage points in five years, from 29% recorded in 2014-15.

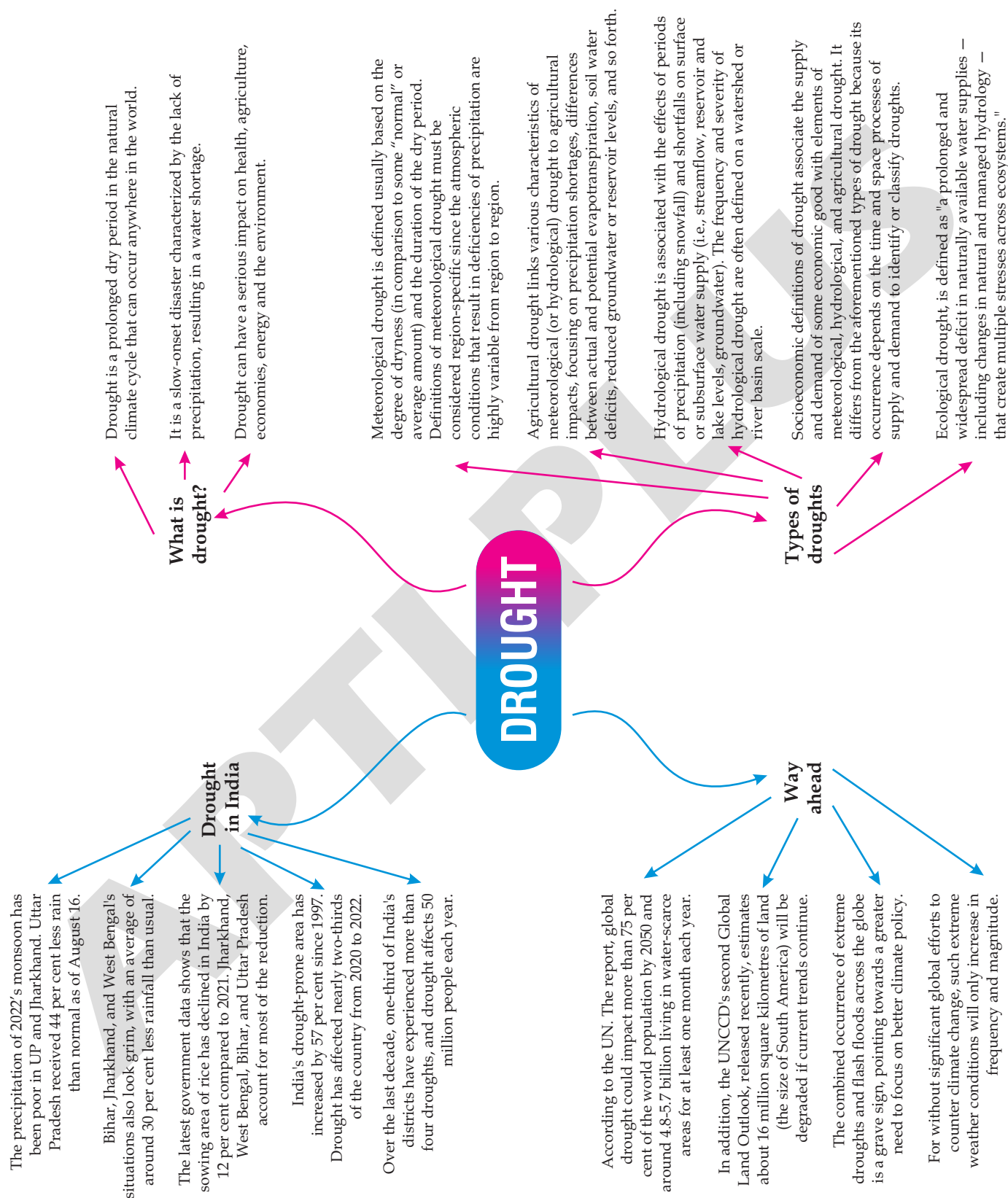
Out-of-pocket expenditure

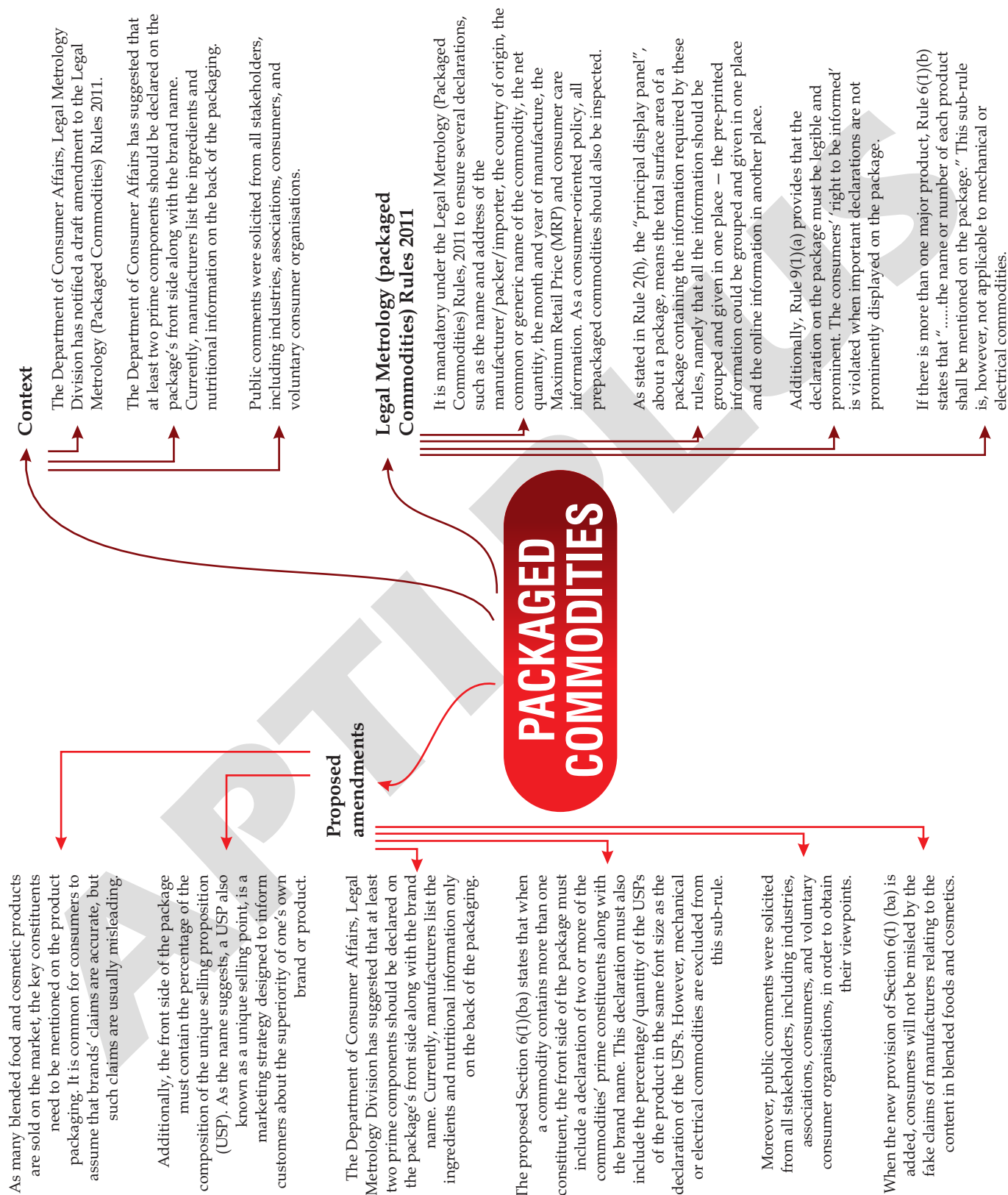
People paying for healthcare expenses out-of-pocket made up for 48.2% of the total health expenses in the year 2018-19, down from 48.8% in the previous year (2017-18). The out-of-pocket expense has decreased substantially from the 62.6% recorded in 2014-15.

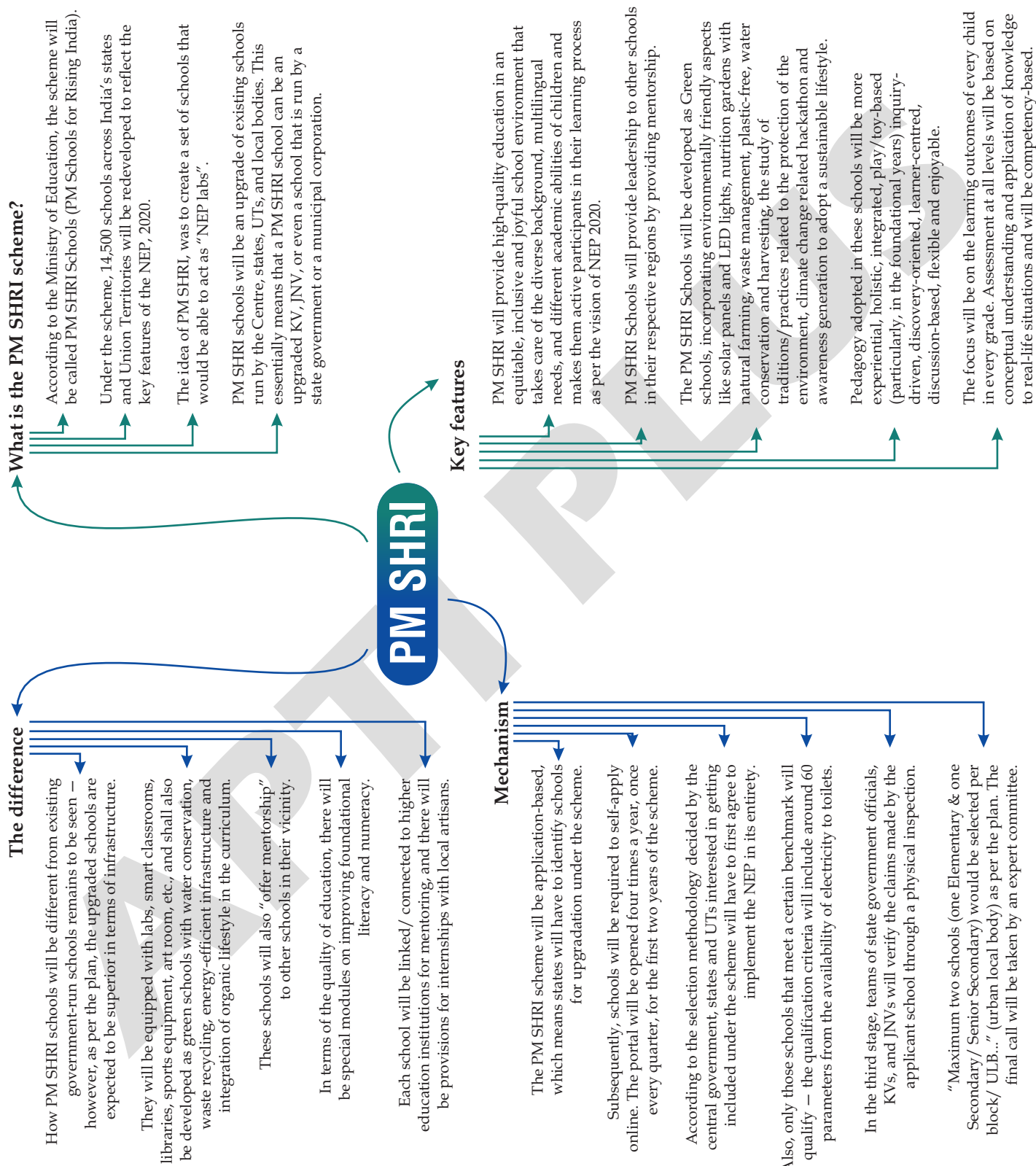
In 2017, India was in 66th position out of 189 countries, with \$100.05 per capita out-of-pocket spending, according to data from the Global Health Expenditure Database (annexure in the report).

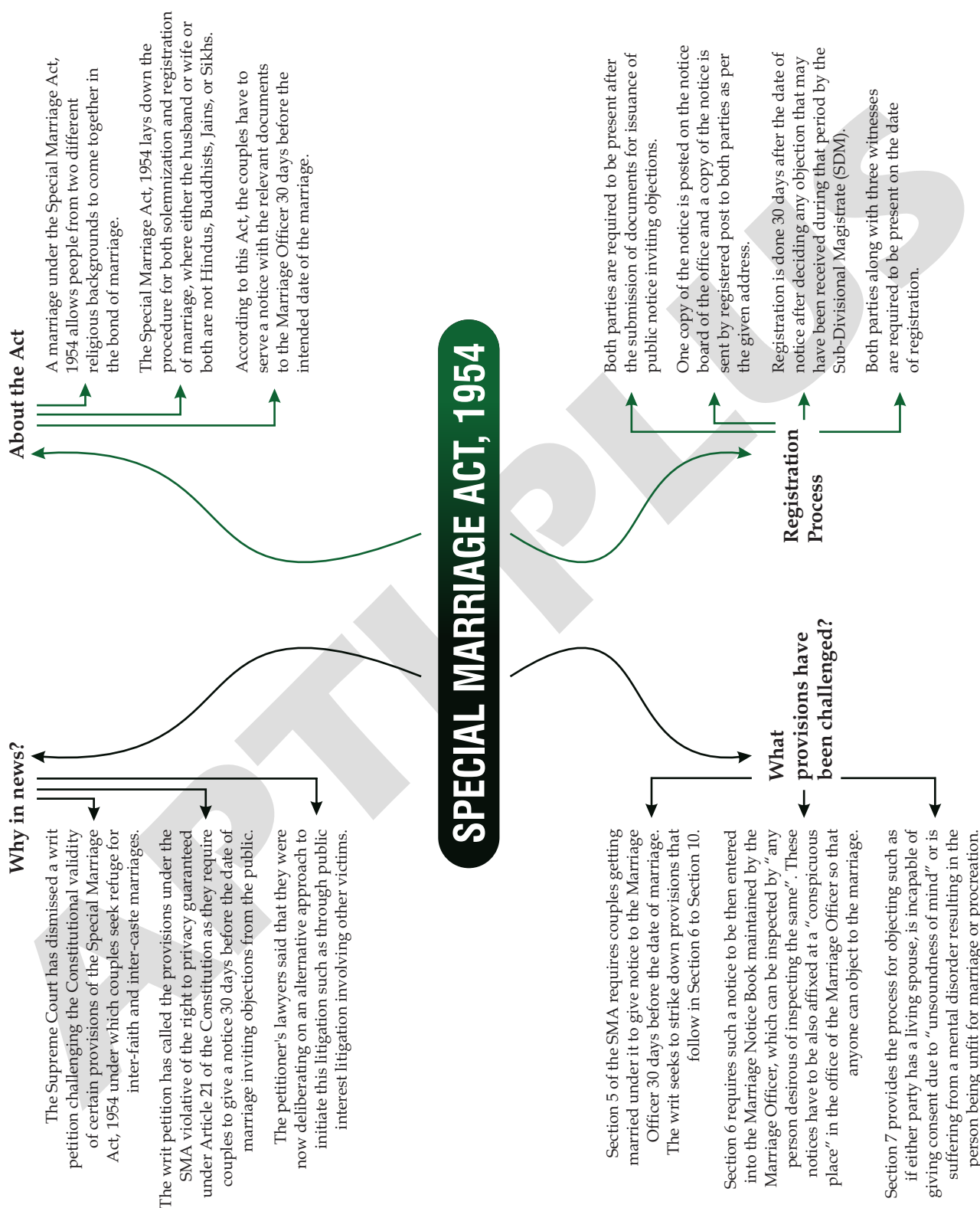
Out-of-pocket expenditure was the highest in the developed countries, with the United States ranking 185 (\$1151.94), and the United Kingdom at 167 (\$755.72). At the top — No. 189 — was Switzerland, with \$2,109.74.











How are the world's oceans regulated as of now?

Some treaties, along with the UNCLOS, regulate the conduct of actors on the high seas.

The UNCLOS led to the establishment of territorial sea boundaries 22 km offshore, deciding the region up to which countries could claim full sovereign territorial rights, as well as the 200 nautical miles EEZ limit. It also created the International Seabed Authority and other conflict-resolution mechanisms.

But a treaty dedicated to protecting ocean health does not exist as of now. Conversely, every country has the right to access open seas, resulting in large-scale drilling and trawling operations for catching fish and other animals for commercial purposes.

Why in news?

Negotiations involving 168 countries, including the European Union, to agree on a UN treaty for protecting oceans failed on August 27.

When the latest round of talks began two weeks ago in New York, it was hoped that an agreement would be arrived at for the conserving marine life at the 'high seas' which lie outside the exclusive jurisdiction of different countries.

UN HIGH SEAS TREATY

What are the risks of countries failing to reach an agreement?

But a treaty dedicated to protecting ocean health does not exist as of now. Conversely, every country has the right to access open seas, resulting in large-scale drilling and trawling operations for catching fish and other animals for commercial purposes.

According to NASA, ninety per cent of global warming is occurring in the ocean.

The effects of ocean warming include sea level rise due to thermal expansion, coral bleaching, accelerated melting of Earth's major ice sheets, intensified hurricanes, and changes in ocean health and biochemistry.

According to World Wide Fund, excessive fishing has increased manifold over the years, and a third of species such as sharks and rays are at the risk of extinction.

What is the proposed UN High Seas treaty?

Also referred to as the 'Paris Agreement for the Ocean', the treaty to deal with Biodiversity Beyond National Jurisdiction has been under discussion for several years.

The proposed treaty concerns the ocean existing beyond the Exclusive Economic Zones that lie from the coast of a country to about 200 nautical miles or 370 km into the sea, till where it has special rights for exploration. Waters beyond that are known as open seas or high seas.

The treaty was to be negotiated under the United Nations Convention on Laws of the Sea (UNCLOS) of 1982 which governs the rights of countries regarding marine resources.

As there is no treaty for conserving the health of vast swathes of the earth's oceans, a UN resolution in 2017 decided to rectify this while setting 2022 as the deadline.