



## DAILY PRELIMS NOTES COMPILATION

AUGUST 2022

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6/6/2017 Civil Services Marksheet  
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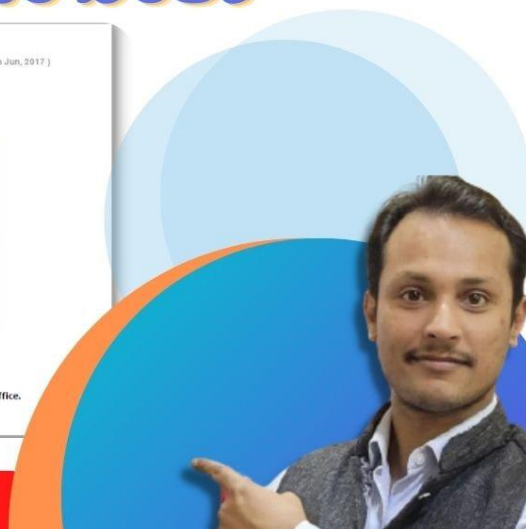
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**SANTOSH SIR**  
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## HISTORY

### 1. Pingali Venkayya

#### **Context**

The Prime Minister, Shri Narendra Modi has paid homage to Pingali Venkayya on his birth anniversary.

#### **Concept:**

- **Pingali Venkayya** was born on **2nd August 1876** in **Bhatlapenumarru** village of Andhra Pradesh.
- **Pingali Venkayya** was **agriculturist** and also an educationist who set up an educational institution in Machilipatnam.
- During his stay in South Africa at the time of the **Anglo Boer war**, Venkaya served as a **British army soldier**.
- Venkayya was very loyal and highly committed towards **Gandhiji** and a firm believer of **Gandhian principles**.
- In **1916**, he published a booklet on flags. The booklet was titled '**A National Flag for India**.' It contained twenty-four designs of flags.
- In **1921**, when he met **Gandhiji** in **Vijayawada**, he showed him the booklet. Gandhi was pleased to see the design and acknowledged the need for a national flag, so he asked Venkayya to design a fresh one at the National Congress Meeting, held in **1921**.
- Initially, Pingali Venkayya-designed the flag featured saffron and green colours only (**called the swaraj flag**); however, later, it was redesigned, and the third colour, white, was introduced along with a spinning wheel (**Dharma Chakra**) at the centre.
- After undergoing several changes, the Tricolour was adopted as our national flag at a **Congress Committee meeting in Karachi in 1931**.
- The Indian flag was adopted in its present form during a meeting of the Constituent Assembly held on **July 22, 1947**.

### 2. Fairs

#### **PM mentioned fairs in his Mann Ki Baat**

Name	State	Salient features
<b>Minjar Mela</b>	Chamba, Himachal Pradesh.	Minjar is the most popular fair of Chamba which is attended by a large number of people from all over the country. This mela is held on the second Sunday of the Shravana month. The fair is announced by distribution of Minjar which is a silk tassel worn on some parts of the dress by men and women alike.
<b>Sair</b>	Himachal Pradesh	Celebrated to mark the end of the harvest season, Sair is a cultural festival that is observed in many parts of Himachal like Kullu, Solan, Mandi. However, if you want to experience this famous cultural festival of India in its full glory then you need to head to Shimla
<b>Jagra</b>	Shimla and Simour, Himachal Pradesh	Bisu songs are sung after invoking the deity of Mahasu. This awakening of Mahasu Devta takes place in Himachal at Shimla, Kinnaur and Sirmour; simultaneously in Uttarakhand
<b>Mawli Mela</b>	Chhattisgarh	
<b>Samakka-Saralamma Jatara Fair</b>	Telangana	Sammakka Sarakka Jathara is the largest tribal religious congregation in the world, held every two years (biennially), with approximately ten million people converging on the place, over a period of four days, which is located about 90 km from Warangal city.)
<b>Maridamma fair</b>		Maridamma temple is located in Peddapuram taluk in East Godavari district. Maridamma festival is celebrated for thirty-one days from the Amavasya in the month of Jyeshtha to the Amavasya in the month of Ashadha. Thousands congregate with

		dances like kolatoms and display physical feats and skills with sticks.
<b>‘Siyawa ka Mela’ Mankhan Ro Mela’</b>	Rajasthan	The people of the Garasiya tribe in Rajasthan organize ‘Siyawa ka Mela’ or ‘Mankhan Ro Mela’ on Vaishakh Shukla Chaturdashi

### 3. The Gujarati and Marathi identities in cosmopolitan Mumbai

#### Context:

- The controversy triggered by Governor B S Koshiyari’s statement has rekindled an old debate on a sensitive issue that is rooted in the origin story and political cross-currents of Maharashtra

#### The struggle for Maharashtra

- Maharashtra was created on **May 1, 1960 by cleaving the bilingual Bombay State** into the unilingual states of **Maharashtra and Gujarat**, dominated linguistically by Marathi and Gujarati speakers respectively. The leadership of the Congress party was forced to retain Mumbai in the new state of Maharashtra. Other suggestions — including handing over Mumbai to Gujarat or making it a Union Territory — were categorically rejected by stalwarts from Maharashtra.
- The birth of the new state was preceded by a period of intense turmoil. **In 1956, police fired on a peaceful demonstration by the Samyukta Maharashtra Samiti demanding a separate state of Maharashtra, killing 106 people.** The stone statue of patriots holding a torch at **Hutatma Chowk in the heart of Mumbai is a stark reminder of the blood and sweat that was shed during the agitation for Mumbai (then Bombay).**

#### The States Reorganisation Act, 1956

- The States Reorganisation Act, 1956 was **a major reform of the boundaries of India’s states and territories, organising them along linguistic lines.**
- Although additional changes to India’s state boundaries have been made since 1956, the States Reorganisation Act of 1956 remains the single most extensive change in state boundaries after the independence of India.
- The Act came into effect at the same time **as the Constitution (Seventh Amendment) Act, 1956, which (among other things) restructured the constitutional framework for India’s existing states and the requirements to pass the States Reorganisation Act, 1956 under the provisions of Part I of the Constitution of India, Article 3**
- On the basis of the recommendations of State Reorganisation Commission in 1956, **14 states and 6 UTs were created.**
- The chronology of states’ bifurcation in India after 1956:
  - 1960 – Bombay state split into Maharashtra and Gujarat**
  - 1963 – Nagaland carved out of Assam**
  - 1966 – Haryana and Himachal Pradesh carved out of Punjab state**
  - 1972 – Meghalaya, Manipur and Tripura were formed**
  - 1975 – Sikkim became part of Indian union**
  - 1987 – Goa and Arunachal Pradesh became states (earlier these were UTs)**
  - 2000 – Uttaranchal (out of UP), Jharkhand (out of Bihar) and Chhattisgarh (out of Madhya Pradesh) were formed**
  - Telangana (out of Andhra Pradesh), when it was eventually created in 2014, became India’s 29<sup>th</sup> State**

### 4. Unsung tribal freedom fighters

#### Context

Ministry of Culture has released the third Comic book on stories of 20 Tribal Freedom Fighters on 2<sup>nd</sup> August at Tiranga Utsav celebration in New Delhi.

#### Concept:



1. **Tilka Majhi** rebelled against the atrocities of the British East India Company. He mobilised the Pahadia tribe to which he belonged and raided the Company treasury. He was hanged.
2. **Thalakkal Chanthu** of the Kurichiyar tribe was an invaluable part of Pazhassi Raja's war against the East India Company. He was hanged.
3. **Budhu Bhagat** of the Oraon tribe was shot down in one of his many encounters with the British, along with his brother, seven sons and 150 men from his tribe.
4. **Tirot Singh**, a Khasi chief, realised the duplicity of the British and waged war against them. He was captured, tortured and imprisoned. He died in prison.
5. **Iv Raghoji Bhangre** belonged to the Mahadeo Koli tribe. He revolted against the British and continued his struggle even though his mother was imprisoned. He was captured and hanged.
6. **Sidhu and Kanhu Murmu** from the Santhal community, revolted against the British and their stooges. They led the Santhal in the Hul rebellion. Both were betrayed, caught and hanged.
7. **Rendo Manjhi and Chakra Bisoi** of the Khond tribe objected to the British interfering in their customs. Rendo was caught and hanged while Chakra Bisoi became a fugitive and died in hiding.
8. The Indian Uprising in Meerut had begun. **Nilambar and Pitamber** who belonged to the Bhogta clan of the Kharwar tribe were inspired to revolt and led their people to rise up against British oppression. They were both captured and hanged.
9. **Ramji Gond** of the Gond tribe rose against the feudal system by which wealthy landlords oppressed the poor with the support of the British. He was caught and hanged.
10. **Telanga Kharia** of the Kharia tribe, refused to accept the tax system of the British and their governance. He insisted that they follow their traditional method of self-governance and organized raids on the treasury. He was betrayed and shot dead.
11. **Tantiya Bhil**, known as the Robin Hood of the Central Provinces, robbed trains carrying British wealth and distributed it among his tribe, the Bhils. He was trapped and hanged.
12. **Major Paona Brajabasi of Manipur**, fought to defend the kingdom of Manipur. He was the hero of the Anglo-Manipur war. He fought like a lion but was overpowered and beheaded.
13. **Birsa Munda**, of the Munda tribe, became a legend in his opposition to the British. He led the Mundas in a series of confrontations with them. He was caught and imprisoned and according to British records, died of cholera. He was 25 years old when he died.
14. **Matmur Jamoh** of the Adi tribe of Arunachal Pradesh, rebelled against the arrogance of the British. He and his companions surrendered to the British as their villages were being burnt. They were sent to the Cellular Jail and died there.
15. **Tana Bhagat** of the **Oraon tribe** was inspired by a divine vision to preach to his people and make them aware of the exploitation of their British overlords. He was caught and tortured severely. He was released, a broken man, and died subsequently.
16. **Malati Mem** of the Tea-garden community was inspired to join Mahatma Gandhi's satyagraha movement. She fought against the British monopoly over opium and educated her people about the dangers of opium addiction. During an encounter with the police, she was shot dead.
17. **Laxman Naik** of the Bhuyan tribe, was also inspired by Gandhi and campaigned extensively to get tribes to join the freedom movement. The British framed him for the killing of a friend and he was hanged to death.
18. **Helen Lepcha** of the Lepcha tribe, was an ardent follower of Mahatma Gandhi. Her influence over her people made the British restless. She was shot at, imprisoned and hounded but she never lost courage. In 1941 she helped Netaji Subhas Chandra Bose escape from house arrest and travel to Germany. She was awarded the Tamra Patra for her invaluable contribution to the freedom struggle.
19. **Pulimaya Devi Podar** heard Gandhi when she was in school and wanted to join the freedom struggle immediately. Despite stiff opposition from her family, she joined the movement after her studies and encouraged women to join her. She was imprisoned for her

participation in protests. After independence she continued to serve her people and was awarded the title of ‘Swatantra Sainani’.

#### 5. From Nalanda ruins, ‘university of future’ is ready with new campus, courses

- Now, as the new campus of Nalanda University prepares for a formal inauguration, the focus is on how best it can retain the cultural and architectural ethos of Nalanda Mahavihara, **the 5th-12th Century AD university that is considered to be one of the greatest centres of learning in ancient India.**

##### **Nalanda Mahavira**

- The ruins of ancient **Nalanda Mahavihara (also known as old Nalanda University) of Bihar has been included in the List of UNESCO’s World Heritage Site.**
- Nalanda Mahavihara ruins comprise the **archaeological remains of monastic-cum-scholastic from the 5th century BC to the 13th century AD.**
- Nalanda Mahavihara was **founded by Kumargupta I(Shakraditya) of the Gupta dynasty in 5th century CE.** It was the **earliest planned university in the Indian subcontinent.**
- It was **patronized by various rulers including King Harshavardhana of Kannauj (7th century CE) and the Pala rulers (8th to 12th century CE)** as well as various scholars.
- Presently, it is preserved in number of remains of stupas (temple-like structure), shrines and viharas (residential-cum-scholastic structure) and important art works in stucco, stone and metal.
- It’s also been referred to as **“one of the first great universities in recorded history.”**
- It is a large Buddhist monastery in India’s ancient kingdom of **Magadha** (modern-day Bihar).
- The major monks are reported to have been **Mahayana monks** such as **Asnaga and Vasubandhu.**
- Even though it taught about all sects of Buddhism, **Mahayana Buddhism** was the primary subject of instruction, although other secular disciplines like **grammar, logic, epistemology, and science** were also covered.
- The University had ten temples, meditation centers, and the **world’s largest library**, which was divided into three buildings: **Ratnasagara** (nine-story building), **Ratnadadhi**, and **Ratnaranjaka**, and housed not only religious manuscripts but also a vast collection of books on literature, astrology, philosophy, science, warfare, and other subjects.
- Famous scholars of Nalanda are **Nagarjuna (Madhyamika Shunyavad) and Aryabhatta**, the astronomer.
- There were lively arguments and debates going on. Harsha is supposed to have invited a thousand educated Nalanda monks to attend the Kanauj philosophical meeting.
- During **King Harsha’s reign**, Chinese traveler **Hiuen Tsang** visited Nalanda University and wrote a detailed account of the university. **Hiuen Tsang** attended university for two years.
- **I-Tsing**, a Chinese scholar, stated that Nalanda housed 2,000 students and was supported by money from 200 villages.
- A large number of students had come to study from China, Mongolia, Tibet, Korea, and other Asian countries.
- Archaeological evidence also indicates contact with the **Indonesian Shailendra dynasty**, one of whose kings built a monastery in the complex.

#### 6. Silent marches to recall Partition

##### **Context**

**The first-ever Partition Horrors Remembrance Day, which Prime Minister Narendra Modi announced last year, would be observed on August 14. The event will be commemorated with**

silent marches centred on 75 refugee colonies, according to government sources familiar with the plans.

In the run-up to August 14, the Culture Ministry had planned exhibitions at about 5,000 locations.

**Concept:**

**Pakistan Resolution—Lahore (March 1940)**

- The Muslim League passed a resolution calling for “grouping of geographically contiguous areas where Muslims are in majority (North-West, East) into independent states in which constituent units shall be autonomous and sovereign and adequate safeguards to Muslims where they are in minority

**August Offer**

- **Linlithgow** announced the August Offer (August 1940) which proposed, no future constitution to be adopted without the consent of minorities.

**C. Rajagopalachari Formula**

- **C. Rajagopalachari (CR)**, prepared a **formula for Congress-League cooperation** in 1944. It was a tacit acceptance of the League’s demand for Pakistan.
- Jinnah wanted the Congress to accept the two-nation theory. He wanted only the Muslims of North-West and North-East to vote in the plebiscite and not the entire population

**Wavell plan**

- The viceroy, **Lord Wavell** was permitted to start negotiations with Indian leaders. The League claimed some kind of veto in the council. Wavell announced a breakdown of talks thus giving the League a virtual veto. This strengthened the League’s position

**The Cabinet Mission Plan**

- The **Cabinet Mission Plan** was against the creation of Pakistan since grouping was option; one constituent assembly was envisaged; and the League no longer had a veto. Muslim League. The Muslim League believed Pakistan to be implied in compulsory grouping.

**Direct action**

- The Muslim League on **June 6** and the Congress on **June 24, 1946** accepted the long-term plan put forward by the **Cabinet Mission**, July 29, 1946 The League withdrew its acceptance of the long-term plan in response to Nehru’s statement and gave a call for “direct action” from August 16 to achieve Pakistan.
- Government headed by Nehru was sworn in on September 2, 1946 with Nehru continuing to insist on his party’s opposition to the compulsory grouping. Wavell quietly brought the Muslim League into the Interim Government on October 26, 1946. The League was allowed to join without giving up the ‘direct action’.

**Indian Independence Act**

- **Mountbatten Plan, June 3, 1947:** The freedom-with-partition formula was coming to be widely accepted well before Mountbatten arrived in India. Mountbatten’s formula was to divide India but retain maximum unity
- The Act provided for the creation of **two independent dominions** of India and Pakistan with effect from August 15, 1947. As per the provisions of the Indian Independence Act, 1947, Pakistan became independent on August 14 while India got its freedom on August 15, 1947. **M.A. Jinnah** became the **first Governor-General of Pakistan**.

**Post-independence riots**

- On both sides of the Radcliffe Line, sizable sections of populations became minority (religion-wise)—20 million non-Muslims in Pakistan and 42 million (later reduced to 35 million) Muslims in India.
- In absurd hurry, the British government appointed the **Boundary Commission** under the chairmanship of **Sir Cyril Radcliffe**.
- The communal riots had started in August 1946 itself, but with the announcement of partition and independence, the situation became more inflamed, due to Gandhi’s initiatives, no massacres took place in these regions)

- Amidst serious chaos, the **British troops started to leave India** from August 17, 1947 and the process was completed by February 1948.
- To resolve the problems of refugees and restore communal peace in the two countries, especially in Bengal (East Pakistan as well as West Bengal), the Indian prime minister, Jawaharlal Nehru and the Pakistani prime minister, **Liaquat Ali Khan**, signed an agreement on April 8, **1950**

## 7. Quit India Movement

### Context

Anniversary of Quit India Movement

In July 1942, the Congress Working Committee met at Wardha and resolved that it would authorise Gandhi to take charge of the non-violent mass movement. The resolution generally referred to as the 'Quit India' resolution.

Proposed by Jawaharlal Nehru and seconded by Sardar Patel, it was to be approved by the **All India Congress Committee** meeting in Bombay in August.

The Quit India Resolution was ratified at the Congress meeting at **Gowalia Tank, Bombay, on August 8, 1942.**

The meeting also resolved to

1. demand an immediate end to British rule in India.
2. declare commitment of free India to defend itself
3. against all types of Fascism and imperialism
4. form a provisional Government of India after British withdrawal.
5. sanction a civil disobedience movement against British rule.

The Quit India resolution was **passed on August 8, 1942.**

**Aruna Asaf Ali** hoisted the tricolour on the Gowalia Tank ground and on August 9 night, the **senior leaders of the Congress were arrested.**

Many nationalists went underground and took to subversive activities. The **participants in these activities were the Socialists, Forward Bloc members, Gandhi ashramites, revolutionary nationalists** and local organisations in Bombay, Poona, Satara, Baroda and other parts of Gujarat, Karnataka, Kerala, Andhra, United Provinces, Bihar and Delhi.

The main personalities taking up underground activity **were Rammanohar Lohia, Jayaprakash Narayan, Aruna Asaf Ali, Usha Mehta, Biju Patnaik, Chhotu bhai Puranik, Achyut Patwardhan, Sucheta Kripalani and R.P. Goenka.** Usha Mehta started an underground radio in Bombay.

This phase of underground activity was meant to keep up popular morale by continuing to provide a line of command and guidance to distribute arms and ammunition.

## 8. The history of popular slogans raised during Indian independence movement

### Context

Be it 'Jai Hind!' or 'Vande Mataram!', most of the popular patriotic slogans raised today are likely to have their origins in the movement for Indian independence.

### 'Jai Hind' by Netaji Subhash Chandra Bose

- Bengal's Netaji Subhas Chandra Bose popularised '**Jai Hind**' as a salutation for soldiers of his **Indian National Army (INA)**, which fought **alongside Netaji's ally Japan in the Second World War.** But according to some accounts, Netaji did not actually coin the slogan.
- In his 2014 book, 'Lengendotes of Hyderabad', former civil servant Narendra Luther said the term **was coined by Zain-ul Abideen Hasan**, the son of a collector from Hyderabad, who had gone to Germany to study. There, he met Bose and eventually left his studies to **join the INA.** His grand-nephew, Anvar Ali Khan, later wrote that Khan was tasked by Bose to look for a military greeting or salutation for the INA's soldiers, a slogan which was not caste or community-specific, given the all-India basis of the INA.

### 'Tum mujhe khoon do, main tumhe aazadi doonga' by Netaji Subhash Chandra Bose

- As per the book ‘Subhas Chandra Bose: The Nationalist and the Commander – What Netaji Did, What Netaji Said’ edited by Vanitha Ramchandani, **the slogan had origins in a speech Netaji made in Myanmar, then called Burma, on July 4, 1944.**

**‘Vande Mataram’ by Bankim Chandra Chatterjee**

- The term refers to a sense of respect expressed to the motherland. In 1870, Bengali novelist **Bankim Chandra Chattopadhyay** wrote a song which would go on to assume a **national stature, but would also be seen as communally divisive by some.**
- Written in Bengali, the song titled ‘**Vande Mataram**’ would not be introduced into the public sphere until the publishing of the novel **Anandamath** in 1882, of which the song is a part. **Vande Mataram** would soon be at the forefront of sentiments expressed during the **freedom movement.**
- The novel **Anandmath**, set in the early 1770s against the **backdrop of the Fakir-Sannyasi Rebellion against the British in Bengal**, came at a time of the **Bengal agrarian crisis** when the region was hit by three famines one after another.

**‘Inquilab Zindabad’ by Maulana Hasrat Mohani**

- ‘Inquilab Zindabad’ (Long live the revolution) was first used by **Maulana Hasrat Mohani** in **1921.**
- Hasrat Mohani was a **labour leader, scholar, poet and also one of the founders of the Communist Party of India in 1925.**
- Along with **Swami Kumaranand** — also involved in the **Indian Communist movement** — Mohani **first raised the demand for complete independence or ‘Poorna Swaraj’, at the Ahmedabad session of the Congress in 1921.** He was later elected a member of the Constituent Assembly and **was also a member of the drafting committee of the Constitution along with Dr B R Ambedkar.**
- It was from the **mid-1920s** that this slogan became a **war cry of Bhagat Singh and his Naujawan Bharat Sabha**, as well as his **Hindustan Socialist Republican Association (HSRA).** Bhagat Singh also wished for a social revolution to break age-old discriminatory practices. This slogan got major traction when he and **B K Dutt** dropped bombs in the Assembly on **April 8, 1929**, and shouted it.

**‘Sarfaroshi ki Tamanna’ by Bismil Azimabadi**

- “Sarfaroshi ki tamanna ab hamare dil men hai, dekhna hai zor kitna bazu-e-qatil men hai” (Our hearts are now longing to die for a good cause, that we shall see what strength the arms of killers possess), are the **first two lines of a poem written by Bismil Azimabadi, a freedom fighter and poet from Bihar, after the Jallianwalah Bagh Massacre of 1921 in Amritsar, Punjab.**
- The lines were **popularised by Ram Prasad Bismil, another revolutionary.** They convey a deep longing to take on an enemy, a spirit seen in the way **Bismil**, an Urdu poet and revolutionary, was part of major events that raised the spirits of fellow freedom fighters at the time. He was a **part of the Kakori train robbery**, a successful and ambitious operation in which a train filled with British goods and money was robbed for Indian fighters to purchase arms.

**‘Do or Die’ by Mohandas Karamchand Gandhi**

- In **1942, with the Second World War commencing and the failure of Stafford Cripps Missions** – which only **promised India a ‘dominion status’** where it would still have to **bear allegiance to the King of England** – it was realised that the movement for freedom needed to be intensified.
- On **August 8, 1942**, the All-India Congress Committee met in **Gowalia Tank Maidan (August Kranti Maidan) in Bombay.** Gandhi addressed thousands after the meeting to spell out the way forward. He told the people that he would firmly take his demands to the Viceroy, saying, “I am not going to be satisfied with anything short of complete freedom. Maybe he will propose the abolition of salt tax, etc. But I will say, ‘Nothing less than freedom’”.

**‘Quit India’ by Yusuf Meherally**

- While Gandhi gave the clarion call of ‘Quit India’, the slogan was coined by **Yusuf Meherally**, a socialist and trade unionist who also served as Mayor of Mumbai. A few years ago, in 1928, **Meherally had also coined the slogan “Simon Go Back” to protest the Simon**



**Commission – that although was meant to work on Indian constitutional reform, but lacked any Indians.**

## 9. Shri Aurobindo

### Context

On the occasions of the 150th Birth Anniversary of Maharshi Aurobindo and the 75th Year of Independence, the Ministry of Culture is commemorating the life and philosophy of Shri Aurobindo by undertaking Spiritual Programmes in 75 prisons across the nation between 12th August and 15th August, 2022

### Concept:

- He was an Indian social political and spiritual philosopher, yoga guru, maharishi, poet, revolutionary leader and Indian nationalist ideologue.
- He was also a journalist, editing newspapers such as **BandeMataram**.
- Aurobindo studied for the Indian Civil Service at King's College, Cambridge, England.
- After returning to India he took up various civil service works under the Maharaja of the **Princely state of Baroda** and became increasingly involved in nationalist politics in the Indian National Congress and the nascent revolutionary movement in Bengal with the **Anushilan Samiti**.
- In 1892, he held various administrative posts in **Baroda (Vadodara)** and **Calcutta (Kolkata)**.
- He was arrested in the aftermath of a number of bombings linked to his organization in a public trial where he faced charges of treason for **Alipore Conspiracy**.
- During his stay in the jail, he had mystical and spiritual experiences, after which he moved to Pondicherry, leaving politics for spiritual work.
- At Pondicherry, Sri Aurobindo developed a spiritual practice he called **Integral Yoga**. He believed in a spiritual realisation that not only liberated but transformed human nature, enabling a divine life on earth.
- In 1926, with the help of his spiritual collaborator, **Mirra Alfassa** (referred to as "The Mother"), **Sri Aurobindo Ashram** was founded.
- **His main literary works are**
  - The Life Divine, which deals with the philosophical aspect of Integral Yoga;
  - Synthesis of Yoga, which deals with the principles and methods of Integral Yoga;
  - **Savitri: A Legend and a Symbol**, an epic poem.
  - Bhagavad Gita and Its Message
  - The Future Evolution of Man
  - Rebirth and Karma
  - Hour of God

## 10. Why 1947 Boundary Commission awards for Punjab and Bengal irked India

### Context:

- On August 17, 1947, two days after Independence, the award of the Boundary Commissions **for the partition of Punjab and Bengal was announced**.

### What were the two Boundary Commissions?

- In June 1947, **Sir Cyril John Radcliffe**, a British lawyer, was made the **Chairman of two boundary commissions of Punjab and Bengal** and given the task to draw up the new borders of India and Pakistan. He was given a period of five weeks to complete this task and arrived in India in July 1947. **The boundary commissions of Punjab and Bengal also included two nominees each of the Indian National Congress and Muslim League respectively.**
- The Boundary Commissions award was made public on August 17, 1947 also known as the **Radcliffe Line**.
- The Radcliffe line divided India and Pakistan into two different countries. Radcliffe divided India into three halves:
  - **West Pakistan**
  - **East Pakistan (present day Bangladesh) and**



○ **India**

## 11. All India Radio

### Context

Memories and Magical Moments with All India Radio since Independence All India Radio to broadcast every day from 15th August in its Prime-time News Bulletins

### Concept

#### All India Radio

- All India Radio is one of the **largest broadcasting organisations** in the world broadcasting in **23 languages and 179 dialects from 479 stations** across the country.
- It reaches nearly 92 per cent of the area and 99.19 per cent of the total population.
- Its motto is '**Bahujan Hitaya: Bahujan Sukhaya**', which means 'for the happiness of many, for the welfare of many'.
- All India Radio (AIR), officially known since **1957 as Akashvani** (literary meaning "Voice from the Sky"), is the national public radio broadcaster of India and is a division of Prasar Bharati. It was **established in 1936**
- Broadcasting **began in June 1923** during the British Raj with programs by the Bombay Presidency Radio Club and other radio clubs.
- The company went into **liquidation on 1 March 1930**. The government took over the broadcasting facilities and began the **Indian State Broadcasting Service (ISBS)** on 1 April 1930 on an experimental basis for two years, and permanently in May 1932 it then went on to become All India Radio on 8 June 1936.

#### Clandestine Congress Radio

- Congress Radio, which began operations in **August 1942**, was set up to counter the
- In August 1942., Mahatma Gandhi launches the **Quit India Movement** at the Bombay session of the **All-India Congress Committee**.
- Responding to his call, a 22-year-old student of Wilson College, **Usha Mehta**, starts an underground radio station to counter the propaganda disseminated through All India Radio, the British government's mouthpiece.
- On 14 August 1942, Usha and some of her close associates began the Secret Congress Radio, a clandestine radio station. It went **air on 27 August**. Secret Congress Radio also kept the leaders of the freedom movement in touch with the public
- The clandestine Congress Radio brings messages from Gandhi and other leaders to the masses, reports the 'unofficial' side of events, and fights disinformation for three months till the arrest and imprisonment of its members in November of the same year.
- Congress Radio, which began operations in August 1942, was set up to counter the British-controlled AIR, often tagged as '**anti-India Radio**'.

#### **Usha Mehta**

- Usha Mehta (25 March 1920 – 11 August 2000) was a Gandhian and freedom fighter of India.
- She was a courageous and empathetic **Professor Usha Mehta (Ushaben)**, the only woman in the group, is particularly important. Born on 25 March 1920 at Saras village in the **Surat district of Gujarat**, she grew up to be a bright student in Bombay.
- In 1928, eight-year-old Usha participated in a protest march against the **Simon Commission**
- She used to mobilize friends and organize Prabhatpheris along with them dressed in national tricolour. They also used to picket liquor shops. She met Mahatma Gandhi as a young girl and took a vow to wear khadi life long
- She also began studying law, but ended her studies in **1942 to join the Quit India Movement**.
- The **Chittagong Bomb Raid, Jamshedpur strike and running of parallel governments in Bihar and Maharashtra** were some of the major developments that the secret Radio broadcast to the masses.
- However, the police found them on 12 November 1942 and arrested the organizers, including Usha Mehta. All were later imprisoned at **Yeravda Jail** in Pune.

- In **March 1946**, she was released, the **first political prisoner to be released in Bombay, at the orders of Morarji Desai**, who was at that time the home minister in the interim government.
- She continued to spread the Gandhian ideals and was honoured with **Padma Vibhushan** in 1998.

## 12. India @75: Freedom songs that catalysed struggles against colonialism

### Context

Poets like Rabindranath Tagore, Aurobindo Ghosh, Subramania Bharati, Vallathol Narayana Menon, Sarojini Naidu, Mahadevi Verma and others in India rejected the racialised territorial notion of nationalism during the freedom struggle and linked it to the larger cause of humanity and cosmopolitan patriotism.

- **Aurobindo** pleaded for independence for India in the wider interest of humanity. Thus, while western thinkers believed that homogeneity was essential to build the idea of a nation-state, Indian poets **looked at nationalism as the source of spiritual energy and moral enthusiasm to the nation**. He wrote poems like “**Bride Of The Fire Life**”, “**The Golden Light**”, “**The Dreamboat**”, “**Life And Death**”, “**Who**”, “**O Coil, Coil**”.
- **Rabindranath Tagore**, who famously said, “**I will never allow patriotism (read nationalism) to triumph over humanity as long as I live**”, also wrote India’s national anthem **Jana Gana Mana** as our sacred obligation to celebrate freedom.
- If Tagore celebrated **provincial freedom in his poems such as Banglar Maati Banglar Jol (Earth of Bengal, Water of Bengal)**, he also expanded the **notion of nationalism by transgressing the boundaries of narrow walls of geographical and ethnographical prejudices**, saying, “**Where the mind is without fear and the head is held high**.”
- **Bankim Chandra Chatterjee’s Vande Mataram** (I Praise Thee, Mother), originally in Bengali, for the first time, **personified India as a mother goddess and the love of one’s country was construed as the highest spiritual act**.
- It also acquired the **status of national song in the context of India’s struggle for independence and was sung in the political context, for the first time, by Rabindra Nath Tagore at the 1896 session of the Indian National Congress**.
- **Sarojini Naidu, known as Bharatiya Kokila** (The Nightingale of India), presented a much broader humanist vision of nationalism in her poems like ‘**To India**’.
- In contrast, Subramania Bharati, the Tamil poet known as ‘Mahakavi Bharathi’, articulated the anguish of the oppressed people and awakened them to fight against the British yoke and also proclaimed his faith in the pantheistic philosophy with crystal clarity. Three of his greatest works namely, **Kuyil Pattu, Panchali Sapatham and Kannan Pattu were composed during 1912**.
- **Savitribai Phule, considered the first modern, radical Marathi poet**, raised issues pertaining to caste and gender through her writing and speeches, as well as through direct intervention. In her **book of poems “Kavya Phule”**, she wrote about ‘breaking the shackles of caste’, and gave a clarion call to the lower caste
- As we are celebrating the ‘**Har Ghar Tiranga**’ campaign, part of India’s 75th Independence Day celebrations (Azadi Ka Amrit Mahotsav), it’s timely to recall that **flag song (Zanda Geet) was written by poet Shyamlal Gupta and it was given the status of national song at the Haripur Congress of 1934**.
- **Subhadra Kumari Chauhan**, a renowned poet from the Hindi heartland, further extended the universe of nationalism by giving a **brilliant tribute to the valour of Rani of Jhansi with her immortal lines: “Khoobladimardaniwohtoh Jhansi wali Rani thi..”**
- In the hands of poets like **Ramdhari Singh Dinkar**, hailed as a Rashttrakavi (national poet), patriotic poetry found a new fervour of veer rasa and also poetry of rebellion. One can’t forget chilling lines of his **poem Singhasan Khaali Karo Ke Janata Aati Hai** (‘Vacate the throne, for the people are coming’).

- Similarly, **Ram Prasad Bismil**, one of the founding members of **Hindustan Republican Association**, galvanised millions of youths with his revolutionary poem “**Sarfroshi ki tamanna**” during the freedom struggle.
- **Faiz Ahmad Faiz’s** poem **Subh-e-Azadi** brings back haunting memories of the freedom struggle and partition

**13. Did Veer Savarkar ‘propose’ two-nation theory? How Islamists and Congress have lied about the idea that is inherent in Islamic theology**

- The two-nation theory was first **promulgated way back in 1876 by Syed Ahmad Khan, the founder of the Aligarh Muslim University, and not by Savarkar in 1937**
- **Syed Ahmad Khan said in 1876, “I am convinced now that Hindus and Muslims could never become one nation as their religion and way of life was quite distinct from each other.”**
- **14<sup>th</sup> August, 2020, the second Partition Horrors Remembrance Day**, which was announced by prime minister Narendra Modi last year to commemorate the victims and sufferings of people during the Partition of India. During the partition of India which had spilt British India into three parts into two countries of India and Pakistan, millions of people were displaced and suffered, while the estimates of deaths due to partition-related death range from 2,00,000 to 20,00,000.
- **Annie Besant spoke of the massacre in her book ‘The Future of Indian Politics’.**

**Timeline of Partition of India**

- **The partition of Bengal served as the first act of the British towards breaking Hindu Muslim unity. The introduction of the Morley Minto reforms in 1909 proved to be a critical juncture in struggle against colonial domination in India.**
- The reforms introduced a system under which separate electorates were formed wherein only Muslims could vote for Muslim candidates in constituencies reserved for them
- The Montagu Chelmsford reforms or the Government of India Act 1919 in addition to the reservation of seats for Muslims, included provisions for the reservation of seats in provincial and Imperial legislatures for Sikhs, Anglo-Indians, Indian Christians and domicile Europeans.
- **After World War 1, the Muslims in India were dismayed by the fact that the Caliph of Turkey would no longer retain his powers over the Muslim holy places. The Caliph was viewed by the Muslims as their spiritual head and it was his duty to look after the holy places. When Gandhi ji and other Congress leaders were planning the Non-Cooperation movement in 1920, the Muslims agreed to join them to express their discontent about the above-mentioned issue. The period for which the movement persisted, there was remarkable Hindu Muslim unity in terms of their participation in it.**
- **Following the Chauri Chaura incident where some British policemen were killed due to some action initiated by the participants of the Non-Cooperation movement, the movement itself was called off by Gandhi ji. The Muslim leaders felt betrayed since their cause of revolting against the removal of the Caliphate was left unfinished due to the calling off of the movement**
- **After 1930 the demand for a separate Muslim Nation after independence began to be articulated. Sir Muhammad Iqbal became the leader of the Muslim League in 1930 and for the first time articulated a demand for a separate Muslim state**
- **The policy of the British to divide and rule got exemplified in the Communal Award of 1932. This policy further strengthened the provisions for separate electorates.**
- **In 1940 Jinnah declared at the Muslim League conference held at Lahore, “Hindus and the Muslims belong to two different religions, philosophies, social customs and literature.**
- **The Cripps Mission in 1942 suggested that India be granted a Dominion status under the British empire. The Mission did not accept the demand for Pakistan but allowed for a provision whereby provinces could secede from the Indian Union.**
- **The Cabinet Mission plan of 1946 began by arguing for transfer of power to a united India with provisional autonomy to Muslims dominated areas. An interim government was**

formed in September 1946 but it only had representatives from the Congress as the Muslim League was not willing to settle for anything less than an independent Pakistan

- **On the 16th August 1946 Jinnah declared Direct Action Day and the Muslim League raised the demand for an independent Pakistan.**
- The plan to **partition British India into two states was announced on 3rd June 1947.**

#### 14. It's all about money – the evolution of banking sector in India

- Robert Clive could have never met with success, had it not been for the **banking firm of the Jagat Seths**. Similarly, one of the key reasons that **Delhi eventually fell in 1858, a year into the First War of Independence**, was the **tacit support the British got from the Hindu financiers of Chandni Chowk**
- In Chennai, the **Nagarathars**, the **Arya Vysyas**, the **Gujaratis** and the **Marwaris** are commemorated forever in the area known as **Sowcarpet**. This was from where the **Sahukars** or **money lenders assisted the Company's trade**.
- The Chola economy flourished on trade and conquest and the funds from one went to finance the other. By the **12th century, from Periya Puranam**, we **find money lending and banking was firmly established**. The story of **Thirugnanasambandar** in this monumental work has reference to a **merchant of Vaippar who loaned money**
- In the **16th century work Amuktamalyada**, the story of **Andal, King Krishnadeva Raya** describes the business community of Madurai
- **The Indian Overseas Bank was promoted by the Sir M C Muthiah Chettiar family in 1937**. But this did not mean that British banks were on the wane. They catered to their exclusively British clientele. The three Presidencies had their own banks and in
- The matter dragged till 1921 when the Imperial Bank of India was formed by their amalgamation.
- Then in **1935, the country got its own financial governing body — the Reserve Bank of India**.
- Independence brought about many changes, including **the nationalisation of the Imperial Bank in 1952**, and changing **its name to State Bank of India**. And it had to change its ways – to suit a new polity with new aims. But the fundamental tenets of banking have remained unchanged over the centuries.

#### 15. An event to flag

##### Context:

- The national flag was a slight changeover from the swaraj flag which was first hoisted at the **Indian National Congress Session in Calcutta in 1911** by the late **Dadabhai Naoroji**
- **On July 22 July, 1947, Jawaharlal Nehru moved the following Resolution before the Constituent Assembly of India:** “Resolved that the **National Flag of India shall be horizontal tricolour of deep Saffron ( Kesari), white and dark green** in equal proportion. In the centre of the white band, there shall be a **Wheel in navy blue to represent the Charkha**. **The design of the Wheel shall be that of the Wheel ( Chakra) which appears on the abacus of the Sarnath Lion Capital of Asoka...** The diameter of the Wheel shall approximate to the width of the white band and the ratio of the width to the length of the **Flag shall ordinarily be 2:3.**”
- **Article 51A describes Fundamental Duties of every Citizen of India including “to abide by the Constitution and respect its ideals and institutions, the national Flag and the National Anthem” as also “to cherish and follow the noble ideals which inspired our national struggle for freedom”.**

#### 16. Karnataka govt ad on Har Ghar Tiranga omits Nehru, features Savarkar prominently

Pre-Independence	Post-Independence
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| <ul style="list-style-type: none"> <li>• In 1912, he attended the <b>Bankipore Congress</b> as a delegate.</li> <li>• 1916, he joined <b>Annie Besant's Home Rule League</b>. He met Mahatma Gandhi and entered the freedom struggle at the national level during the <b>Non-Cooperation Movement in 1920</b></li> <li>• On August 29, 1928 he attended the All-Party Congress and was one of the signatories to the <b>Nehru Report on Indian Constitutional Reform</b>, named after his father <b>Shri Motilal Nehru</b>.</li> <li>• The same year, he also founded the '<b>Independence for India League</b>', which advocated complete severance of the British connection with India, and became its General Secretary.</li> <li>• The first <b>All Bengal Conference of Students</b> was presided over by Jawaharlal Nehru.</li> <li>• In 1929, <b>Pt. Nehru</b> was elected <b>President of the Lahore Session</b> of the Indian National Congress, where complete independence for the country was adopted as the goal. He was imprisoned several times during 1930-35 in connection with the Salt Satyagraha and other movements launched by the Congress. He completed his '<b>Autobiography</b>' in <b>Almora Jail</b> on February 14, 1935. After release, he flew to Switzerland to see his ailing wife and visited London in February-March, 1936. He also visited Spain in July 1938, when the country was in the throws of Civil War. Just before the court-break of the Second World War, he visited China too.</li> <li>• Jawaharlal Nehru, Subhash Bose, and Congress socialists and communists were opposed to office acceptance and thereby in the working of the 1935 Act because they argued that it would negate the rejection of the Act by the nationalists. It would be like assuming responsibility without power. <b>On October 31, 1940</b> Pt. Nehru was arrested for offering <b>individual Satyagraha</b> to protest against India's forced participation in war. He was released along with the other leaders in December 1941.</li> <li>• On August 7, 1942 Pt. Nehru moved the historic '<b>Quit India</b>' resolution at the A.I.C.C. session in Bombay. On August 8, 1942 he was arrested along with other leaders and taken to <b>Ahmednagar Fort</b>. This was his <b>longest</b> and also his last detention. In all, he suffered imprisonment nine times.</li> <li>• After his release in <b>January 1945</b>, he organized legal defence for those officers and men of</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Ministers of Interim Government</b> (September 2, 1946–August 15, 1947), Jawaharlal Nehru: Vice President of Executive Council, External Affairs and Common Wealth Relations</li> <li>• After the passing a general '<b>Objectives Resolution</b>' drafted by Jawaharlal Nehru stating the ideals of an independent sovereign republic with autonomous units, adequate minority safeguards and social, political and economic democracy</li> <li>• On August 15, 1947, Jawaharlal Nehru, as <b>Prime Minister of India</b>, <b>hoisted the Indian national flag</b> above the Lahori Gate of Red Fort in Delhi</li> <li>• To resolve the problems of refugees and restore communal peace in the two countries, especially in Bengal (East Pakistan as well as West Bengal), the Indian prime minister, Jawaharlal Nehru and the Pakistani prime minister, Liaquat Ali Khan, signed an agreement on April 8, 1950</li> <li>• 1953, he appointed the States Reorganisation Commission for the creation of states on linguistic lines.</li> <li>• When Zhou Enlai visited India, he and his Indian counterpart, Jawaharlal Nehru in a joint statement elaborated their vision of Panchsheel as the framework for the relations between the two countries</li> <li>• He established institutions of higher learning including <b>IITs, AIIMS and IIMs</b>. He even included free and compulsory primary education to all children in his five-year plan. He established and heavy industries. Nehru laid the stepping stone for the foundation of the National Defence Academy</li> <li>• The first non-aligned movement or <b>NAM summit</b>—held in <b>Belgrade in 1961</b> and attended by 36 Mediterranean and Afro-Asian powers.</li> <li>• In 1955, the government passed the <b>Anti-Untouchability Law</b>, making the practice of untouchability punishable and a cognisable offence.</li> <li>• For women's equal rights in the society, the <b>Hindu Code Bill</b> was moved in Parliament in 1951.</li> </ul> |
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the **INA** charged with treason. In March 1946, Pt. Nehru toured South East Asia.

- He was elected **President** of the Congress for the fourth time on **July 6, 1946** and again for three more terms from **1951 to 1954**.

## 17. Ondiveeran

### Context

Union Minister of State for Information and Broadcasting for authorizing a commemorative postal stamp for freedom fighter Ondiveeran.

### Concept:

- Ondiveeran was a native of NerkattumSeval near Sankarankoil in the erstwhile Tirunelveli district (since bifurcated and now in Tenkasi district).
- Ondiveeran was a trusted lieutenant in the **Pulithevan Army** that had taken on the **British Company** forces.
- Ondiveeran led one of the army units of Puli Thevar. Fighting by the side of Puli Thevar, he caused much damage to the Company's army.
- According to oral tradition, in one battle, Ondiveeran's hand was chopped off and Puli Thevar was saddened. But Ondiveeran said it was a reward for his penetration into the enemy's fort causing many heads to roll.
- Ondiveeran were important men who tried to destroy the camp of the Nawab and the Company troops. And hero stones were erected for soldiers who died in the battle.
- He died in 1771.

## 18. Tamils & the many wars of Independence: pre-1857

### Context:

In his Independence Day speech, Tamil Nadu Chief Minister M K Stalin chronicled the lives of a **dozen Tamil freedom fighters**, each of whom took on the British in **their own Dravidian territories before 1857** — the year that is usually marked as the start of the Indian freedom struggle.

### Puli Thevar

- Stalin began with the story of **PuliThevar, who ruled Nerkattumseval, near Tenkasi** in southern Tamil Nadu, and who, **in 1755, told the East India Company that "not even a grain can be paid as tax"**.

### 'Maaveeran (Great Warrior)' Marudhanayagam

- Another historical character Stalin spoke about was **'Maaveeran (Great Warrior)' Marudhanayagam, a 17th-century warrior** who emerged as a commander of sepoys under the British, served as **the 'governor' of Madurai and even defeated Hyder Ali** in a battle.
- In 1764, Marudhanayagam, from Panaiyur adjacent to Sivagangai, **took on the British in a spirited battle and was killed in 1764 after he refused to surrender.**

### Kattabomman

- Kattabomman, an 18th-century king of Panchalankurichi in Tamil Nadu, is a household name in the state, someone **whose daring resistance to the East India Company** is often invoked to arouse Tamil pride.
- In 1799, Kattabomman was hanged to death for waging a war against the British. In his speech, Stalin had quoted Kattabomman, who famously said, **"Ask me to donate, I will. Ask me to pay tax, I will not."**
- **He fought 1<sup>st</sup> Poligar war against British in 1799.**

### Sundaralingam and Vadivu

- **Sundaralingam, captain of Kattabomman's army, and his cousin Vadivu, who had launched a suicide attack on the British.**



**VeluNachiyar**

- The first **Indian queen who fought the British**
- She **mobilised a battalion of women to capture Sivagangai from the British.**

**Kuyili**

- VeluNachiyar's army commander, who set **herself ablaze and jumped into the armoury of the East India company** — and who is often called the **"first woman martyr"** in Indian history.

**ChinnaMarudhu and PeriyaMarudhu**

- They were brothers who faced British cannons with their valaris (a traditional, deadly weapon shaped like a boomerang).

**DheeranChinnamalai and Pollan**

- DheeranChinnamalai who was sent **to the gallows in 1805**, and his captain and spy, **Pollan**, who was shot dead by the British.
- Chinnamalai is one **of the commanders in the Polygar Wars, notably during the Second Polygar War that took place in 1801–1802**

**Vellore mutiny**

- The Vellore Mutiny predated the Indian Revolt of 1857 by about 50 years. It erupted on **10<sup>th</sup> July 1806 in Vellore, present-day Tamil Nadu, and lasted only for a day**, but it was brutal and shook the British East India Company. It was the first major mutiny by the Indian sepoys in the East India Company.
- The immediate causes of the mutiny revolved mainly around **resentment felt towards changes in the sepoy dress code**, introduced in November 1805. **Hindus were prohibited from wearing religious marks on their foreheads** while on duty, and **Muslims were required to shave their beards and trim their moustaches.**

**19. Who was Pandurang Khankhoje, Ghadarite revolutionary and a hero of Mexico?****Context**

Lok Sabha Speaker Om Birla, who is currently in Canada for the 65th Commonwealth Parliamentary Conference, will travel to Mexico where he will **unveil statues of Swami Vivekananda and Maharashtra-born freedom fighter and agriculturalist Pandurang Khankhoje (1883-1967).**

- Khankhoje had a **close connection with Mexico**, the country in which he **sought refuge due to his association with the radical pro-Indian independence Ghadar Party.**

**Who was Pandurang Khankhoje?**

- Born in **Wardha, Maharashtra**, in the late 19th century, Pandurang Khankhoje **came in contact with other revolutionaries early on.**
- 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
- 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.**
- Along with the Indian **workers, militant action was planned by Khankhoje in India**, but the outbreak of the First World War **halted these**. 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.

#### **Pre-Ghadr revolutionary activity**

- As early as 1907, **Ram nath Puri**, a political exile on the west coast issued a **circular-e-azadi (circular of liberty)** in which he also pressed support to the swadeshi movement ;
- **Tarak Nath Das in Vancouver** started the **Free Hindustan** and adopted a very militant nationalist tone;
- **D.Kumar set up a Swadesh Sevak Home in Vancouver** on the lines of the **India house in London** and also began to bring out a **Gurumukhi paper** called **Swadesh Sewak** which advocated social reform and also asked Indian troops to rise in revolt against the British.
- In 1910, **Tarak Nath Das and G.D. Kumar**, by now forced out of Vancouver, set up the **united India house in Seattle and U.S.A..**

#### **The Ghadar Party**

- The Ghadar Movement was **formed in 1913 by expatriate Punjabis in the United States with shared leadership from Sikhs, Hindus, and Muslims**. The goal of the movement was to assist in overthrowing British colonial rule in India. The publicity that the group attracted in the United States was used as further justification for anti-Asian discrimination and suspicion.
- It was organized and **headed by a Punjabi Hindu, Har Dayal**, who was at Stanford University. Its early leaders also **included two Sikhs and a Muslim and the masthead of its publication bore the names “Ram, Allah, and Nanak.”**
- **Sohan Singh, Kartar Singh, Abdul Mohamed Barakatullah, Tarnath Das , and Rashbehari Bose** were among the prominent leaders who laid the groundwork for the establishment of an Indian political organization in the United States and Canada.

#### **Ghadar Party – Activities**

- The Ghadr programme aimed to **organise assassinations of officials, publish revolutionary and anti-imperialist literature**, work with Indian troops stationed abroad, obtain arms, and spark a simultaneous revolt in all British colonies.
- When the First World War broke out in 1914, **some members of the Ghadar Party arrived in Punjab to foment an armed revolution for India’s independence.**
- They were also successful in **smuggling weapons and inciting mutiny among Indian soldiers** in the British Army.
- The ensuing uprising, now known as the **Ghadar Mutiny**, was brutally suppressed by the British, who executed 42 mutineers following the Lahore Conspiracy Case trial.
- Nonetheless, the Ghadar Party fought against colonialism from 1914 to 1917, with the **support of Imperial Germany and the Ottoman Empire**, both of which were Central Powers opposed to the British.
- The party was organized around the **weekly newspaper The Ghadar**, which featured the masthead caption: **Angrezi Raj Ka Dushman (an enemy of British rule). “Wanted brave soldiers to stir up rebellion in India,”** the Ghadar declared.
- Following the **Komagata Maru Incident in 1914**, which was a direct challenge to Canadian anti-Indian immigration laws, thousands of Indians living in the United States sold their businesses and homes in order to drive the British out of India, bolstering the ranks of the Ghadar Party.
- From **1914 to 1917 Ghadarites** continued underground **anti-colonial actions with the support of Germany and Ottoman Turkey**, known as the **Hindu–German Conspiracy, which led to a sensational trial in San Francisco in 1917.**
- Although its attempts at overthrowing the British Raj were unsuccessful, the **insurrectionary ideals of the Ghadar Party influenced members of the Indian Independence Movement opposed to Gandhian nonviolence.**

#### **20. Theatre group to cut short Yakshagana shows**

- Shows spanning entire nights will be truncated after loudspeaker ban

## DIFFERENT FORMS OF TRADITIONAL THEATRE

### BhandPather

- It is the traditional theatre form of **Kashmir**, is a **unique combination of dance, music and acting**.
- Satire, wit and parody are preferred for inducing laughter.
- In this theatre form, **music is provided with surnai, nagaara and dhol**.
- Since the actors of BhandPather are mainly from **the farming community**, the impact of their way of living, ideals and sensitivity is discernible.

### Swang

- Originally the theatre form Swang, was **mainly music-based**. Gradually, **prose too, played its role in the**
- The softness of emotions, accomplishment of rasa alongwith the development of character can be seen in this theatre form.
- The **two important styles of Swang are from Rohtak and Haathras**. In the style belonging to Rohtak, the language used is **Haryanvi (Bangru)** and in Haathras, it is **Brajhasha**.

### Nautanki

- It is usually associated with **Uttar Pradesh**. The most popular centres of this traditional theatre form are **Kanpur, Lucknow and Haathras**.
- The meters used in the verses are: **Doha, Chaubola, Chhappai, Behar-e-tabeel**. There was a time when only **men** acted in Nautanki but nowadays, **women** have also started taking part in the performances.
- Among those remembered with reverence is **Gulab Bai of Kanpu** She gave a new dimension to this old theatre form.

### Raasleela

- It is based **exclusively on Lord Krishna** legends; it is believed that **Nand Das** wrote the initial plays based on the life of Krishna.
- In this theatre form the dialogues in prose combined beautifully with songs and scenes from Krishna's pranks.

### Bhavai

- It is the traditional theatre form of **Gujarat**. The centers of this form are **Kutch and Kathiawar**.
- The instruments used in Bhavai are: **bhungal, tabla, flute, pakhaawaj, rabaab, sarangi, manjeera**, etc.
- In Bhavai, there is a rare **synthesis of devotional and romantic sentiments**.

### Jatra

- **Fairs in honour of gods**, or religious rituals and ceremonies have within their framework musical plays are known as Jatra.
- This form was born and nurtured in **Bengal**.
- **Krishna Jatra** became popular due to **Chaitanya's influence**.
- Later, however, worldly love stories too, found a place in Jatra. The earlier form of Jatra has been musical. Dialogues were added at later stage.
- **The actors themselves describe the change of scene, the place of action, etc.**

### Maach

- It is the traditional theatre form of **Madhya Pradesh**. The term **Maach** is used for the stage itself as also for **the play**.
- In this theatre form songs are given prominence in between the **dialogues**. The term for dialogue in this form is **bol** and rhyme in narration is termed **vanag**. The tunes of this theatre form are known as **rangat**.

### Bhaona

- It is a presentation of the **Ankia Naat of Assam**.
- In Bhaonacultural glimpses of **Assam, Bengal Orissa, Mathura and Brindavan** can be seen.

- **The Sutradhaar, or narrator begins the story**, first in Sanskrit and then in either Brajoli or Assamese.

#### **Tamaasha**

- It is a traditional folk theatre form of **Maharashtra**. It has evolved from the folk forms such as **Gondhal, Jagran and Kirtan**.
- Unlike other theatre forms, **in Tamaasha the female actress is the chief exponent of dance movements in the play**.
- She is known as **Murki**. Classical music, footwork at lightning-speed, and vivid gestures make it possible to portray all the emotions through dance.

#### **Dashavatar**

- It is the **most developed theatre form of the Konkan and Goa regions**.
- The performers personify the **ten incarnations of Lord Vishnu-the god of preservation and creativity**.
- The ten incarnations are **Matsya (fish), Kurma (tortoise), Varaha (boar), Narsimha (lion-man), Vaman (dwarf), Parashuram, Rama, Krishna (or Balram), Buddha and Kalki**.
- Apart from stylized make-up, the Dashavatar performers **wear masks of wood and papier mache**.

#### **Krishnattam,**

- Folktheatre of **Kerala**, came into existence in the middle of 17th century A.D. under the patronage of King **Manavada of Calicu**
- Krishnattam is a cycle of **eight plays performed for eight consecutive days**. The plays are Avataram, Kaliyamandana, Rasa krida, kamasavadha, Swayamvaram, Bana Yudham, VividaVadham, and Swargarohana.
- The episodes are based on the **theme of Lord Krishna – his birth, childhood pranks and various deeds depicting victory of good over evil**.

#### **Mudiyettu,**

- Traditionalfolk **theatre form of Kerala** is celebrated in the month of Vrischikam (November-December).
- It is usually performed only in the **Kali temples of Kerala, as an oblation to the Goddess**.
- It depicts the triumph of goddess **Bhadrakali over the asura Darika**. The seven characters in Mudiyettu-Shiva, Narada, Darika, Danavendra, Bhadrakali, Kooli and Koimbidar (Nandikeshvara) are all heavily made-up.
- Mudiyettu was inscribed in the **UNESCO's Representative List of Intangible Cultural Heritage of Humanity after Koodiyattam**

#### **Koodiyaattam,**

- One of the oldest traditional theatre forms of **Kerala**, is based on **Sanskrit theatre**
- The characters of this theatre form are: **Chakyaaror** actor, **Naambiyaar**, the instrumentalists and **Naangyaar**, those taking on women's roles.
- The Sutradhar or narrator and the Vidushak or jesters are the protagonists. It is the **Vidushak** alone who delivers the dialogues.
- **Emphasis on hand gestures and eye movements** makes this dance and theatre form unique.
- **Koodiyaattam** was inscribed in the **UNESCO's Representative List of Intangible Cultural Heritage of Humanity**.
- Traditionaltheatre form of **Karnataka**, is based on **mythological stories and Puranas**. The most popular episodes are from the **Mahabharata i.e. Draupadi swayamvar, Subhadra vivah, Abhimanyu vadh, Karna-Arjun yuddh** and from **Ramayanae. Raajyaabhishek, Lav-kushYuddh, Baali-Sugreevayuddha** and Panchavati.

#### **Therukoothu**

- The most popular form of folk drama of **Tamil Nadu**, literally means “**streetplay**”.
- It is mostly performed at the time of annual temple festivals of **Mariamman (Rain goddess)** to **achieve rich harvest**.

- At the core of the extensive repertoire of Therukoothu there is a cycle of eight plays based on the life of Draupadi.
- **Kattiakaran, the Sutradhara of the Therukoothu** performance, gives the gist of the play to the audience and Komali entertains the audience with his buffoonery.

## 21. Explained: What is Mandala in art?

- A spectacular ‘**Mandala**’ art installation, bigger than the size of a football field, currently covers a **public park in Liverpool in the United Kingdom**. Unveiled on August 12, the piece of land art **called The Knowsley Mandala is made of natural elements**, and is expected to last a month after which it will slowly fade away.
- The artist behind the creation **at Halewood Park Triangle is Yorkshire-based James Brunt**, who is known for using natural materials found in forests, parks, and on beaches to create elaborate artworks that he photographs to document before they wither.

### The art forms

- Mandala patterns are **motifs** that are centuries old, and are **used to depict the cosmos**. They have been adapted by artists the world over, each of whom has added their own interpretation to these designs.
- Literally meaning the “circle” or the “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.
- Mandala is **rooted in Hinduism and Buddhism**. Mandala imagery **first appeared in the Vedas (c. 1500-500 BC)**, and **Buddhist missionaries travelling along the Silk Road are believed to have taken it to regions outside India**. By the sixth century, **mandalas were recorded in China, Korea, Japan, Indonesia and T** Separately, native American peoples are believed to have used the mandala as representation of a deity or the cosmos, and as a spiritual form.

### Its meaning

- It is believed that by **entering the mandala and moving towards its centre**, one experiences a **cosmic process of transforming the universe and that of moving from emotions of suffering to the feeling of joy**.
- **In Hindu philosophical systems, a mandala or yantra is usually in the shape of a square with a circle at its centre**.
- A **traditional Buddhist mandala is a circular painting that is meant to help its creator discover their true self**.
- 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 eight-fold path of Buddhism that brings liberation from the cycle of birth and death**. 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**.

### Mandala in modern Indian art

- While it **continues to appear in Buddhist Thangka paintings**, it has a central place in the works of even mainstream artists associated with tantric and neo-tantric spiritual movements.
- Choosing to transition from the more figurative depictions of the previous generations of **Indian artists, Sohan Qadri and Prafulla Mohanty**, in the 1960s, gained widespread recognition for their works that were imbued with tantric symbolism such as mandalas, which are also used in rituals of tantric initiation.

### Mandala in therapy

- As part of art therapy, participants are **encouraged to create and colour mandalas**. Studies have also been conducted to **understand if mandalas can help reduce stress**. Swiss psychiatrist and psychoanalyst Carl Jung explored the psychological effects of mandalas and introduced it in psychotherapy.

## 22. Go to Red Fort and relive the Mughal era through augmented reality



**Context:**

Four years after the Dalmia Bharat Group bagged the maintenance contract for the historic Red Fort in Delhi, becoming one of the first corporate partners in the **government's 'adopt a monument' scheme, it unveiled an interactive visitor centre showcasing the heritage of the Mughal-era fort in an immersive way.**

**“Adopt a Heritage: ApniDharohar, ApniPehchaan”**

- It is a collaborative effort by the Ministry of Tourism, Ministry of Culture and Archaeological Survey of India (ASI), State/UTs Governments.
- The aim is to **develop tourism amenities** at heritage/ natural/ tourist sites spread across India for making them tourist friendly, in a planned and phased manner.
- The **sites/monuments** are **selected on the basis of tourist footfall and visibility** and can be **adopted** by private and public sector companies and individuals — known as **Monument Mitras** — for an initial period of **five years**.
- The **Monument Mitras** are **selected by the ‘oversight and vision committee,’** co-chaired by the Tourism Secretary and the Culture Secretary, on the **basis of the bidder’s ‘vision’ for development of all amenities** at the heritage site.
- There is **no financial bid involved**.
- The **corporate sector** is expected to use **Corporate Social Responsibility (CSR)** funds for the upkeep of the site.

**Mughal Architecture:**

- This is a building style that flourished in **northern and central India** under the patronage of the Mughal emperors from the **mid-16<sup>th</sup> to the late 17<sup>th</sup> century**.
- The Mughal period marked a striking **revival of Islamic architecture in northern India**. Under the patronage of the Mughal emperors, Persian, Indian, and various provincial styles were fused to produce works of unusual quality and refinement.
- It became so widespread especially in north India that these can be seen further in the **colonial architecture of Indo-Saracenic style**.
- **Important Features:**
  - **Mixed Architecture:** It was a blend of **Indian, Persian, and Turkish** architectural style.
  - **Diversity:** Different types of buildings, such as **majestic gates (entrances), forts, mausoleums, palaces, mosques, sarais, etc.**
  - **Building material:** Mostly, **red sandstone and white marble** were used.
  - **Speciality:** Specific features such as **pietra-dura works, foreshortening method, the Charbagh style** of the mausoleums, pronounced **bulbous domes, slender turrets** at the corners, **broad gateways**, beautiful **calligraphy, arabesque, and geometric patterns** on pillars and walls, and palace halls supported on pillars.
    - The **arches, chhatra, and various styles of domes** became **hugely popular** in the Indo-Islamic architecture and were further developed under the Mughals.
  - Akbar popularised the term **“Tudor arch” (four centered arch)**.

**Some Examples:**

- **Agra Fort**
  - It is a fortification in Agra.
  - It was one of the **earliest structures to be built during Akbar's rule**.
  - The **majority of the constructions inside the fort, however, were built during Shah Jahan's reign**. The following are some of the notable structures in the area:
    - **Moti Masjid by Shah Jahan.**
    - **Diwan-i-aam (Hall of Public Audience) and Diwan-i-khas (Hall of Private Audience) by Shah Jahan.**
    - **The Jahangiri Mahal.**
    - **Sheesh Mahal (Turkish Bath).**
- **Fatehpur Sikri**
  - The construction of a **new capital city by Akbar at Fatehpur Sikri** is one of the highlights of Indo-Islamic architecture.



- The structures here exhibit a unique combination of Hindu and Persian architecture, and have been described as a “**frozen moment in history.**”
- **BulandDarwaza**, a 40-meter red sandstone edifice erected in 1576 AD to celebrate **Akbar’s victory over Gujarat**, is one of the city’s most notable structures. It is the world’s tallest doorway.
- The **Tomb of Salim Chishti** was erected in 1581 AD. It contains lovely white **marbleJaali craftsmanship, arabesque designs on the walls**, as well as inscriptions of Quranic texts.
- **BulandDarwaza** and Jama Masjid are also part of the imperial complex. In 1606 AD, Jahangir decorated it more.
- The **Panch Mahal** is a five-storey edifice built of columns that is based on the Persian **badgir idea (wind-catcher)**.
- The interiors of **Jodha Bai’s Palace**, also known as **Mariam-uz-Zamani’s Palace** (Mary of the Age), are decorated with **Hindu bell and floral themes**.
- **IbadatKhana**: This is where Akbar would meet with religious authorities to address issues.
- **Pachisi Court**, where Akbar is claimed to have played chess in the courtyard.
- The **HiranMinar** was named after Akbar’s favourite elephant, Hiran. It also acted as a traveler’s lighthouse. It is a one-of-a-kind design, with tusk-like spikes on the external wall.
- In Vrindavan, Akbar also constructed a **Govind Dev shrine**.
- **Taj Mahal:**
  - Built by **Shah Jahan** between **1632 and 1653**, in memory of his wife Mumtaz Mahal.
  - UNESCO recognized the Taj Mahal as a **World Heritage Site in 1983**. It is located in Agra.
- Taj Mahal has several distinctive features:
  - The **jaali work** in Taj Mahal is lace-like and incredibly exquisite;
  - The **marble carvings** were low relief.
- **Itmad-ud-daulah’s tomb**
  - During Jahangir’s reign, his wife **Noor Jahan** also conducted some large construction projects, one of which being the **Tomb of Itmad-ud-daulah (Noor Jahan’s father)**.
  - During this time, **white marble began to replace the previously utilised red sandstone** as the primary construction material.
  - **Itmad-ud-daulah’s tomb** was the first Mughal structure composed entirely of **white marble**.
  - It also has some of the best masterpieces in pietra dura.
- **Red Fort:**
  - Built by **Shah Jahan in 1618** when he decided to move the capital from Agra to Delhi. It was the residence of Mughal rulers.
  - UNESCO designated it as the **World Heritage Site in 2007**.
- **Jama Masjid:**
  - Built by **Shah Jahan** in Delhi. The construction was completed in **1656**.
- **Badshahi Mosque:**
  - Built during the reign of Aurangzeb. At the time of **completion in 1673**, it was the **largest mosque in the world**. It is located in **Lahore**, capital of the Pakistani province of Punjab.
- **Bibi-ka-Maqbara**
  - Aurangzeb, on the other hand, commissioned the construction of **Bibi-ka-Maqbara** in honor of his wife, **Begum Rabia-ud-Daurani**. It is located in Aurangabad and is said to be a **poor copy of the Taj Mahal**.

23. Durga Puja in Kolkata’ was inscribed on the Representative List of Intangible Cultural Heritage of Humanity

**Context**

Ministry of Culture celebrates the successful inscription of 'Durga Puja in Kolkata' on the Representative List of ICH of Humanity in 2021 in the presence of senior representatives of UNESCO

**Concept:**

- **Durga Puja in Kolkata** was inscribed on the **Representative List of Intangible Cultural Heritage of Humanity** during its 16th session held in Paris, France from 13th to 18th December 2021.
- The Committee commended the inclusive nature of Durga Puja celebrations and for related initiatives involving marginalized groups, as well as women in their participation in safeguarding the element.
- It not only is a celebration of feminine divinity but is a consummate expression of dance, music, crafts, rituals, practices culinary and cultural aspects. The festival transcends the boundaries of caste, creed, and economic classes and joins the people together in its celebration.
- India now has **14 intangible cultural heritage** elements on the prestigious UNESCO Representative List of ICH of Humanity.

**About Durga Puja**

- Durga Puja, also known as **Durgotsava** or Sharodotsava, is an annual Hindu festival originating in the Indian subcontinent which reveres and pays homage to the Hindu goddess Durga and is also celebrated because of Durga's victory over Mahishasur.
- Durga Puja is a five-day festival which begins on the fifth night of the nine-day Navratri festival and ends on the tenth day, which is Dashami. During this time, people collectively worship and invoke Goddess Durga, who is regarded as the feminine energy of the cosmos, also known as 'Shakti'.
- Though originating in West Bengal, which has the largest Bengali community in the country, the festival is celebrated in many other parts of India, and also the world.
- The festival is observed in the Indian calendar month of Ashwin, which corresponds to September–October in the Gregorian calendar.
- It is a classic fusion of religion and culture.
- Durga puja is an important festival in the Shaktism tradition of Hinduism.

**24. More Muslim women are opting for khhula- their right to 'instant divorce'****Context**

More Muslim marriages end with **khhula, the woman's inalienable right to instant divorce**, and not as it's widely perceived through instant triple talaq, which was set aside by a Supreme Court verdict in 2017, or through talaq-e-hassan, divorce at the man's initiative.

**Khhula**

- Unlike talaq, which is pronounced by the man, in the case of khhula, it's the woman who initiates divorce, and surrenders her mehr (wealth transferred or promised to the woman at the time of marriage) at the time of such a divorce.
- Khhula can be affected orally or through a document called the 'Khhulnama'. It has the effect of an instant divorce.
- If the mehr had not been given to the woman by the time she opted for khhula, she cannot demand the mehr as the marriage is being called off at her behest.

**Talaq-e-biddat**

- If a man belonging to the religion of Islam pronounces **talaq thrice** either orally or in written form to his wife, then the **divorce is considered immediate and irrevocable**.
- The **only way to reconcile the marriage** is through the practice of **nikah halala**, which requires the woman to get remarried, consummate the second marriage, get divorced, observe the three-month iddat period and return to her husband.

**Talaq-e-hassan**

- The pronouncement of **three divorces separated by at least a month between each pronouncement**

**Mubarat**

- It is **mutual divorce granted to a Muslim couple by the Shariah.**

## 25. Historian urges Delhi and Punjab to secure Bhagat Singh's files from Pakistan

### Context

As the Governments of Punjab and Delhi have uniquely adopted the late legends Bhagat Singh and B.R. Ambedkar, respectively, as the official icons of their governments, Professor Chaman Lal, a former senate member of Panjab University and honorary advisor to the Bhagat Singh Archives and Resource Centre in Delhi, has urged both governments to acquire the 135 files related to Bhagat Singh's court cases from the Punjab Archives at the Anarkali tomb in Lahore, Pakistan

### Concept:

- Bhagat Singh was born in Punjab, India (now Pakistan), on September 27, 1907, to a Sikh family deeply involved in political activities. He quit school at thirteen to devote his life to Indian independence.
- He became involved in **several violent demonstrations of political defiance and was arrested several times.**
- By the time Bhagat Singh was 13, he was well familiar with this family's revolutionary activities. His father was a supporter of Mahatma Gandhi, and **after Gandhi called for boycotting government-aided institutions, Singh left school and enrolled in the National College at Lahore**, where he studied European revolutionary movements.
- In time, **he would become disenchanted with Gandhi's non-violent crusade**, believing that armed conflict was the only way to political freedom.
- In 1926, Bhagat Singh **founded the 'Naujawan Bharat Sabha (Youth Society of India)** and joined the **Hindustan Republican Association** (later known as Hindustan Socialist Republican Association), where he met several prominent revolutionaries.
- In 1928, the British government held the Simon Commission to discuss autonomy for the Indian people. Several Indian political organizations boycotted the event because the Commission had no Indian representatives. **In October, Bhagat Singh's comrade, Lala Lajpat Rai led a march in protest against the Commission.**
- To avenge death, **Bhagat Singh and two others plotted to kill the police superintendent**, but instead shot and killed police officer John P. Saunders. Singh and his fellow conspirators escaped arrest despite a massive search to apprehend them.
- In April 1929, **Bhagat Singh and an associate bombed the Central Legislative Assembly in Delhi to protest implementation of the Public Safety Bill and Trade Dispute Bill**. The bombs they carried allegedly were not intended to kill but to scare (no one was killed, though there were some injuries). The bombers planned to get arrested and stand trial so they could further promote their cause.
- The actions of the young revolutionaries were soundly condemned by followers of Gandhi, but **Bhagat Singh was delighted to have a stage on which to promote his cause.** He offered no defense during the trial but disrupted the proceedings with rants of political dogma. He was found guilty and sentenced to life in prison.
- Through further investigation, the police discovered the connection between Bhagat Singh and the murder of Officer Saunders and he was rearrested. While awaiting trial, he led a hunger strike in prison. Eventually, **Singh and his co-conspirators were tried and sentenced to hang. He was executed on March 23, 1931**

## 26. Ganesh Chaturthi: The modak's history reflects its strong ties to the land; here is how

### Context:

- The sweet and some of the recipes used in making it are quite old; its ingredients include some of the Deccan's famous crops like **ambemohur rice**
- **The artwork at Ellora (600-1000 CE)** has the attribute of Ganesha as someone who is eating something that looks like a modak,
- Ganesha worship really came **into its own in the area that is now Maharashtra during the reign of the Yadavas of Devagiri (1187-1317).**
- During the **Peshwa period**, a collection of **eight temples known as ashtavinayaka** were established and became popular in the pilgrimage circuit.
- **Bal Gangadhar Tilak** started **Ganeshotsava** as a public sort of celebration. During that time, the **festival was also used as a cover for revolutionary activities against the British Raj.**

### Yadavas of Devagiri

- The **Seuna, Sevuna, Gavli Kings or Yadavas** was a Medieval Indian dynasty, which at its peak ruled a kingdom stretching from **the Narmada river in the north to the Tungabhadra river in the south**, in the western part of the Deccan region.
- Its territory included **present-day Maharashtra, north Karnataka and parts of Madhya Pradesh**, from its capital at **Devagiri (present-day Daulatabad in modern Aurangabad district, Maharashtra)**.
- The Yadavas initially **ruled as feudatories of the Western Chalukyas**. Around the middle of the **12th century**, as the **Chalukya** power waned, the Yadava king **Bhillama V** declared **independence**.
- The Yadava **kingdom reached its peak under Simhana II**, and flourished until the early **14th century**, when it was **annexed by the Khalji dynasty of the Delhi Sultanate in 1308 CE**.
- When Alauddin Khilji, sultan of Delhi crossed the Narmada River, the northern frontier of Yadavas in 1294, the **Yadava Ruler Raja Ramchandra (1291-1309 AD)** was **obliged to surrender and was ransomed his life by a large treasure**

### Literature and Language:

- The Yadavas were the first major dynasty to use **Marathi** as an official language. Earlier, both **Sanskrit** and **Kannada** had been used for official inscriptions in present-day Maharashtra; subsequently, at least partly due to the efforts of the Yadava rulers, **Marathi became the dominant official language of the region**
- **Mukundaraya** wrote **Vivekasindhu** in Marathi.
- **Gnyaneshwar** wrote **Gnyaneshwari**, a Marathi language **commentary on Bhagwad Gita**.
- **Hemadri** composed **Chaturanga Chintamani**. (Sanskrit)
- **Sarangapani** composed **sangeetaratnakara** (considered to be **first book on music**).
- **Kannada** was one of the **court languages during early Yadava times**, as is evident from a number of Kannada-language inscriptions.

### Architecture

- The **Gondeshwar temple is an 11th-12th century Hindu temple** located in Sinnar, a town in the Nashik district of Maharashtra, India.
- It features a **panchayatana plan**; with a main shrine dedicated to **Shiva**; and four subsidiary shrines dedicated to **Surya, Vishnu, Parvati, and Ganesha**.
- The Gondeshwar temple was built **during the rule of the Seuna (Yadava) dynasty**, and is **variously dated to either the 11<sup>th</sup> or the 12th century**.

## 27. Folk Arts

### Context

To mark the celebration of 75 years of India's Independence, Sangeet Natak Akademi celebrated Rang Swadheenta – a festival to cherish the memories of freedom fighters who laid down their lives to free India from the shackles of imperialism.

### Concept:

- **Powada** is a rich traditional style of singing ballads popular in Maharashtra. Powada singing has also played an important role in the socio-cultural and political development of the region. Its origin is considered to be from the time of Chhatrapati Shivaji Maharaj.
- **Ragini** is a Kauravi folk song form which is very popular throughout northern India particularly western Uttar Pradesh and Haryana.
- **Dastangoi** is a compound of Persian words 'dastaan' meaning a long tale and 'goi' meaning to narrate. Dastangoi is a 13th century Urdu oral storytelling art form. The Persian style of dastan evolved in 16th century. One of the earliest references in print to dastangoi is a 19th-century text containing 46 volumes of the adventures of Amir Hamza titled Dastan e Amir Hamza.
- **Oggukatha** comes from the compound 'oggu' meaning a damarukam (pellet drum) and 'katha' meaning tales. Although oggukatha usually centers around Myths and Gods, Oggukatha is a traditional folk theatre form which is an ancient narrative form of Telugu speaking region.
- **Panduan KeKadde** is very specific and significant art form of the Meo community of Mewar region. It is a form of cultural identification for the community. The narrative (on which the tradition is based) written by Saddalah Meo in the 16th Century, originally consisted of two thousand five hundred couplets and took approximately forty-eight hours of musical rendition.

The main instrument Bhapang remains the core instrument for the exposition of the narrative but choruses use Harmonium, Dholak and Khanjari too to encompass the performance. The existence of Panduan ka Kada, traditionally performed by the Jogi Muslims, is at stake as its patronage has declined.

- **Dhadi singing** tradition of Punjab was begun by Guru Hargobind to inspire bravery among armed men in the battlefield. Dhadi, is one who sings ballads using Dhadd and Sarangi, the folk instruments of Punjab. According to Kahn Singh Nabha's Mahan Kosh the definition of dhadhi is "One who sings ballads of warriors playing Dhadd". Dhadis are a distinct group performers emerged in the time of Sikh gurus

## 28. Women heroes of India's freedom struggle, mentioned by PM in his I-Day speech

### Context

In his ninth Independence Day address to the nation from the ramparts of the Red Fort, Prime Minister Narendra Modi hailed "nari shakti", and **urged people to pledge to not do anything that lowers the dignity of women which is also part of Fundamental duty in our constitution Article 51A(e).**

- He also paid tribute to women freedom fighters for showing the world the true meaning of India's "nari shakti". A look at the women he named in his speech:

### Rani Laxmibai

- The queen of the **princely state of Jhansi**, Rani Laxmibai is known **for her role in the First War of India's Independence in 1857.**
- Born Manikarnika Tambe in 1835, she married the king of Jhansi.
- The couple adopted a son before the king's death, which the British East India Company refused to accept as the legal heir and decided to annex Jhansi.

### Jhalkari Bai

- A **soldier in Rani Laxmibai's women's army, Durga Dal**, she rose to become one of the queen's most trusted advisers. She is known for putting her own life at risk to keep the queen out of harm's way.
- Till date, the story of **her valour is recalled by the people of Bundelkhand**, and she is often presented as a representative of Bundeli identity.

### Durga Bhabhi

- Durgawati Devi, who was popularly known as Durga Bhabhi, was a **revolutionary who joined the armed struggle against colonial rule.** A member of the **Naujawan Bharat Sabha**, she **helped Bhagat Singh escape in disguise** from Lahore after the 1928 killing of British police officer John P Saunders.
- During the train journey that followed, Durgawati and Bhagat Singh posed as a couple, and Rajguru as their servant. Later, as revenge for the hanging of Bhagat Singh, Rajguru, and Sukhdev, she **made an unsuccessful attempt to kill the former Punjab Governor, Lord Hailey.**
- Born in Allahabad in 1907 and married to **Hindustan Socialist Republican Association (HSRA) member Bhagwati Charan Vohra**, Durgawati, along with other revolutionaries, also ran a bomb factory in Delhi.

### Rani Gaidinliu

- Born in 1915 in present-day Manipur, Rani Gaidinliu was a **Naga spiritual and political leader who fought the British.**
- She joined the **Heraka religious movement** which later became a movement to drive out the British. **She rebelled against the Empire, and refused to pay taxes, asking people to do the same.** The British launched a manhunt, but she evaded arrest, moving from village to village.
- Gaidinliu was **finally arrested in 1932 when she was just 16, and later sentenced for life.** She was released in 1947. Prime Minister Jawaharlal Nehru, according to the Amrit Mahotsav website, described Gaidinliu as the **"daughter of the hills"**, and gave her the title of 'Rani' for her courage.

### Rani Chennamma

- The **queen of Kittur, Rani Chennamma**, was among the first rulers to **lead an armed rebellion against British rule.** Kittur was a princely state in present-day Karnataka.



- She fought back against the attempt to control her dominion in 1824 after the death of her young son. She had lost her husband, Raja Mallasarja, in 1816. She is seen among the few rulers of the time who understood the colonial designs of the British.
- Rani Chennamma **defeated the British in her first revolt, but was captured and imprisoned during the second assault by the East India Company.**

#### Begum Hazrat Mahal

- After her husband, Nawab of Awadh Wajid Ali Shah, was exiled after the 1857 revolt, Begum Hazrat Mahal, along with her supporters, **took on the British and wrested control of Lucknow. She was forced into a retreat after the colonial rulers recaptured the area.**

#### VeluNachiyar

- Many years before the revolt of 1857, **VeluNachiyar waged a war against the British and emerged victorious.** Born in Ramanathapuram in 1780, she was married to the king of Sivagangai. After her husband was killed in battle with the East India Company, she entered the conflict, and won with support of neighbouring kings.
- “She went on to produce **the first human bomb as well as establish the first army of trained women soldiers in the late 1700s,**” says the Amrit Mahotsav website. Her army commander Kuyili is believed to have set herself ablaze and walked into a British ammunition dump. She was succeeded by her daughter in 1790, and died a few years later in 1796.

### 29. The revolutionaries whom Modi mentioned in his Independence Day speech

#### Context

In his address from the Red Fort on Independence Day, Prime Minister Narendra Modi paid tribute to a range of personalities from India’s freedom struggle, including fearless revolutionary heroes, leaders of tribal movements, spiritual leaders, women leaders, and several others who fought colonial rule outside the mainstream national movement. Among those to whom Modi referred were:

#### Mangal Pandey

- A soldier with the British Indian army, Mangal Pandey is believed to have **sparked off the mutiny of Indian soldiers at Meerut that eventually became the great revolt of 1857,** and spread to other parts of North India. The revolt is said to have been **sparked by the introduction of the new Enfield rifle,** which required soldiers to bite off the cartridge casing before the weapon could be fired. Soldiers believed the casing was greased with cow fat and pig fat, which offended both Hindus and Muslims.

#### Tantya Tope

- Born in 1814, Tantya Tope was **a trusted lieutenant of Nana Sahib, the adopted son of Peshwa Baji Rao II of the Maratha empire. Nana Sahib lost his ancestral rights under the ‘Doctrine of Lapse’ that disallowed adopted heirs of Indian rulers from ascending to the throne.**
- In the summer of 1857, Tantya brought together armed forces to declare Nana Sahib the ruler of Kanpur and attempted to protect the seat of power for over five months. After Kanpur was lost to the British in December 1857, **he assisted the Rani of Jhansi, whose adopted son was also a victim of the Doctrine of Lapse, to mobilise an armed force.** Tantya Tope was sent to the gallows in April 1859 in Shivpuri, Madhya Pradesh, after a trusted aide betrayed him.

#### Bhagat Singh, Sukhdev, Rajguru

- Of all the great revolutionary heroes of India’s freedom struggle, Bhagat Singh is perhaps the most charismatic and storied. Bhagat Singh, who was inspired by communist thought, anti-colonialism, and anti-communalism, was involved in **the symbolic bombing of the Central Legislative Assembly. He was hanged by the British at the age of 23. Along with Bhagat Singh, Sukhdev and Rajguru were also hanged to death.**

#### Chandrashekhar Azad

- Chandra Shekhar Azad was one of the **most notable Indian revolutionaries** who took part in India’s freedom struggle at a very young age.



- Azad was deeply moved by the JallianwalaBagh incident which took place on April 13, 1919.
- He joined the revolution for Indian independence and soon **became a part of the Non-Cooperation Movement** led by Mahatma Gandhi in 1920. He even got arrested at the young age of 15 for being a part of the movement.
- After Gandhi suspended the non-cooperation movement in 1922, **Chandra Shekhar Azad joined the Hindustan Republican Association (HRA)**, a revolutionary organisation formed by **Ram Prasad Bismil, SachindraNathSanyal** and others.
- As a freedom fighter, he was involved in the **Kakori Train Robbery of 1925**, in the attempt to blow up the Viceroy of India's train in 1926, and in the **shooting of British police officer JP Saunders at Lahore in 1928**.
- Chandra Shekhar Azad took charge of HRA after Ram Prasad Bismil, Ashfaqulla Khan, RajendraLahiri and ThankurRoshan Singh were sentenced to death in the Kakori train robbery case.
- After the capture of the main leaders of the HRA, Chandra Shekhar Azad and Bhagat Singh **secretly reorganised the HRA as the HSRA (Hindustan Socialist Republic Army)** in September 1928.

#### Ashfaqulla Khan

- Born in Shahjahanpur, Khan **helped form the HSRA and was part of the Kakori incident. In September 1926, Khan's close friend Ramprasad Bismil was arrested, and finally, Khan too was arrested.** The trial continued for about a year and a half, and in April 1927, Bismil, Khan, Rajendra Lahiri, and Roshan Singh were sentenced to death.

#### Ramprasad Bismil

- Ram Prasad Bismil was born to a Municipality employee Muralidhar and his wife. He learnt Hindi at home and Urdu from a Moulvi. In spite of his father's objections, he was admitted to an English medium school.
- He also joined the Arya Samaj founded by **Dayananda Saraswati**. This had a profound influence on him.
- On reading Parmanand's death sentence, he composed a Hindi poem titled 'MeraJanm' (My Birth). He also translated English and Bengali works into Hindi.
- He started writing powerful patriotic poems in Urdu and Hindi under the pen names 'Bismil', 'Ram', and 'Agyat'. His autobiography is considered one of the finest works in Hindi literature, and the **cult patriotic song "Mera rang de Basanti chola" is attributed to him**
- Bismil was involved in the **Mainpuri Conspiracy of 1918** in which police found a few young people including Bismil selling books that were proscribed by the government. Bismil escaped arrest by jumping into the Yamuna River.
- He also attended the **1921 session** of the **Indian National Congress** at Ahmedabad.
- Bismil was one of the chief founders of the **Hindustan Republican Association (HRA)** along with **Sachindra Nath Sanyal** and **Jadugopal Mukherjee**.
- The organisation was founded in 1924 and its constitution was drafted chiefly by Bismil.
- The HRA produced many pamphlets which sought to inspire people to fight the government through revolutionary activities.
- Bismil is perhaps most remembered for the **Kakori Conspiracy Case**. He was the mastermind behind the plan which was to loot a train carrying government money. The incident occurred on 9th August 1925 at Kakori, near Lucknow.
- While lodged in Gorakhpur Central Jail, Bismil went on a hunger strike demanding to be treated as a political prisoner.
- Bismil was hanged on 19th December 1927 at Gorakhpur Jail. He was just 30 years old.

#### Hindustan Republican Association (HRA) 1924

- Hindustan Republican Association (HRA) was a revolutionary organization of India established in **1924 at village Bholachang in East Bengal by Sachindra Nath Sanyal, Narendra Mohan Sen and PratulGanguly as an offshoot of Anushilan Samiti.**

#### Objective and Tactics

- The Objective of the HRA was to establish **“Federated Republic of the United States of India” through an organized armed revolution**
- The tactics of HRA were killing the officials; organize political dacoities to raise funds, terrorism among the British and British loyalists and strikes against the raj.
- The idea attracted the young champions; some immediately joined the organization were **Bhagat Singh, ChandraShekhar Azad, Sukhdev, Ram Prasad Bismil, Roshan Singh, Ashfaqulla Khan, Rajendra Lahiri and many others. The first organized robbery of this group was the Kakori Train Conspiracy.**

## **GEOGRAPHY**

### **1. Neighbour's envy: India's jute economy is faltering while Bangladesh's is flourishing; here's why**

- India is still the **largest producer** of jute but in terms of **acreage**, **Bangladesh** is the **largest cultivator**.
- In **West Bengal** — the **country's largest jute-producing state**, which also has 70 of India's 93 jute mills — the area under jute has reduced by 0.1 million ha between 2009-10 and 2020-21.

#### **The Jute Packaging Materials (Compulsory Use in Packing Commodities) Act 1987 (JPMA)**

- It provides for use of jute packaging material for food grains.
- Under this Act, the government issues orders from time to time for mandatory use of jute packaging.
- Since 2017, the norms provide that 100 per cent of food grains and 20 per cent of sugar should only be packed in jute bags.
- Due to this, jute sacks account for 75 per cent of the total production of the jute industry.

#### **National Jute Board**

- It is governed by National Jute Board Act-2008, as framed by the Ministry of Textiles, Govt. of India and enacted by the Parliament on February 12, 2009.
- Board engages in research and human resource development programmes to explore new and innovative use of jute with the idea of enabling both the organized as well as the decentralized sector to compete and increase the global share of Indian jute goods consumption.

#### **Government Initiatives for Promoting Jute Industry**

- **Jute Corporation of India (JCI)** procures raw jute at Minimum Support Price (MSP), fixed on the basis of recommendation of the commission for Agricultural Cost and Prices (CACP), from jute growers to safeguard their interest.
- Incentive Scheme for Acquisition of Plants and Machinery (ISAPM): Launched in 2013, it aims to facilitate modernization in existing and new jute mills and up-gradation of technology in existing jute mills.
- Jute-ICARE (Jute: Improved Cultivation and Advanced Retting Exercise): This pilot project launched in 2015 is aimed at addressing the difficulties faced by the jute cultivators by providing them certified seeds at subsidized rates, and by popularizing several newly developed retting technologies under water limiting conditions.
- The **National Jute Board** implements various schemes for market development, workers' welfare and promotion of diversification and exports.
- In order to boost demand in the jute sector, the Government has also imposed anti-dumping duty on import of jute goods from Bangladesh and Nepal.

#### **About Jute**

- Jute is known as the '**golden fibre**', is one of the longest and most used natural fibre for various textile applications.
- It thrives in **tropical lowland areas** with humidity of **60% to 90%**. Jute is a rain-fed crop with little need for fertilizer or pesticides.
- **Retting of Jute** is a process in which the tied bundles of jute stalks are immersed in water by which fibres get loosened and separated from the woody stalk.
- World's leading jute producing countries are **India, Bangladesh, China and Thailand**. **India is the world's largest producer of raw jute** and jute goods, contributing to over 50% and 40% respectively of global production.
- The cultivation of jute in India is mainly confined to the eastern region of the country. The jute crop is grown in seven states – West Bengal, Assam, Orissa, Bihar, Uttar Pradesh, Tripura and Meghalaya. West Bengal alone accounts for over 50% of the total raw jute production.
- To promote and popularize jute diversification work, National Jute Board, Ministry of Textiles, acts as the apex body for promotion of the products in India and abroad.

- The first jute mill was established at **Rishra (Bengal – now in West Bengal)**, on the river Hooghly near Calcutta in the year 1855, by Mr. George Aclend. In 1959, the first power driven weaving factory was set up.

## 2. Kerala opposes changes to MMDR Act

### Context

The Kerala government has opposed the new set of proposed amendments to the Mines and Minerals (Development and Regulation) Act.

### Mines and Minerals (Development and Regulation) Act:

- Mines and Minerals (Regulation and Development) Act (1957) enacted to regulate the mining sector in India.
- This act is applicable to **all minerals except minor minerals and atomic minerals**.
- Mining minor minerals comes under the purview of state governments. River sand is considered a minor mineral.
- **For mining and prospecting in forest land, prior permission is needed from the Ministry of Environment and Forests.**

This act provides for:

- The governance of mining leases within the country.
- The purpose of why the lease is given.
- How to ensure the well being of the people living in the areas where mines are auctioned.

The act was amended by The Mines and Minerals (Development and Regulation) **Amendment Act, 2021**

- **Removal of restriction on end-use of minerals:** The act provides that no mine will be reserved for particular end-use (such as iron ore mine for a steel plant). Such mines are known as captive mines.
- **Sale of minerals by captive mines:** It provides that captive mines (other than atomic minerals) may sell up to 50% of their annual mineral production in the open market after meeting their own needs
- **Auction by the central government in certain cases:** Under the Act, states conduct the auction of mineral concessions (other than coal, lignite, and atomic minerals).
- The Amended act empowers the central government to specify a time period for completion of the auction process in consultation with the state government. If the state government is unable to complete the auction process within this period, the auctions may be conducted by the central government.
- **Conditions for lapse of mining lease:** The Act provides that a mining lease will lapse if the lessee: (i) is not able to start mining operations within two years of the grant of a lease, or (ii) has discontinued mining operations for a period of two years.
- However, the lease will not lapse at the end of this period if a concession is provided by the state government upon an application by the lessee.

**What is the proposed amendment to the Mines and Minerals (Development and Regulation) Act, 1957?**

- The **proposal to remove some names from the list of atomic minerals while empowering the Centre to give sanction for mining certain critical minerals** is an encroachment on the powers vested with **the States under List 2 of the Seventh Schedule**.
- As per the proposal, **eight out of 12 group of minerals** will be omitted from Part B of the first Schedule of MMDR Act.
- They include beryl and other beryllium-bearing minerals, lithium-bearing minerals, minerals of the 'rare earths' group containing uranium and thorium, niobium-bearing minerals, titanium-bearing minerals and ores (ilmenite, rutile and leucoxene), tantallium-bearing minerals, zirconium-bearing minerals and ores including zircon and beach sand minerals.

- It has been proposed to create a new part D in the first Schedule (critical & strategic minerals) and the place the eight minerals along with others like indium, gallium, graphite, nickel, cobalt and tin.
- Alleging that the proposal **is an attempt to privatize the critical sector and please the mining body.**

### 3. Rat Hole Mining

#### Context

As per information received from Coal Controller Organization (CCO), no coal production has been reported during last 4 years from the State of Meghalaya.

#### Concept:

- Rat hole mining involves digging of very small tunnels, usually only 3-4 feet high, which workers (often children) enter and extract coal.
- The National Green Tribunal (NGT) banned it in 2014, on grounds of it being unscientific and unsafe for workers. The state (Meghalaya) government has challenged the NGT ban in the Supreme Court.
- According to available government data, Meghalaya has a total coal reserve of 640 million tonnes, most of which is mined unscientifically by individuals and communities.
- Since the coal seam is extremely thin in Meghalaya, no other method would be economically viable.

#### Impacts

- The water sources of many rivers, especially in **Jaintia Hills district**, have turned **acidic**.
  - The water also has high concentration of **sulphates, iron and toxic heavy metals, low dissolved oxygen (DO) and high BOD, showing its degraded quality**.
  - The roadside dumping of coal is a major source of air, water and soil pollution.
  - The practice has been declared as unsafe for workers by **the NGT**.
  - The mines branch into networks of horizontal channels, which are at constant risk of caving in or flooding.
- **Illegal mining of beach sand minerals**
- Ministry of Mines has invited comments/suggestions of the stakeholders viz, Central Government Ministries/Departments, States Governments and Union Territories, mining industry stake-holders, industry associations, general public, and other persons and entities concerned on the proposal to **remove certain atomic minerals including beach sand minerals in Part B of the First Schedule of the Mines and Minerals (Regulation & Development) [MMDR] Act, 1957**.
  - Some of these minerals are **technology and energy critical (elements)** having uses in the **space industry, electronics, information technology** and communications, energy sector, electric batteries and the nuclear industry and are critical in net zero emission commitment of India.
  - Country is **dependent on imports** for most of these important commodities. These minerals have high economic importance and considerable supply risk due to geo-political uncertainties.
  - As per **section 23C of the MMDR Act, 1957** the **State Governments are empowered to frame rules to prevent illegal mining** and the State Governments may, by notification in the Official Gazette, **make such rules for preventing illegal mining, transportation and storage of minerals and for purposes connected therewith**.
  - **Data regarding incidence of illegal mining of such minerals is not maintained Centrally**.
- However, Government of India has taken a number of steps to check such illegal mining of Beach Sand Minerals viz;
- A new section **“11B”** has been introduced under **the MMDR Act 1957** to empower of **Central government to make rules for regulating atomic minerals specified under Part B of First Schedule**.



- **Ministry of Mines notified Atomic Mineral Concession Rules 2016 (AMCR-2016) towards protecting and conserving the “Atomic Minerals” by introducing the concept of “Threshold value”. “Beach Sand Minerals” (BSM) declared as “Atomic Minerals” under part-B of First Schedule of the MMDR Act 1957.**
- Directorate General of Foreign Trade, Department of Commerce, Ministry of Commerce and Industry, Government of India issued Notification on export policy on BSM under which **export of BSM have been brought under State Trading Enterprise and shall be canalized through IREL.**
- Towards ensuring **complete government control over “Monazite” and “Zircon” occurring within the “Beach sand Minerals” Ministry of Mines (MoM) amended AMCR-2016-Threshold value of Monazite” for BSM occurring in teri or placer deposits as “0.00% in Total Heavy Minerals (THM).**
- Ministry of Mines vide notification No. S.O. 2807(E). dated 12.07.2021 under the provisions of sub-section (1) of **section 24(Power of entry and inspection for purpose of ascertaining the position of the working, actual or prospective, of any mine or abandoned mine or for any other purpose connected with this Act or the rules made thereunder) of the MMDR Act, 1957** authorizing the officers of the **Atomic Minerals Directorate for Exploration and Research (AMD) to exercise all or any of the powers specified in that sub-section, in respect of minerals specified in Part B of the First Schedule to the said Act.**
- Ministry of Mines vide notification S.O. 2805(E). dated 12.07.2021 under the provisions of **Section 22 (Cognizance of Offences punishable under this Act and the rules made thereunder) of the MMDR Act, 1957 authorizing the officers of the Atomic Minerals Directorate for Exploration and Research** to prefer complaints in writing in respect of any offences punishable under the said Act or the rules made thereunder in respect of minerals specified in Part B of the First Schedule to the said Act.

#### **The Mines and Minerals (Regulation and Development) Act (1957)**

- It is an Act of the Parliament of India **enacted to regulate the mining sector in**
- It was amended in 2015 and 2016. **This act forms the basic framework of mining regulation in India.**
- This act is applicable **to all mineral except minor minerals and atomic minerals.**
- It details the process and conditions for acquiring a mining or prospecting licence in India.
- **Mining minor minerals comes under the purview of state governments. River sand is considered a minor mineral.**
- **For mining and prospecting in forest land, prior permission is needed from the Ministry of Environment and Forests.**

#### **4. Why is heavy rainfall battering Kerala?**

##### **Concept:**

##### **Why is Kerala witnessing heavy rains?**

Kerala is presently under the influence of at least three rainfall triggering weather conditions.

1. There are strong Westerly winds flowing-in from the Arabian Sea, and bringing moisture over Kerala.
2. The presence of an east-west shear zone located 10 degrees north over the southern peninsula. This vertical zone — that can prevail either in the lower, middle or upper atmospheric levels — allows active winds of high speeds to interact. This zone also allows monsoon winds to remain active, thus causing intense rainfall over the area under its influence.
3. The IMD further stated that the presence of a north-south trough running between Chhattisgarh and Comorin areas, which are located closer to south Kerala is causing widespread rainfall.

##### **Why more rainfall this year?**

The expectations of a normal monsoon in August and September are premised on the persistence of **La Nina**, the converse of El Nino and characterised by the cooling of the waters of the Central Pacific. The ensuing effects are expected to help bring more rain to the Indian subcontinent, unlike the El Nino which normally dries up the rain. However, the Indian Ocean Dipole, another index of

significance, marked by a swing of warm waters between the eastern and western halves of the Indian Ocean, to the monsoon is expected to be negative. A negative outlook is expected to be unfavourable for the monsoon, though M. Mohapatra, Director-General, IMD, said that this was not expected to translate into a serious deficit due to the favourable effect of **La Nina**.

## 5. National Waterways

### Context

To promote inland water transport (IWT) in the country, 111 inland waterways spread over 24 states have been declared as National Waterways (NWs) under National Waterway Act, 2016.

### Concept:

Based on the outcome of techno-economic feasibility and Detailed Project Reports (DPRs) of these NWs, action plan has been formulated by IWAI for 26 NWs found viable for cargo/passenger movement.

### Important National Waterways:

- **National Waterway-1: Allahabad-Haldia stretch** of the **Ganga-Bhagirathi-Hooghly River** (1620 Km) declared as NW in 1986 in the states of Uttar Pradesh, Bihar, Jharkhand and West Bengal. It has been undertaken by IWAI with the technical and financial assistance of the World Bank at a revised estimated cost of Rs. 4633.84 cr.
- **National Waterway-2: Sadiya-Dhubri stretch** of the Brahmaputra River (891 Km) declared as National Waterway in 1988 in the state of Assam.
- **National Waterway-3: Kollam-Kottapuram stretch** of West Coast Canal and Champakara and Udyogmandal canals (205 Km) declared as National Waterway in 1993 in the state of Kerala
- **National Waterway-4: Kakinada-Pudducherry stretch of canals** and Kaluvelly tank, Bhadrachalam-Rajahmundry stretch of river Godavari and Wazirabad-Vijayawada stretch of river Krishna (1078 Km) declared as National Waterway in 2008 in the states of Andhra Pradesh, Tamil Nadu and Union Territory of Puducherry. The Krishna River (Vijayawada – Muktyala) over a length of 82 kms, the stretch of river Krishna between Vijayawada and Galagali is part of declared National Waterway-4. However, no development work on this stretch has been undertaken under **Sagarmala scheme**.
- **National Waterway-5: Talcher-Dhamra stretch** of Rivers, Geonkhali-Charbatia stretch of East Coast Canal, Charbatia-Dhamra stretch of Matai River and Mahanadi Delta Rivers (588 Km) declared as National Waterway in 2008 in the states of West Bengal and Orissa.

### Inland Waterways Authority of India

- It is a statutory body that came into existence on 1986 for development and regulation of inland waterways for shipping and navigation.
- It primarily undertakes projects for development and maintenance of IWT infrastructure on national waterways through grants received from the Ministry of Shipping.
- It is headquartered at Noida with regional offices at Patna (Bihar), Kolkata (West Bengal), Guwahati (Assam) and Kochi (Kerala) and sub-offices at other places throughout India.

## 6. Harness the potential of Ocean resources.

### Context

Ministry of Earth Sciences (MoES) has taken many initiatives to harness the potential of Ocean resources.

### Concept:

### Steps Taken:

- **Government of India** has signed a 15 year contract with International Seabed Authority (ISA) for exploration of polymetallic nodules from Central Indian Ocean Basin (CIOB) in 2002.
- **MoES** has undertaken exploration and other developmental activities related to polymetallic sulphides under a 15 years **contract signed in 2016 with International Seabed Authority (ISA) for exploration of polymetallic sulphides** in the allotted area of 10,000 sq km along Central Indian Ridge (CIR) & Southwest Indian Ridge (SWIR) region of the Indian Ocean.

- **National Institute of Ocean Technology (NIOT)** under MoES has developed, demonstrated and operated unmanned remotely operated systems to harness ocean resources.
- **Marine Living Resources Programme (MLRP):**
- Centre for Marine Living Resources and Ecology (CMLRE) of MoES explored the deep-sea living resources under Marine Living Resources Programme (MLRP).
- The programme covers the **regular monitoring** of the Indian ecosystems covering pelagic to deep sea realms vis-à-vis documenting the taxonomic information and development of technology for harnessing resources.
- **Geological Survey of India (GSI)** under Ministry of Mines has delineated prospective offshore areas within Exclusive Economic Zone (EEZ) of India for marine mineral resources like lime mud, heavy mineral placers [ilmenite, monazite, rutile, sillimanite, garnet, zircon], and construction sand.

## 7. Decline in Quantity and Quality of Ground water

### Context

Analysis of water level data indicates that about 70% of the wells monitored have registered rise in ground water level whereas, about 30 % wells have registered decline in water level.

### Concept:

- **The Availability of groundwater resource** depends upon a number of factors like intensity & period of rainfall, geological strata of the area, number of existing recharge structures, extraction by consumers for various purposes like industrial applications, drinking/domestic purposes, irrigation practices including cropping pattern and crop intensity etc.

### Status of Ground Water by CGWB

- Central Ground Water Board (CGWB) is **periodically monitoring the ground water levels and water quality** throughout the country on a regional scale, through a network of monitoring wells.
- These studies indicate the occurrence of Fluoride, Arsenic, Nitrate, Iron and Heavy Metals beyond the BIS permissible limits in isolated pockets in certain parts of the country.
- Analysis of water level data indicates that about **70% of the wells** monitored have registered **rise** in ground water level whereas, about **30 % wells** have registered **decline** in water level.
- Further, it has been observed that **nitrate contamination** is mostly Anthropogenic and its spread has been noticed in some areas, particularly areas adjoining habitations. Further, nitrate contamination can also be caused by use of fertilizers.
- As per Central Ground Water Board (CGWB) study, groundwater pollution is mostly Geogenic in nature and **does not show significant change over the years**.

### Steps in Conservation of water bodies:

**Census of Water Bodies:** The Ministry of Jal Shakti has launched the first Census of Water Bodies in convergence with the Sixth Minor Irrigation Census (reference year 2017-18) with the objective of developing a national database of all water bodies in the country.

### Steps in Conservation of Water bodies:

1. **Jal Shakti Abhiyan (JSA)** was launched in 2019 in water stressed blocks of 256 districts which continued during the year 2021 (across entire country both rural and urban areas) also with the primary aim to effectively harvest the monsoon rainfall through creation of artificial recharge structures, watershed management, recharge and reuse structures, intensive afforestation and awareness generation etc..
2. **Amrit Sarovar Mission** launched on 24<sup>th</sup> April 2022 is aimed at developing and rejuvenating 75 water bodies in each district of the country.
3. **Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme:** Rejuvenation of water bodies is also a component under water supply sector of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme under Ministry of Housing & Urban Affairs. AMRUT 2.0, launched in October, 2021.

4. **Jal Shakti Abhiyan: Catch The Rain” (JSA:CTR) campaign:** Focused interventions under these annual campaigns taken up by the Government of India and the State Governments, include renovation of traditional and other water bodies, enumeration, geo-tagging and making inventory of all water bodies, and removal of encroachments, and de-silting of tanks, and protection of water catchment area.
5. **Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS)** has provisions for public works relating to natural resource management, water conservation and water harvesting structures to augment and improve ground water like underground dykes, earthen dams, stop dams, check dams and roof top rain water harvesting structures in public buildings.

**Steps taken to manage/control groundwater extraction by various users including irrigation: “Linking of crop pattern with ground water Availability”**

1. **‘Sahi Fasal’ campaign:**
  - It was launched by the **Department of Water Resources, River Development & Ganga Rejuvenation** on 2019 to **nudge farmers** in the water stressed areas to grow crops which are economically remunerative, healthy & nutritious, suited to the **agro-climatic-hydro characteristics of the area**, environmentally friendly and are not water intensive.
  - **Creating awareness** among farmers on appropriate crops, micro-irrigation, soil moisture conservation, weaning them away from water intensive crops to crops requiring less water, assisting policy makers to frame policies etc are some of the key elements of the campaign.
2. **National Aquifer Mapping Program (NAQUIM):**
  - It is implemented by **CGWB** with an aim to **identify the groundwater aquifer system** along-with their characterization for its sustainable management.
  - Out of the total mappable area of nearly **25 lakh sq km**, nearly **10 lakh sq km** of the area (as on 30th June 2022) in the country has been covered. The balance area has been targeted to be covered by **March 2023**.
3. **Atal Bhujal Yojana:**
  - It is implemented by the central government with an outlay of **6,000 crore**, in collaboration with States, in certain water stressed areas of **Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh**.
  - The primary aim of the scheme is demand side management including implementation of crop rotation/diversification, changing crop pattern, use of sprinklers/drip irrigation system etc by involving the local communities at village levels leading to sustainable groundwater management in the targeted areas.
4. **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY):** Government of India is providing financial assistance to the States under Repair, Renovation and Restoration of Water Bodies component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) – **Har Khet Ko Pani (HKKP)**.
5. **The National Water Policy (NWP) – 2012** states that **water saving in irrigation** use is of paramount importance. It further states methods like aligning cropping pattern with natural resource endowments, micro irrigation (drip, sprinkler, etc.), automated irrigation operation, evaporation-transpiration reduction etc., should be encouraged and incentivized.

**Other:**

- Water is a **State subject** and several States have done notable work in the field of water conservation/harvesting such as ‘**Mukhyamantri Jal Swavlamban Abhiyan**’ in Rajasthan, ‘**JalyuktShibar**’ in Maharashtra, ‘**SujalamSufalam Abhiyan**’ in Gujarat, ‘**Mission Kakatiya**’ in Telangana, **NeeruChettu**’ in Andhra Pradesh, **Jal Jeevan Hariyali** in Bihar, ‘**Jal Hi Jeevan**’ in Haryana, and **Kudimaramath** scheme in Tamil Nadu.
- However, Central Pollution Control Board (CPCB) in association with State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs) is implementing the provisions of the **Water (Prevention & Control) Act, 1974** and the **Environment (Protection) Act, 1986** in the country to **prevent and control pollution in water**.

## 8. The Earth has recorded its shortest day since the 1960s — why are we spinning faster and what impact can it have?

- On June 29, the Earth completed one full spin — a day — **in 1.59 milliseconds less than its routine 24 hours.**

**So, the Earth is in a hurry. Is this new?**

- While the Earth has been **completing its rotations faster in recent years, when looked at over a much longer period of time, our planet is actually spinning slower.**
- Every century, the Earth takes a few milliseconds longer to complete one rotation — **and on average, days are actually getting longer.** So, 1.4 billion years ago, a day would have ended in less than 19 hours, The Guardian reported in 2018, quoting a scientific paper published that year. The paper **attributed the larger trend of the Earth's slower spin mostly to the gravitational pull of the Moon, which causes tidal friction and slows down the Earth's rotations.**

**Then why are days getting shorter these days?**

- Hypothesis says that **climate change-induced surface variations, which impact the way that the Earth spins, could be a reason.** These surface variations include **melting ice sheets in Greenland and Antarctica, as well as changes in ocean circulation.**
- Experts assume that the cause is **internal and lies in the movement of Earth's core.** Among the many processes that **affect the speed of the Earth are movements in the planet's inner molten core, seismic activity, wind speed, and shifting atmospheric gases.**
- Activities that push mass towards the centre of the Earth will hasten the planet's rotation, while anything that pushes mass outwards will slow down the spin.**
- Some experts suggest that the **shortened length of the day could be related to the 'Chandler wobble', a phenomenon that refers to the small deviation in the movement of Earth's geographical poles.**
- The **normal amplitude of the Chandler wobble is about three to four metres at Earth's surface, but from 2017 to 2020 it disappeared**
- The **spinning Earth is affected by many factors, including changes in the way the winds blow or currents in the ocean.** Some of these factors can act to speed the planet up, while others literally drag it down

**What can happen if the Earth continues to spin faster on a sustained basis?**

- To ensure that **the time on clocks matches the speed of the Earth's rotation, a system of leap seconds has been used since the 1970s.** They **involve one-second adjustments to Coordinated Universal Time (UTC), the time standard used to synchronize clocks around the world.** **Due to the long-term slowing in the planet's spin, 27 leap seconds have been added to UTC.**
- However, if the Earth continues to spin faster and days subsequently become shorter, scientists **may have to introduce the first ever 'negative leap second,' which involves a subtraction of a second from clock**
- What are rare earth elements and why is India keen to join a global alliance to ensure their supply?**
- Rare earths are **critical for a range of electronic products including electric and hybrid vehicles, to which India is committed.** As the Covid-19 pandemic disruption and geopolitical tensions with China have demonstrated, the Chinese near-monopoly over their production and export creates major supply-side insecurities.

**What is the Minerals Security Partnership (MSP)?**

- The **US and 10 partners — Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea (South Korea), Sweden, the United Kingdom, and the European Commission — have come together to form the MSP.** The new grouping is aimed at catalysing investment from governments and the private sector to develop strategic opportunities.



- The new grouping, industry insiders say, **could focus on the supply chains of minerals such as Cobalt, Nickel, Lithium, and also the 17 ‘rare earth’ minerals.** The alliance is seen as primarily focused on evolving an alternative to China, which has created processing infrastructure in rare earth minerals and has acquired mines in Africa for elements such as Cobalt.

#### What are rare earth elements?

- The **17 rare earth elements (REE)** include the **15 Lanthanides (atomic numbers 57 — which is Lanthanum — to 71 in the periodic table) plus Scandium (atomic number 21) and Yttrium (39).** REEs are classified as **light RE elements (LREE)** and **heavy RE elements (HREE).**
- Some REEs are **available in India — such as Lanthanum, Cerium, Neodymium, Praseodymium and Samarium,** Others such as **Dysprosium, Terbium, and Europium, which are classified as HREEs, are not available in Indian** deposits in extractable quantities. Hence, there is a dependence on countries such as **China for HREEs, which is one of the leading producers of REEs, with an estimated 70 per cent share of the global production.**
- According to the US Geological Survey, supplies from China had started to become erratic as early as 1990, as Beijing kept changing the amounts that it would allow to be produced and exported. Also, according to the USGS, the Chinese government began to limit the number of companies, both Chinese and Sino-foreign joint ventures, that could export REEs from China.

#### Why are these minerals important?

- Minerals **like Cobalt, Nickel, and Lithium are required for batteries used in electric vehicles.** REEs are an essential — although often tiny — component of more than 200 consumer products, including mobile phones, **computer hard drives, electric and hybrid vehicles, semiconductors, flatscreen TVs and monitors,** and high-end electronics. India is seen as a late mover in attempts to enter the lithium value chain, coming at a time when EVs are predicted to be a sector ripe for disruption.

#### What is India’s major concern at this moment?

- “If India is not able to explore and produce these minerals, it will **have to depend on a handful of countries, including China, to power its energy transition plans to electric vehicles.** That will be **similar to our dependence on a few countries for oil,**” an economist said.
- Industry watchers say that the reason India would not have found a place in the MSP grouping is because the country does not bring any expertise to the table. In the group, countries **like Australia and Canada have reserves and also the technology to extract them, and countries like Japan have the technology to process REEs.**

## 9. Nadis

### Context

Rajasthan’s nadis, an insurance against a dry summer.

### Concept

#### Nadis or Talabs (ponds)

- These are **shallow depressions** strewn across the rural landscape in the arid regions of **Jodhpur and Barmer districts.**
- The water collected in these tanks will **quench the thirst of cattle and human beings** as well as **wild animals during the dry months** later in the year.
- The rural communities utilise these structures for **storage of rain water** with the **application of traditional knowledge** and locally available materials in view of the highly variable and scanty rainfall in the State.
- These will **create micro-climates** which will **help improve local resilience against the vagaries of global warming and climate change.**
- g., (i)The Ramrawas Kalan village, situated 49 km north-east of Jodhpur has two nadis. (ii)The two bigger structures called **Deoli** and **Chan** are in **Orans** (associated with local deities) **or sacred forest groves** 10 km away from the village.

#### Traditional Water Conservation Systems in India:

<b>Jhalaras</b>	Jhalaras are typically <b>rectangular-shaped</b> stepwells that have tiered steps on three or four sides in <b>Rajasthan</b> .
<b>Bawari</b>	Bawaris are unique stepwells that were once a part of the ancient networks of water storage in the cities of <b>Rajasthan</b> .
<b>Taanka</b>	Taanka is a traditional rainwater harvesting technique indigenous to the <b>Thar desert region of Rajasthan</b> . A Taanka is a <b>cylindrical paved underground pit</b> into which rainwater from rooftops, courtyards or artificially prepared catchments flows.
<b>Ahar Pynes</b>	Ahar Pynes are traditional floodwater harvesting systems <b>indigenous to South Bihar</b> . Ahars are reservoirs with embankments on three sides that are built at the end of diversion channels like pynes. Pynes are artificial rivulets led off from rivers to collect water in the ahars for irrigation in the dry months. Paddy cultivation in this relatively low rainfall area depends mostly on aharpynes.
<b>PanamKeni</b>	The <b>Kuruma tribe (a native tribe of Wayanad, Kerala)</b> uses a special type of well, called the panamkeni, to store water. <b>Wooden cylinders</b> are made by soaking the stems of toddy palms in water for a long time so that the core rots away until only the hard-outer layer remains. These cylinders, four feet in diameter as well as depth, are then immersed in groundwater springs located in fields and forests.
<b>Kund</b>	A kund is a <b>saucer-shaped catchment</b> area that gently slope towards the central circular underground well. Its main purpose is to harvest rainwater for drinking. Kunds dot the sandier tracts of western <b>Rajasthan and Gujarat</b> .
<b>Zing</b>	Zings, found in <b>Ladakh</b> , are small tanks that collect melting glacier water. A network of guiding channels brings water from the glacier to the tank.
<b>Kuhls</b>	Kuhls are surface water channels found in the mountainous regions of <b>Himachal Pradesh</b> .
<b>Zabo</b>	The Zabo (meaning 'impounding run-off') system combines water conservation with forestry, agriculture and animal care. Practised in <b>Nagaland</b> , Zabo is <b>also known as the Ruza system</b> . Rainwater that falls on forested hilltops is collected by channels that deposit the run-off water in pond-like structures created on the terraced hillsides.

## 10. Changpa Community

### Context

The Changpas' way of life is undergoing shocks and disruption

### Concept:

#### Changthang plateau

- The cold desert of the Changthang plateau, situated between the **Himalayan and Karakoram** ranges and extending up and into Tibet, is a bio culturally unique region.
- The ecological conditions of the region including arid climate and sparse vegetation, support high-altitude nomadic pastoralism, and are not conducive to cultivation. It has a freezing temperature at an altitude ranging from **4500 to 7000 msl**.
- It comprises vast grasslands and sand deserts, high altitude lakes such as **Tsokar, Tsomoriri, and Pangong**, large marshy stretches, and rivers such as Hanle and Indus.

- It is the only known breeding site in India for black-necked crane and bar-headed goose, and home for snow leopard, Pallas's cat, Tibetan grey wolf, wild ass (Kiang), Tibetan gazelle, argali, woolly hare, Tibetan lark, among many others.

#### Changpas

- The Changpa are a **semi-nomadic people**: they usually stay in one place for a few months in a row, near pastures where their sheep, yaks and Pashmina goats can graze
- They are mainly **found in the Changtang, a high plateau** that stretches across the **cold desert of Ladakh**.
- The process of migration from plain areas to pastures on mountains during summers and again from mountain pastures to plain areas during winters is known as **transhumance**.
- The **Pashmina goat** is a breed of goat inhabiting the plateaus in Tibet, Nepal, parts of Burma and neighbouring areas of Ladakh in Jammu and Kashmir, India.
- It is also known as '**Changthangi**', '**Changra**'.
- They are raised for **ultra-fine cashmere wool, also known as pashmina once woven**. Bureau of Indian Standards (BIS) has **published an Indian Standard for identification, marking and labelling of Pashmina products to certify its purity**.
- The certification will **help curb the adulteration of Pashmina** and also protect the interests of local artisans and nomads who are the producers of Pashmina raw material. It will also assure the purity of Pashmina for customers.
- People do grow basic crops like **barley and peas**, but primarily for their own and their animals' consumption and for religious ceremonies.
- The Changpas, have traditionally been primarily nomadic pastoralists, rearing yak, sheep, goat, horses, for their sustenance and livelihoods, including trade in products like wool.

#### System of rotational grazing:

- The Changpas practise an **age-old system** of rotational grazing that protects the pastures from being overgrazed, besides helping conserve fodder for lean winter months.
- A diversity of livestock leaves **droppings that add manure** to the pastures and sustains a variety of micro-fauna and flora.
- They move through **5-6 pastures in a year**. Individual household do not decide pasture movements. It has to be a **collective decision**.
- The **goba** (village head) calls the **yulpa** (village assembly) for a collective meeting to reconfirm, or change, the seasonal movement
- Along with movement to pastures, the **number of livestock and number of families** per pasture is **also fixed**.

#### Impact of climate change:

- Climate change induced impacts include **receding glaciers, dried up water springs, less dense marshes, and declining quality of pastures**.
- The reduced diversity and changing **composition of livestock**, with an **increasing focus on Pashmina goat**, whose wool has high market value
- This has resulted in higher mortality during severe winters. They are not as resilient as sheep and yaks. People **don't keep yaks anymore** whose manure is so essential for maintaining the pastures

### 11. Indian Virtual Herbarium, biggest database of country's flora, is a global hit

- With details of **about one lakh plant** specimens, Indian Virtual Herbarium, the biggest virtual database of **flora in the country**, is generating a lot of interest and turning out to be an eye-catching endeavour.
- While herbarium specimens are considered important tools for **plant taxonomy, conservation, habitat loss and even climate change**, Prime Minister Narendra Modi has recently described Indian Virtual Herbarium as an example of **how digital tools can help us connect to our roots**.
- **Developed by scientists of the Botanical Survey of India (BSI), Kolkata.**

- The herbarium provides information on plants in different categories such as **Cryptogams (spore bearing plants)**. **Phanerogams (seed bearing plants)**. Both the groups are again divided into two categories which includes **genera; specimen and type specimens**.

#### **Botanical Survey of India**

- It is the **apex research organization** under the **Ministry of Environment and Forests (MoEFCC)** for carrying out taxonomic and floristic studies on wild plant resources of the country. It was **established in 1890**
- It has **nine regional circles** situated at different regions of the country. However the **headquarter is located in Kolkata, West Bengal**.
- **Functions:**
  - **Exploration, inventorying and documentation** of phytodiversity in general and protected areas, hotspots and fragile ecosystems in particular.
  - **Publication** of National, State and District Floras.
  - **Identification** of threatened and red list species and species rich areas needing conservation.
  - **Ex-situ conservation** of critically threatened species in botanical gardens.
  - Survey and documentation of **traditional knowledge (ethno-botany)** associated with plants.
  - **Develop National database** of Indian plants, including herbarium and live specimens, botanical paintings and illustrations, etc.

#### **Botanical Survey of India- Key Initiatives**

- BSI has **Floristic surveys of many of the Indian state** and Union territories.
  - Floristic survey of 68 protected areas, 26 sacred groves, 01 Ramsar site, 12 fragile ecosystems and 23 Tiger Reserves have been completed.
- Towards fulfilling the **Global Strategy for Plant Conservation target** on ex-situ conservation, the department has **12 botanical gardens spread in different biogeographical zones of the country**.
- BSI has also developed a digital platform '**Indian Plant Diversity Information System (IPDIS)**'.

## **12. Creatures that crossed an ocean to find India**

### **Context**

A species of **bat and a primitive lemur (IUCN: Endangered)** have been found in **Gujarat's Vastan lignite mine**.

- Many life forms in **Madagascar have affinities to lineages found in India** (3,800 km away) **rather than Africa** (413 km). This posed a 'difficult enigma' to naturalists.
- Zoologist Philip Sclater was perplexed by the presence of lemurs, their relatives, and their fossils in Madagascar and India, but not in nearby Africa or the Middle East.

### **Continental drift**

- In plate tectonics, the large rocky plates that we stand on **float on molten subterranean rocks and move 2-15 cm per year relative to each other**. A landmass called **Gondwana, split into two 165 million years ago** — one containing what is **now Africa and South America, the other comprising India, Madagascar, Australia and Antarctica**.
- Around 115 million years ago, **Madagascar and India together broke free**. Around 88 million years ago, **India moved northward, dropping a few parcels of land along the way to form Seychelles**. It joined the **Eurasian mass 50 million years ago giving rise to the Himalayas and South Asia that we are familiar with**.
- Around 115 million years ago, it was the dinosaurs that ruled. Many life forms had not even evolved. Supporting the Gondwana breakup, **dinosaur fossils found in India and Madagascar are closely related, and do not resemble species found in Africa and Asia**. Fragments of **Laplatosaurus madagascarensis** have been found in both India and Madagascar.

### **Molecular clocks**

- A powerful technique, the molecular clock, is used **to estimate the time when two forms of life diverged from each other.**
- It is based on the observation **that evolutionary changes in the sequence of an RNA or a protein molecule** occur at a fairly constant rate.
- The **difference in the amino acids of, say the haemoglobin of two animals can tell you how long ago their lineages diverged.** Molecular clocks corroborate well with other evidence, such as the fossil record.

#### India's pivotal position

- India occupies **a pivotal position in the distribution of life forms in Asia, Madagascar and Africa. Gondwana creatures moved out of India.** Others crossed over to stay. For example, **Asian freshwater crabs (Gecarcinucidae)** are now found all over Southeast Asia but their most recent common ancestor evolved in India. The **frog family, Sooglossidae,** is found only in India and the Seychelles
- In India, we have the **lorises**, which are the closest extant relatives of the lemurs. These are **shy, nocturnal forest dwellers, with large, appealing eyes.** They are also believed to have survived oceanic rides from Africa.
- They are mostly found in the **Northeastern States (slow loris)(IUCN: Endangered),** and where **Karnataka, Kerala and Tamil Nadu meet (slender loris)(IUCN: Endangered).**

### 13. Study of rock agama gives insights into urbanisation and conservation

- The **Peninsular Rock Agama (Psammophilus dorsalis)** which is a type of **garden lizard** has a strong presence **in southern India.**
- The IISc study, published in *Frontiers in Conservation Science*, examined several environmental factors that could affect the presence of the lizard and revealed that **they are found mainly in rocky places and warm spots.** Thus, the **inference is that conservation efforts must point towards retaining rocky patches even while reviving landscapes by planting trees.**
- These **lizards eat insects and are in turn eaten by raptors, snakes and dogs, they cannot live in places where there are no insects.**
- This lizard is a large animal, strikingly coloured in orange and black. They **do not generate their own body heat, so they need to seek warmth from external sources like a warm rock or a sunny spot on the wall.** They are important in ecology from different aspects — they can **indicate which parts of the city are warming, and their numbers show how the food web is changing.**
- **Insects are critical components** of a healthy ecosystem as they provide so many services, **including pollination.** So, while **rock agamas are interesting in themselves, they are also a good model system to understand other aspects of the ecosystem.**

#### Ectotherm

- **Ectotherm, any so-called cold-blooded animal—that is, any animal whose regulation of body temperature depends on external sources,** such as sunlight or a heated rock surface. The ectotherms include **the fishes, amphibians, reptiles, and invertebrates.**

### 14. Krishna and Godavari river

#### Context:

Krishna, Godavari levels on the rise

#### Krishna

- The Krishna Basin extends over **Andhra Pradesh, Maharashtra and Karnataka** having a total area of 2,58,948 Sq.km which is nearly 8% of the total geographical area of the country.
- It is bounded by **Balaghat range** on the north, by the **Eastern Ghats** on the south and the east and by the Western Ghats on the west. The **Krishna River rises** from the Western



Ghats near Jor village of Satara district of Maharashtra at an altitude of 1,337 m just north of

- The total length of river from origin to its outfall into the Bay of Bengal is 1,400 km. Its principal tributaries joining from right are the **Ghatprabha**, the **Malprabha** and the **Tungabhadra** whereas those joining from left are the **Bhima**, the **Musi** and the **Munneru** are joining the river from left. The major part of basin is covered with agricultural land accounting to 75.86% of the total area and 4.07% of the basin is covered by water bodies.
- Krishna river rises in the Western Ghats at an elevation of about 1337 m. just north of Mahabaleswar, about 64 km from the Arabian Sea and flows for about 1400 km and outfalls into the Bay of Bengal. The principal tributaries joining Krishna are the **Ghatprabha**, the **Malprabha**, the **Bhima**, the **Tungabhadra** and the **Musi**.

#### Godavari:

- The Godavari basin extends over states of **Maharashtra**, **Telangana**, **Andhra Pradesh**, **Chhattisgarh** and **Odisha** in addition to smaller parts in Madhya Pradesh, Karnataka and Union territory of Puducherry having a total area of 3,12,812 Sq.km with a maximum length and width of about 995 km and 583 km.
- The basin is bounded by **Satmala hills**, the **Ajanta range** and the **Mahadeo hills** on the north, by the Eastern Ghats on the south and the east and by the Western Ghats on the west.
- The Godavari River rises from **Trimbakeshwar** in the Nashik district of Maharashtra about 80 km from the Arabian Sea at an elevation of 1,067 m. The total length of Godavari from its origin to outfall into the Bay of Bengal is 1,465 km.
- Godavari river rises near Nasik in Maharashtra at an elevation of about 1067 m and flows for a length of about 1465 km before outfalling in to the Bay of Bengal. The principal tributaries of the river are the **Pravara**, the **Purna**, the **Manjra**, the **Penganga**, the **Wardha**, the **Wainganga** the **Pranhita** (combined flow of Wainganga, Penganga, Wardha), the **Indravati**, the **Maner** and the **Sabri**.

### 15. Koppal

#### Context

Prime Minister Narendra Modi on Sunday praised Karnataka's effort in toy manufacturing cluster in **Koppal**.

The Koppal Toy Cluster (KTC) is the first such infrastructure in the country which became operation in April 2022.

#### Concept :

**Kinnal** has an immensely rich artistic heritage. It was once a flourishing centre for crafts, the most well-known being exquisite carvings in wood. The famous mural paintings in the **Pampapateshwara Temple**, and the intricate work on the wooden **chariot at Hampi**, are said to be the work of the ancestors of the Kinnhal artisans of today.

The artisans are called **chitragara**. **Lightweight wood** is used for the **toys**.

- **India and Bangladesh in talks for major river agreement ahead of PM Hasina's visit**

#### Context:

- There is a "strong possibility" that an agreement on the **Kushiyara that flows from Assam into Bangladesh is part of one such agreement that may get "done" during the Joint River Commission (JRC)**.
- The Awami League government has been insistent on sealing the **Teesta waters agreement, which has eluded settlement so far**.
- It is understood that the next JRC will focus on the "positive side" and take the negotiation beyond the Teesta and to "**other big rivers**" and **intensify collaboration on the rivers like Manu, Muhuri, Khowai, Gomti, Dharla and Dudhkumar**, where India and Bangladesh have greater scope of collaboration.
- Bangladesh and India share **54 rivers** and **Dhaka has been keen on accessing more data from the Indian side to plan better fisheries and flood control strategies**.

- Both sides are also expected to take up the **Ganga Waters Treaty of 1996** that is scheduled to be renewed in 2026.

#### **Ganga Waters Treaty of 1996**

- The treaty was signed by Prime Minister **D. Deve Gowda** and PM Hasina in **December 12, 1996** and was expected to be renewed after thirty years.
- It is an agreement to share surface waters **at the Farakka Barrage near their mutual border** based on “equitable” distribution

#### **About Teesta river:**

- Teesta river** is a tributary of the Brahmaputra (known as **Jamuna** in Bangladesh), flowing through India and Bangladesh.
- It **originates in the Himalayas near Chunthang, Sikkim** and flows to the south through West Bengal before entering Bangladesh.
- The **Teesta Barrage dam** helps to provide irrigation for the plains between the upper Padma and the Jamuna.

<b>Tributaries</b>	
• left	<b>Rangpo River, Lachung River, Ranikhola, Relli River, Talung River, DikChhu, Lang Lang Chu</b>
• right	<b>Rangeet River, RingyongChhu, RanghapChhu</b>

#### **The Kushiya River**

- The Kushiya River is a **tributary river in Bangladesh and Assam, India**.
- It forms on the **India-Bangladesh border as a branch of the Barak River**, when the Barak separates into the Kushiya and Surma.
- The waters of the Kushiya thus **originate in the state of Nagaland in India and pick up tributaries from Manipur, Mizoram and Assam**.

### **16. Centre may sell 13 block gold mines in Uttar Pradesh and Andhra this month**

#### **Context:**

The government plans to put on block 13 gold mines in the states of Andhra Pradesh and Uttar Pradesh in the ongoing month amid its efforts to give a boost to the mining sector's contribution to the country's gross domestic product.

- The gold mines in **Andhra Pradesh include Ramagiri North Block, Boksampalli North Block, Boksampalli South Block, Javakula-A Block, Javakula-B Block, Javakula-C Block, Javakula-D Block, Javakula-E Block, Javakula-F Block**.
- Of the three mines in **Uttarpradesh**, two gold mines — **Sonapahari Block and Dhurva-Biadand Block**— are in Sonbhadra.
- India has **500 million tonnes of gold ore reserves**, The largest reserves of gold ores are located in **Bihar (44 per cent)**, followed by **Rajasthan (25 per cent)**, **Karnataka (21 per cent)**, **West Bengal (3 per cent)**, **Andhra Pradesh (3 per cent)**, **Jharkhand (2 per cent)**.
- The remaining 2 per cent reserves are in **Chhattisgarh, Madhya Pradesh, Kerala, Maharashtra and Tamil Nadu**.
- The Government of India recently amended the **Minerals Evidence of Mineral Contents Rules to allow auction of composite licence at G4 level for deep-seated minerals, including gold**.
- Countries with the Largest Gold Reserves in the World US, Germany, Italy, France, Russia**

### **17. The evergreen revolution: Making hunger history**

- The **green revolution in the 1960s and 1970s** was based on the development and spread of new genetic strains of **wheat, rice, maize** and other crops characterised by their ability to **utilise water, sunlight and plant nutrients** effectively and convert them into grains.
- According to most estimates, farming is no longer remunerative and over 40 per cent of farmers would like to quit if they have an option

#### **Need for Evergreen Revolution:**

**Evergreen revolution** refers to **productivity improvement in perpetuity without ecological and social harm. The evergreen revolution involves the integration of ecological principles in technology development and dissemination.**

Dr. M. S. Swaminathan coined the term “**Evergreen Revolution**” to highlight the **pathway of increasing production and productivity in a manner such that short- and long-term goals of food production are not mutually antagonistic.** The logic is to produce more from less, less land, less pesticide, less water and it must be an evergreen revolution to get sustainable agriculture.

- **Traditional crops like jowar, bajra, pulses and fodder should be revived and promoted under the Prime Minister’s package for seed replacement.**

#### **Millets**

- Millets are often referred to as **Superfood** and its production can be seen as an approach for **sustainable agriculture and a healthy world.**

#### **Millets in India:**

- The **three major millet crops currently grown in India are jowar (sorghum), bajra (pearl millet) and ragi (finger millet).**
- Along with that, India grows a rich array of **bio-genetically diverse and indigenous varieties of “small millets”** like kodo, kutki, chenna and sanwa.
- Major producers include **Rajasthan, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Maharashtra, Gujarat and Haryana.**

#### **Need for Reviving Millet Cultivation:**

- **Nutritional Security:**
  - Millets are **less expensive and nutritionally superior to wheat & rice owing to their high protein, fibre, vitamins and minerals like iron content.**
- Millets are **also rich in calcium and magnesium.**
  - For example, **Ragi is known to have the highest calcium content among all the food grains.**
- Its **high iron content can fight high prevalence of anaemia in Indian women of reproductive age and infants.**
- **Climate Resilient:**
  - They are also **harder and drought-resistant crops**, which has to do with their **short growing season (70-100 days, as against 120-150 days for paddy/wheat) and lower water requirement (350-500 mm versus 600-1,200 mm).**
- **Economic Security:**
  - As **low investment is needed** for production of millets, these can prove to be a sustainable income source for farmers.
- **Can Tackle Health Issues:**
  - Millets can help tackle lifestyle problems and health challenges such as **obesity and diabetes as they are gluten-free and have a low glycemic index** (a relative ranking of carbohydrates in foods according to how they affect blood glucose levels).
  - **Millets are rich in antioxidants.**
- The Union Agriculture Ministry, in April 2018, **declared millets as “Nutri-Cereals”**, considering their “high nutritive value” and also “anti-diabetic properties”.
- 2018 was also observed as ‘**National Year of Millets**’.
- The government **has hiked the Minimum Support Price (MSP) of Millets**, which came as a big price incentive for farmers.
- The **United Nation General Assembly adopted an India-sponsored resolution to mark 2023 as the International Year of Millets.**

## **18. Parliament panel suggests viability gap funding for offshore wind projects**

### **Context**

The committee also observed that even as **offshore wind power is costly compared to onshore wind power, the latter has a significantly higher CUF compared to the former.** Further, as per

global trends, the cost of offshore wind energy reduces gradually with an increase in cumulative installed capacity, the panel said.

- According to the initial analysis carried out by the National Institute of Wind Energy (NIWE), the annual average CUF of offshore wind energy projects in India ranges between 35-55 per cent for Tamil Nadu and 35-40 per cent for Gujarat.
- In the case of onshore wind energy projects in India, the annual average CUF would range between 25-40 per cent, the Ministry pointed out. However, at present, onshore wind power projects are more cost-effective than offshore wind energy.

#### Offshore wind energy In India

- Out of the total renewable energy installation capacity of 78 GW, wind energy contributes to more than 35 GW as on March 2019 and the national target is to achieve 60 GW of wind energy installations by 2022.

#### About Offshore Wind Energy:

- Wind energy today typically comes in two different “types”: onshore wind farms which are large installations of wind turbines located on land, and offshore wind farms which are installations located in bodies of water.
- Offshore wind energy refers to the deployment of wind farms inside the water bodies. They utilise the sea winds to generate electricity. These wind farms either use fixed-foundation turbines or floating wind turbines.
  - A fixed-foundation turbine is built in shallow water, whereas a floating wind turbine is built in deeper waters where its foundation is anchored in the seabed. Floating wind farms are still in their infancy.
- Offshore wind farms must be at least 200 nautical miles from the shore and 50 feet deep in the ocean.
- Offshore wind turbines produce electricity which is returned to shore through cables buried in the ocean floor.

#### About National Institute of Wind Energy (NIWE)

- National Institute of Wind Energy (NIWE) has been established in Chennai in the year 1998, as an autonomous R&D institution by the Ministry of New and Renewable Energy (MNRE), Government of India.
- It is a knowledge-based institution of high quality and dedication, offers services and seeks to find complete solutions for the kinds of difficulties and improvements in the entire spectrum of the wind energy sector by carrying out further research.
- It has a Wind Turbine Test Station (WTTS) at Kayathar with the technical & partial financial support by DANIDA, Govt. of Denmark.

### 19. Why low water levels on the Rhine River hurt Germany's economy

#### Context:

- Flowing from the Swiss Alps to the North Sea via German industrial heartlands, the Rhine is a major route for products ranging from grains to chemicals and coal.
- It is an important link between industrial producers and global export terminals in North Sea ports such as Rotterdam and Amsterdam, while canals and other rivers link the Rhine to the Danube, making it possible to ship to the Black Sea as well.
- The Rhine River is the second-longest river in Central and Western Europe after the Danube and originates in the Swiss Alps (in Switzerland).
- The Rhine River is called by different names depending on the country it flows through. It is called Rhein in Germany; Rhine in France and Rijn in the Netherlands.
- The Rhine flows through six countries –Switzerland, Principality of Liechtenstein, Austria, Germany, France and the Netherlands before flowing into the North Sea at Rotterdam.

#### Danube River

- Danube is the second longest river in Europe after the Volga. It rises in the Black Forest mountains of western Germany and flows for some 2,850 km to its mouth on the Black Sea.

- Along its course it passes through 10 countries: **Germany, Austria, Slovakia, Hungary, Croatia, Serbia, Bulgaria, Romania, Moldova, and Ukraine.**

#### **Black Sea**

- Black Sea is an **inland sea** located between far-south-eastern Europe and the far-western edges of the continent of Asia and the country of Turkey.
- It **connects to the Mediterranean Sea first through the Bosphorus Strait, then through the Sea of Marmara and the Dardanelles Strait**, then south through the **Aegean Sea** and the **Sea of Crete**.
- The Black Sea is **also connected to the Sea of Azov by the Strait of Kerch**.
- **Bordering Countries: Romania, Bulgaria, Ukraine, Russia, Georgia, and Turkey.**

### **20. Thousands marooned in Odisha as Mahanadi basin floods due to heavy rain**

#### **Concept**

- It is a multipurpose scheme conceived by **Er. M. Visveswaraya** in 1937, after recurrence of devastating floods in **Mahanadi River**. Its first hydro power was commissioned in 1956.
- Hirakud Dam is built across the **Mahanadi River**, close to **Sambalpur city in Odisha in India**.
- **Type:** It is a composite structure of earth, concrete and masonry. It is the **longest major earthen dam in India** With successful irrigation provided by the dam, **Sambalpur is called the rice bowl of Odisha**.

#### **Mahanadi River**

- - The Mahanadi River system is the **third largest of peninsular India** after Godavari and Krishna, and the **largest river of Odisha state**.
  - The catchment area of the river extends to **Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand and Maharashtra**.
  - Its basin is bounded by the **Central India hills** on the north, by the Eastern Ghats on the south and east and by the **Maikala range on the west**.
- Source -It rises from a place near **Sihawa in Bastar hills in the state of Chhattisgarh** to the south of Amarkantak.
- **Major Tributaries of the Mahanadi river**
  - Seonath River
  - Hasdeo River
  - Mand River
  - Ib River
  - Jonking River
  - Tel River

### **21. Vizhinjam Port**

#### **Context**

The Adani Group has temporarily stopped construction activities of the Vizhinjam international seaport, after Latin Catholic Church-backed protestors went inside the construction site.

#### **Concept:**

- The Vizhinjam International Transshipment Deepwater Multipurpose Seaport is an ambitious project taken up by **Government of Kerala**.
- It is designed primarily to cater container transshipment besides multi-purpose and break bulk cargo.
- The port is being currently developed in landlord model with a Public Private Partnership component on a design, build, finance, operate and transfer (“DBFOT”) basis.
- The private partner, the Concessionaire **M/s Adani Vizhinjam Port Private** limited has commenced the construction on 5 th December 2015.

### **22. What is causing Arctic warming? Should India be worried?**



**Context:**

- On August 11, Finnish Meteorological Institute researchers published their study in the Communications Earth & Environment journal, concluding that the Arctic is heating four times faster than the rest of the planet.

**What is Arctic amplification? What causes it?**

- Global warming, **the long-term heating of the earth's surface**, expedited due to anthropogenic forces or human activities since pre-industrial times and has increased the planet's average temperature by 1.1 degrees Celsius. While changes are witnessed across the planet, **any change in the surface air temperature and the net radiation balance tend to produce larger changes at the north and south poles. This phenomenon is known as polar amplification; these changes are more pronounced at the northern latitudes and are known as the Arctic amplification.**
- Among the many global warming-driven causes for this amplification, **the ice-albedo feedback, lapse rate feedback, water vapour feedback and ocean heat transport** are the primary causes. **Sea ice and snow have high albedo (measure of reflectivity of the surface), implying that they are capable of reflecting most of the solar radiation as opposed to water and land.**
- In the Arctic's case, global warming is resulting in diminishing sea ice. **As the sea ice melts, the Arctic Ocean will be more capable of absorbing solar radiation**, thereby driving the amplification.
- The lapse rate or the rate at which the temperature drops with elevation decreases with warming.** Studies show that the ice-albedo feedback and the lapse rate feedback are responsible for 40% and 15% of polar amplification respectively.

**What do the previous studies say?**

- Studies have shown that the **Arctic was warming twice the global rate prior to the beginning of the 21st century.** With revised figures, **the Inter-governmental Panel on Climate Change released a 'Special Report on the Ocean and Cryosphere in a Changing Climate' in 2019**, which said that the "Arctic surface air temperature has likely increased by more than double the global average over the last two decades."
- In May 2021, **the Arctic Monitoring and Assessment Programme (AMAP)** warned that the Arctic has warmed three times quicker than the planet, and the chance of the sea ice completely disappearing in summers is 10 times greater, if the planet is warmer by two degree Celsius above the pre-industrial levels.

**What are the consequences of Arctic warming?**

- The **causes and consequences of Arctic amplification are cyclical — what might be a cause can be a consequence**
- The Greenland ice sheet is melting at an alarming rate, and the rate of accumulation of sea ice has been remarkably low since 2000**, marked by **young and thinner ice replacing the old and thicker ice sheets.**
- Greenlandic ice sheet holds the second largest amount of ice, after Antarctica, and therefore it is crucial for maintaining the sea level. In 2019, this was the single biggest cause for the rise in the sea level, about 1.5 metres. **If the sheet melts completely, the sea level would rise by seven metres, capable of subsuming island countries and major coastal cities.**
- The warming of the Arctic Ocean and the seas in the region, **the acidification of water, changes in the salinity levels, is impacting the biodiversity, including the marine species and the dependent species.** The warming is also **increasing the incidence of rainfall which is affecting the availability and accessibility of lichens to the reindeer.** The Arctic amplification is **causing widespread starvation and death among the Arctic fauna.**
- The permafrost in the Arctic is thawing and in turn releasing carbon and methane which are among the major greenhouse gases responsible for global warming.** Experts fear that the thaw and the melt will also **release the long-dormant bacteria and viruses that were trapped in the permafrost and can potentially give rise to diseases.** The best-known example of this is the permafrost thaw **leading to an anthrax outbreak in Siberia in 2016, where nearly 2,00,000 reindeer succumbed.**

### What is the impact on India?

- A study titled ‘**A possible relation between Arctic sea ice and late season Indian Summer Monsoon Rainfall extremes**’ published in 2021 by a group of Indian and Norwegian scientists found that **the reduced sea ice in the Barents-Kara sea region can lead to extreme rainfall events in the latter half of the monsoons — in September and October.**
- The changes in the atmospheric circulation due to diminishing sea ice combined with the warm temperatures in the Arabian Sea contribute to enhanced moisture and drive extreme rainfall
- In 2014, India deployed IndARC, India’s first moored-underwater observatory in the Kongsfjorden fjord, Svalbard, to monitor the impact of the changes in the Arctic Ocean on the tropical processes such as the monsoons.
- According to the World Meteorological Organization’s report, ‘State of Global Climate in 2021’, sea level along the Indian coast is rising faster than the global average rate. One of the primary reasons for this rise is the melting of sea ice in the polar regions, especially the Arctic.

### Arctic Monitoring and Assessment Programme (AMAP)

- The Arctic Monitoring and Assessment Programme is one of six Working Groups of the Arctic Council.

### AMAP is mandated:

- To monitor and assess the status of the Arctic region with respect to pollution and climate change issues.
- To document levels and trends, pathways and processes, and effects on ecosystems and humans, and propose actions to reduce associated threats for consideration by governments.
- To produce sound science-based, policy-relevant assessments and public outreach products to inform policy and decision-making processes.
- AMAP’s work is directed by the Ministers of the Arctic Council and their Senior Arctic Officials, who have requested AMAP to also support international processes that work to reduce the global threats from contaminants and climate change. These include the UN Framework Convention on Climate Change, UNEP’s Stockholm Convention on Persistent Organic Pollutants and Minamata Convention on mercury, and the United Nation’s Economic Commission for Europe (UN ECE) Convention on Long-range Transboundary Air Pollution.

### Arctic Council

- The Arctic Council is a high-level intergovernmental body set up in 1996 by the Ottawa declaration to promote cooperation, coordination and interaction among the Arctic States together with the indigenous communities and other Arctic inhabitants.
- Arctic Council Secretariat: The standing Arctic Council Secretariat formally became operational in 2013 in Tromsø, Norway.
- Members of the Arctic Council: Ottawa Declaration declares Canada, the Kingdom of Denmark (Greenland and the Faroe Islands), Finland, Iceland, Norway, the Russian Federation, Sweden and the United States of America as a member of the Arctic Council.
- The Arctic Council does not prohibit the commercial exploitation of resources in the Arctic. It only seeks to ensure that it is done in a sustainable manner without harming the interests of local populations and in conformity with the local environment.
- India launched its first scientific expedition to the Arctic Ocean in 2007 and opened a research base named “Himadri” at the International Arctic Research Base at Ny-Alesund, Svalbard, Norway in July 2008 for carrying out studies in disciplines like Glaciology, Atmospheric sciences & Biological sciences.
- In March 2022, the Ministry of Earth Science has unveiled India’s Arctic Policy, titled ‘India and the Arctic: building a partnership for sustainable development’.
- India holds one of the 13 positions as the Observer in the Arctic Council.

### 23. Wheat production down but many crops set for record

#### Context:

- The production of wheat is estimated **to come down to 106.84 million tonnes in 2021-22 from 109.59 million tonnes in 2020-21**, according to the **Fourth Advance Estimates of Production of Foodgrains for 2021-22** released by the Ministry of Agriculture and Farmers Welfare on Wednesday.
- The **dip in stock is due to lower procurement** — 18.794 million tonnes during the **current rabi marketing season** — and **higher outflow on account of allocation of wheat under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)** during the last two years.

#### Pradhan Mantri Garib Kalyan Anna Yojana

- PMGKAY is a part of Pradhan Mantri Garib Kalyan Package (PMGKP) to help **the poor fight the battle against Covid-19**.
- **Its nodal Ministry is the Ministry of Finance.**
- **It was initially announced for a three-month period (April, May and June 2020), covering 80 crore ration cardholders.** Later it was extended till November 2020.
- The scheme aimed at providing **each person who is covered under the NFSA (National Food Security Act 2013) with an addition a 15 kg grains (wheat or rice) for free**, in addition to the 5 kg of subsidized food grain already provided through the **Public Distribution System (PDS)**.

### 24. Himachal Pradesh prone to natural disasters, says study

#### Context

As Himachal Pradesh experiences the fury of nature in the form of **landslides, cloud bursts, flash floods, snow avalanches** and droughts year after year, natural hazards have become a matter of immediate concern, the hilly region's latest **State of Environment report** shows.

The report, released by the **Department of Environment, Science and Technology**.

#### What is Landslide?

A landslide is defined as the **movement of a mass of rock, debris, or earth**, down a slope due to the action of **gravity**. Areas with steep slopes, for example, mountainous regions, are particularly susceptible to landslide hazards. Earth flow, mass movement, mudflow, rotational slip, and avalanches are all examples of landslides.

#### Types of Landslides

- **Falls:** It happens due to the abrupt movements of the mass of geologic materials, such as rocks and boulders, that become detached from steep slopes or cliffs.
- **Topples:** It happens due to the forward rotation of a unit or units about some pivotal point, under the actions of gravity and forces exerted by adjacent units or by fluids in cracks.
- **Slides:** In this type, rocks, debris, or soil slide through slope forming material.
- **Spread:** It usually occurs on very gentle slopes or flat terrain.

#### National Landslide Risk Management Strategy

- National Landslide Risk Management Strategy was **made by NDMA**.
- It clearly brings out the message for the need to strengthen and mainstream landslide disaster preparedness, mitigation, response and relief mechanism through mapping, early warning system (EWS), awareness generation, capacity building, formulation of mountain zone regulations / policies and mitigation of problematic landslides.

#### National Institute of Disaster Management (NIDM)

- The National Institute of Disaster Management (NIDM) **was constituted under an Act of Parliament with a vision to play the role of a premier institute for capacity development in India and the region.**
- The efforts in this direction that began with the formation of **the National Centre for Disaster Management (NCDM) in 1995** gained impetus with its re-designation as the National Institute of Disaster Management (NIDM) for training and capacity development.

- Under the **Disaster Management Act 2005**, NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

**Geological Survey of India (GSI), Ministry of Mines** in collaboration with the **British Geological Survey (BGS)** under the **National Environmental Research Council (NERC)**, UK funded, multi-consortium **LANDSLIP project** has developed a prototype regional **Landslide Early Warning System (LEWS)** for India, and the same is currently being evaluated and tested by GSI in two pilot areas in India (Darjeeling district, West Bengal, and the Nilgiris district, Tamil Nadu). GSI has not developed any early warning system for glacier related disasters in the country. GSI has conducted studies on melting of the glaciers by assessment of mass balance studies and monitoring the recession/ advancement of selected Himalayan glaciers.

GSI through the **LANDSLIP project** is engaged in developing an experimental regional **Landslide Early Warning System (LEWS)** based on rainfall thresholds since 2017. The **LANDSLIP** research has developed a prototype model in 2020 based on the terrain-specific rainfall thresholds for two test areas (Darjeeling district, West Bengal, and the Nilgiris district, Tamil Nadu).

**LANDSLIP** has been funded under the UK Natural Environment Research Council (NERC)/Department for International Development (DFID) Science for Humanitarian Emergencies & Resilience (SHEAR) programme.

**SHEAR** aims to support improved disaster resilience and humanitarian response by advancing monitoring, assessment and prediction of natural hazards and risks across sub-Saharan Africa and South Asia, and, through working with users, bringing this into use to reduce the impacts of disasters.

## 25. Scientists track cause of mystery paddy dwarfing in Punjab and Haryana

### Context

- Agriculture scientists have narrowed down the cause of a mystery disease causing “dwarfing” of rice plants in Punjab and Haryana to either **grassy stunt virus** or **phytoplasma bacteria**.
- The vector responsible for their transmission is the **brown plant hopper, an insect pest that sucks sap from the stems and leaves of rice plants**.
- Scientists at the Indian Agricultural Research Institute (IARI), who had collected samples of plants from farmers’ fields – which showed symptoms of stunting and yellowing — have undertaken **their electron microscopy analysis and DNA isolation through PCR (polymerase chain reaction) technique**.

### “Phytoreovirus” or rice grassy stunt virus

- Preliminary laboratory analysis indicates the **“phytoreovirus” or rice grassy stunt virus as the source of infection**. This virus, which induces stunting and yellowing of rice plants, is transmitted by **brown plant hopper**.
- The infected plants **remained stunted even after application of the recommended dose of fertilizers**

### Phytoplasma

- The second possible source is phytoplasma, a **bacterial pathogen** that is spread by both **brown plant hopper and green leaf hopper** sucking insect pests.

IARI scientists are also not ruling out **fusarium fungus and rice root nematode that are known to cause dwarfism**

## 26. ‘The worst in 500 years’: Europe’s great drought, explained

- European media has been full of dramatic pictures of drying, exposed riverbeds. Some of **Europe’s biggest rivers — Rhine, Po, Loire, Danube** — which are usually formidable waterways, are unable to support even mid-sized boats.
- After the record-breaking summer heat, **2022 may be the worst drought year in Europe in 500 years. China, US too are facing drought**.

- Apart from agriculture and drinking water supplies, the most visible impact has been the disruption in Europe's waterways. Europe **depends heavily on its rivers to move cargo in an economical manner, including coal to power plants.** With water levels down to less than a metre in some stretches, most large ships have been rendered unusable.

#### **Global Drought Observatory (GDO)**

- An agency of the European Commission released an "analytical report" on Tuesday where it said **about 64% of the continent's landmass was experiencing drought** conditions, as per data available till August 10. And the situation was only "worsening" as of that date, it said.

#### **Po (river)**

- The Po is the **longest river in Italy.** It flows **eastward across northern Italy starting from the Cottian Alps.**
- The river's length is either 652 km (405 mi) or 682 km (424 mi), if the **Maira, a right bank tributary, is included.**
- The headwaters of the Po are a spring seeping from **a stony hillside at Pian del Re,** a flat place at the head of the Val Po under the northwest face of Monviso.
- The Po then extends along the 45th parallel north before ending **at a delta projecting into the Adriatic Sea near Venice.**
- **Source – Monte Viso , Mouth – Adriatic Sea**

#### **Loire**

- The Loire is the **longest river in France and** the 171st longest in the world.
- With a length of 1,006 kilometres (625 mi), it drains 117,054 km<sup>2</sup> (45,195 sq mi), more than a fifth of France's land while its average discharge is only half that of the Rhône.
- **Source – Massif Central Mouth – Atlantic Ocean**

### **27. Memorial for quake victims in China's Sichuan inspires Veer Balak Smarak and Smriti Van in Kutch**

- On the morning of **January 26, 2001,** schoolchildren from 18 government primary schools of **Anjar town in Kutch district** were marching with tricolours to celebrate the 52nd Republic Day when buildings came crashing down on them as an earthquake measuring 6.9 on the Richter scale struck. As many as 185 children and 22 teachers died.
- On Sunday, Prime Minister Narendra Modi will **inaugurate a memorial dedicated to them that is a project inspired by the memorial at Sichuan in China** after the 2008 earthquake in which thousands were killed, including 1,000 students and teachers of Beichuan Middle School.
- The **Veer Balak Smarak,** set up on the lines of **the Relic Site of the school in Beichuan, has a memorial and a museum.**
- The memorial section at Anjar has a wall with names and sketches of the victims, inspired from Beichuan, and a **giant "prakashpunj" (bulb)** that will be visible in the whole town.
- PM Modi will also inaugurate in Kutch **the Smriti Van in Bhuj — a memorial to the 12,932 people killed in the epicentre of the earthquake in Kutch district, also inspired from Sichuan.**

#### **Earthquake in India**

- India is one of the highly earthquake affected countries because of the presence of technically active young fold mountains – Himalaya.
- India has been divided into **four seismic zones (II, III, IV, and V)** based on scientific inputs relating to seismicity, earthquakes occurred in the past and tectonic setup of the region.

#### **Measurement of Earthquakes**

- The earthquake events are scaled either according to the magnitude or intensity of the shock. The magnitude scale is known as the **Richter scale.** The magnitude relates to the energy released during the quake. The magnitude is expressed in absolute numbers, 0-10.
- The intensity scale is named after **Mercalli,** an Italian seismologist. The intensity scale takes into account the visible damage caused by the event. The range of intensity scale is from 1-12.

#### **Seismic Waves (Earthquake Waves)**



- Earthquake waves are basically of two types — **body waves and surface waves.**
- **Body waves** are generated due to the release of energy at the focus and move in all directions travelling through the body of the earth. Hence, the name body waves.
- There are **two types of body waves.** They are called **P and S-waves.**
- **P-waves** move faster and are the first to arrive at the surface. These are also called ‘primary waves’. The P-waves are similar to sound waves. They travel through gaseous, liquid and solid materials.
- **S-waves** arrive at the surface with some time lag. These are called secondary waves. An important fact about S-waves is that they can travel only through solid materials.
- The body waves interact with the surface rocks and generate a new set of waves called **surface waves.** These waves move along the surface.
- The body waves interact with the surface rocks and generate a new set of waves called **surface waves.** These waves move along the surface.
- The surface waves are the last to report on seismographs. These waves are more destructive. They cause displacement of rocks, and hence, the collapse.
- Thus, the characteristics of the seismic waves are quite important. It has helped scientists to **understand the structure of the interior of the earth.**

## 28. La Nina

### Context:

The Australian Bureau of Meteorology has declared a fresh La Nina alert in the tropical Pacific, which means there is a 70 per cent chance (about triple the normal likelihood) of another La Niña forming later this year. This is even as an existing long-drawn La Nina, thought to be firing up a concurrent Indian monsoon, had approached closure but has shown signs of revival during the last month or two.

- According to experts La Nina, which is touted by researchers variously as the second or third-longest in history.
- It is likely driving this year’s monsoon to a fourth successful one on the trot.

### Concept:

#### About La Nina:

- It means the large-scale cooling of ocean surface temperatures in the central and eastern equatorial Pacific Ocean, together with changes in the tropical atmospheric circulation, namely winds, pressure and rainfall.
- It has the opposite impacts on weather and climate as El Niño, which is the warm phase of the El Niño Southern Oscillation (ENSO).

#### Weather Changes due to La Nina :

- The Horn of Africa and central Asia will see below average rainfall due to La Niña.
- East Africa is forecast to see drier-than-usual conditions, which together with the existing impacts of the desert locust invasion, may add to regional food insecurity.
- It could also lead to increased rainfall in southern Africa.
- It could also affect the South West Indian Ocean Tropical Cyclone season, reducing the intensity.
- Southeast Asia, some Pacific Islands and the northern region of South America are expected to receive above-average rainfall.
- In India, La Niña means the country will receive more rainfall than normal, leading to floods.
- **Zombie ice from Greenland will raise sea level 10 inches**

### Context:

- A new study finds that Greenland has more than **120 trillion tons of ice that can be thought of as zombie ice that’s going to raise sea level globally by at least 10 inches**

#### Zombie ice

- It’s **dead ice. It’s just going to melt and disappear from the ice sheet.**
- That’s doomed ice that, while **still attached to thicker areas of ice, is no longer getting replenished by parent glaciers now receiving less snow.**

- **Without replenishment**, the doomed ice is **melting from climate change and will inevitably raise seas**, said study co-author William Colgan, a glaciologist at the Geological Survey of Denmark and Greenland.
- **This ice has been consigned to the ocean, regardless of climate (emissions) scenario**

#### **The Greenland ice sheet**

- The Greenland ice sheet is **much smaller than the Antarctic Ice sheet, only about 1.7 million square kilometers (656,000 square miles)**.
- It is **still the second-largest body of ice on the planet. The Greenland ice sheet interacts much more dynamically with the ocean than the Antarctic ice sheet.**

#### **Greenland**

- Greenland is the world's **largest island located between the Arctic and Atlantic oceans, east of the Canadian Arctic Archipelago.**
- It is an autonomous **territory within the Kingdom of Denmark.**
- Though physio graphically a part of the **continent of North America, Greenland has been politically and culturally associated with Europe (specifically Norway and Denmark, the colonial powers).**

## **POLITY**

### 1. Office of Coal Controller (earlier Coal Commissioner)

#### Concept:

- It was established in **1916**, is one of the oldest offices in Indian Coal sector.
- Main aim behind setting up this office was to have Government control to adequately meet the coal requirement during **First World War**.
- Acute scarcity of coal necessitated promulgation of **Colliery Control Order, 1944** for effective control on production, distribution and pricing of coal. Later in 1996, distribution and pricing of coal was deregulated, Hence the Colliery Control Rules, 2004, governs it

#### Functions

- It acts as the **appellate authority** in case of dispute between consumers and owner arising out of declaration of grade and size of coal.
- **Quality surveillance** with respect to maintenance of grade of coal
- To grant **opening / re-opening permission** of coal mine, seam or a section of seam or to subdivide a mine.
- Coal Controller has been made the **statistical authority** with respect to coal and lignite statistics. Entrusted the responsibility of carrying out Annual Coal & Lignite survey and publishing of Provisional Coal Statistics and Coal Directory of India.
- Assessment and **collection of excise duty** levied on all **raw coal** raised and dispatched.
- Under Coal Mines (Conservation & Development) Act, 1974 and Coal Mines (Conservation and Development) Amendment Rules, 2011: Providing **financial support** to the coal operators for conservation of coal resources (Stowing in UG mines), Research, Infrastructure development, Protective works including blanketing with incombustible material, N<sub>2</sub> & CO<sub>2</sub> flushing, filling up of subsided areas, cutting of trenches etc.

### 2. Ministry of Development of North Eastern Region

#### Concept:

- The **Ministry of Development of North Eastern Region** is a Government of India ministry, established in September 2001.
- It functions as the nodal Department of the Central Government to deal with matters related to the socio-economic development of the eight State of Northeast India.
- It acts as a facilitator between the Central Ministries/ Departments and the State Governments of the North Eastern Region in the economic development including removal of infrastructural bottlenecks, provision of basic minimum services, creating an environment for private investment and to remove impediments to lasting peace and security in the North Eastern Region.

#### Functions of the DoNER.

- **Non Lapsable Central Pool of Resources (NLCPR)** Coordination with the Central Ministries and the State Governments of the NE states.
- Capacity Building
- Advocacy and Publicity
- International Cooperation
- Enterprises of the Department

#### The ministry has following organisations functioning under it:

- North Eastern Development Finance Corporation Ltd. (NEDFi)
- North Eastern Regional Agricultural Marketing Corporation Limited (NERAMAC)
- The Sikkim Mining Corporation Limited. (SMC)
- North Eastern Handlooms and Handicrafts Development Corporation (NEHHDC)

### 3. 7 new districts in West Bengal — how and why are districts created or abolished in India?

#### Context

The West Bengal cabinet has approved the **creation of seven new districts** in the state. This will take the number of districts in West Bengal to 30 from the existing 23.

#### Why have these districts been created?

- States keep creating new districts from time to time. The idea everywhere is, generally, that smaller units would **make governance easier and would benefit the people by bringing the**

government and the administration closer to them, and making them more accessible. Sometimes, the decision to create a new district is driven by local demands.

- Smaller administrative units **bring better and more transparent governance, and smoother and more effective delivery of welfare.**

**Who decides on creating or scrapping districts, or changing their boundaries?**

- This **power lies with the state governments**, who can **pass a law in the Assembly or simply issue an order and notify** it in the gazette. The Centre **does not have a say** in the matter.
- The **central government does play a role, however, when a change of name of a district or railway station is contemplated.** The **request** of the state government in this regard is **sent to several central government departments before a no-objection certificate is issued.**

**Have Indian states been creating a lot of new districts?**

- Yes, the number of districts around the country has **been going up steadily over the years.** The 2001 Census **recorded 593 districts, which went up to 640 in 2011. India currently has more than 775 districts.**
  - **Uttar Pradesh has the most districts (75) in the country, followed by Madhya Pradesh (52). Goa, by contrast, has only 2 districts.** However, the number of districts in a state is **not always a function of the area of the state, or of its population.**
  - In general, the **largest districts in India by area cover sparsely populated areas — for example, Kachchh in Gujarat, and Jaisalmer, Bikaner, Barmer, and Jodhpur in Rajasthan.**
4. **117 Chinese nationals were deported for indulging in illegal acts, MHA informs Lok Sabha**

- 81 Chinese nationals were given **“Leave India Notice”**; 726 were placed on adverse list
- The government maintains the **records of foreigners (including Chinese nationals)** who enter with valid travel documents, but some of them **overstay beyond the visa period owing to ignorance or under compelling circumstances** like a medical emergency or other personal reasons.
- In genuine cases, where overstay is unintentional or because of ignorance or under compelling circumstances, **the period of overstay is regularised after charging the penalty fees and the visa is extended if required**
- Action is initiated as per **the Foreigners Act 1946**, if they overstay intentionally or unjustifiably, which includes the issuance of a **Leave India Notice and charging penalty.**
- The MHA has also **ordered CBI probe to probe irregularities in the issuance of visas to Chinese employees.**

**Model Poisons Rules**

- The MHA has circulated the **Model Poisons Rules to all states and Union Territories to notify them to regulate the sale of acid for the purpose of curbing attacks on women.**
  - As per data published by the **National Crime Records Bureau, 386 cases of acid attacks on women were reported from States over three years, beginning in 2018.**
  - **The Poisons Act, 1919, demands states and UTs regulate the possession and sale of acids and corrosive chemicals, including wholesale and retail sales, through their Poison Rules.**
  - **No data is maintained centrally on sale of acids and corrosive chemicals.**
5. **Money laundering is a serious issue. But SC verdict on PMLA is problematic**

**Context**

**Recent SC judgement**

**What is the recent verdict?**

- Enforcement Case Information Report (ECIR) **cannot be equated with an FIR**, and ED officers are **not mandated under law to register an ECIR before initiating investigation or at any other stage of the case**
- Supplying of Enforcement Case Information Report (ECIR) **is not mandatory and disclosure of reasons during arrest is enough**
- Authorities under the PMLA (ED officers) **are not the same as police officers and the evidentiary value granted to statements of witnesses and accused persons recorded by the**

ED (Section 50) is not ultra vires **Article 20 of the Constitution** (that provides the right against self-incrimination)

- The powers of arrest granted to the ED under Section 19, PMLA are in sync with purpose of the statute
- Mere possession of **proceeds of crime (without any integration, layering etc.) are sufficient to allege money laundering**
- The “**twin conditions**” under Section 45 of the Act, dictate that a court can grant bail only if it is satisfied that there are reasonable grounds for believing that the accused is not guilty of such offence AND that he is not likely to commit any offence while on bail.

#### **Vienna Convention on Money Laundering**

- It was the first **major initiative in the prevention of money laundering held in December 1988.**
- This convention **laid down the groundwork for efforts to combat money laundering** by obliging the member states to criminalize the laundering of money from drug trafficking.
- It promotes **international cooperation in investigations and makes extradition between member states applicable to money laundering.**
- The convention also establishes the principle that domestic bank secrecy provisions should not interfere with international criminal investigations.

#### **Palermo protocols**

- The Palermo protocols are **three protocols that were adopted by the United Nations to supplement the 2000 Convention against Transnational Organized Crime (the Palermo Convention).** They are:
  - the Protocol to **Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children;** and
  - the Protocol **against the Smuggling of Migrants by Land, Sea and Air.**
  - the **Protocol against the Illicit Manufacturing and Trafficking in Firearms, Their Parts and Components and Ammunition**
- These protocols and convention fall **within the jurisdiction of the United Nations Office on Drugs and Crime.**

#### **Relevant Articles**

##### **Article 20: Protection in respect of conviction for offences**

(1) No person shall be **convicted of any offence except for violation of a law in force at the time of the commission of the Act** charged as an offence, nor be subjected to a penalty greater than that which might have been inflicted under the law in force at the time of the commission of the offence.

(2) No person shall be **prosecuted and punished for the same offence more than once.**

(3) **No person accused of any offence shall be compelled to be a witness against himself.**

##### **Article 253: Legislation for giving effect to international agreements.**

Notwithstanding anything in the foregoing provisions of this Chapter, Parliament has power to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or countries or any decision made at any international conference, association or other body

#### **6. The Family Courts (Amendment) Bill 2022 and why it relates to only two States**

- Family Courts (Amendment) Bill, 2022 was passed to **allow State govts to establish family courts to promote conciliation and ensure that disputes** related to family affairs and marriage are promptly settled.
- Centre has to **notify a date for the Act to come into force in a State where such courts have been set up**

#### **The Family Courts Act, 1984 and its provisions**

- The Family Courts Act was enacted in 1984 for the **establishment of family courts by States to deal with disputes related to family and marriage.**
- Under the Act, the **setting up of family courts and their functioning comes under the purview of the State governments** in consultation with their respective high courts. The Act also lays down provisions for the appointment of judges in family courts.



### 7<sup>th</sup> Schedule: Concurrent List

**No 5. Marriage and divorce; infants and minors; adoption; wills, intestacy and succession; joint family and partition; all matters in respect of which parties in judicial proceedings were immediately before the commencement of this Constitution subject to their personal law.**

#### 7. Supreme Court moots verdict to help unmarried women gain 'bodily autonomy' under MTP Act

##### Context:

The Supreme Court on Friday said it may loosen the restrictive grip of a 51-year-old abortion law **which bars unmarried women from terminating pregnancies which are up to 24 weeks old, saying the prohibition was "manifestly arbitrary and violative of women's right to bodily autonomy and dignity"**.

- The Medical Termination of Pregnancy Act of 1971 and its Rules of 2003 prohibit **unmarried women who are between 20 weeks to 24 weeks pregnant to abort with the help of registered medical practitioners.**

##### Key Provisions of the MTP Amendment Act, 2021:

- 1<sup>st</sup> category – In 2021, Parliament amended the 1971 MTP law and allowed for a termination under the **opinion of one doctor for pregnancies up to 20 weeks.**
- 2<sup>nd</sup> category – For pregnancies **between 20 and 24 weeks, the amended law requires the opinion of two doctors.**
- 3<sup>rd</sup> category – Opinion of the **State-level medical board is essential** for a pregnancy to be terminated **after 24 weeks in case of substantial foetal abnormalities.**
- For the second category, the Rules specified seven categories of women who would be eligible for seeking termination. Section 3B of Rules prescribed under the MTP Act reads: **"The following categories of women shall be considered eligible for termination of pregnancy under clause (b) of subsection (2) Section 3 of the Act, for a period of up to twenty-four weeks, namely:**
  - **survivors of sexual assault or rape or incest; minors;**
  - **change of marital status during the ongoing pregnancy (widowhood and divorce);**
  - **women with physical disabilities** [major disability as per criteria laid down under the Rights of Persons with Disabilities Act, 2016
  - **mentally ill women** including mental retardation;
  - **the foetal malformation** that has substantial risk of being incompatible with life or if the child is born it may suffer from such physical or mental abnormalities to be seriously handicapped; and
  - **women with pregnancy in humanitarian settings or disaster or emergency situations as may be declared by the Government.**

#### 8. No privilege to MPs from criminal proceedings during session: Naidu

##### Context:

- Rajya Sabha Chairman M. Venkaiah Naidu said on Friday, that members have a **wrong notion that they have a privilege from action by investigating agencies, while the session is on.**
- He said he has examined all the precedents and under **Article 105 of the Constitution, Members of Parliament enjoy certain privileges so that they can perform their parliamentary duties without any hindrance.**
- One of the privileges is that **a Member of Parliament cannot be arrested in a civil case, 40 days before the commencement of the session or Committee meeting, and 40 days thereafter. This privilege is already incorporated under Section 135A of the Civil Procedure Code, 1908.**
- However, **in criminal matters, Members of Parliament are not on a different footing than a common citizen. It means that a Member of Parliament does not enjoy any immunity from being arrested in a criminal case, during the session or otherwise.**

- There have been a number of rulings by Presiding Officers. For instance, a ruling given in 1966 by Dr. Zakir Hussain.
  - It was said, “Members of Parliament do enjoy certain privileges so that they can perform their duties. One such privilege is freedom from arrest when the Parliament is in session. This privilege of freedom from arrest is limited only to civil cases, and has not been allowed to interfere in the administration of criminal proceedings.”
- Anandan Nambiar case, the Supreme Court held that the true constitutional position is that so far as the valid order of detention is concerned, a Member of Parliament can claim no special status higher than that of an ordinary citizen, and is as much liable to be arrested, detained or questioned, even during the Session.
- The Supreme Court in a recent case, State of Kerala Vs. K. Ajith and Others, observed, that “privileges and immunities are not gateways to claim exemptions from the general law of the land, particularly as in this case, the criminal law which governs the action of every citizen.”
- Parliamentary privileges are certain rights and immunities enjoyed by members of Parliament, individually and collectively, so that they can effectively discharge their functions.
- Parliamentary privileges are defined in Article 105 of the Indian Constitution and those of State legislatures in Article 194.
- When any of these rights and immunities are disregarded, the offence is called a breach of privilege and is punishable under law of Parliament.
- Besides, Rule No 222 in Chapter 20 of the Lok Sabha Rule Book and correspondingly Rule 187 in Chapter 16 of the Rajya Sabha rulebook govern privilege.

#### Privileges of Parliamentarians:

- **Freedom of Speech:** According to the Indian Constitution, the members of Parliament enjoy freedom of speech and expression. No member can be taken to task anywhere outside the four walls of the House (e.g. court of law) or cannot be discriminated against for expressing his/her views in the House and its Committees.
- **Freedom from Arrest:** It is understood that no member shall be arrested in a civil case 40 days before and after the adjournment of the House (Lok Sabha or Rajya Sabha) and also when the House is in session.
- It also means that no member can be arrested within the precincts of the Parliament without the permission of the House to which he/she belongs.
- **Exemption from attendance as witnesses:** The members of Parliament also enjoy freedom from attendance as witnesses.

#### Privileges of Parliament:

##### Right to publish debates and proceedings:

- Though by convention, the Parliament does not prohibit the press to publish its proceedings, yet technically the House has every such right to forbid such publication.
- Again, while a member has the privilege of freedom of speech in Parliament, he has no right to publish it outside Parliament.
- Anyone violating this rule can be held responsible for any libellous matter it may contain under the common law rules.

##### Right to exclude strangers:

- Each house of Parliament enjoys the right to exclude strangers (non-members or visitors) from the galleries at any time and to resolve to debate with closed doors.

##### Right to punish members and outsiders for breach of its privileges:

- In India, the Parliament has been given punitive powers to punish those who are adjudged guilty of contempt of the House.
- Such contempt can be committed by the members of any House or any outsider. When a member of the House is involved for parliamentary misbehaviour or commits contempt he can be expelled from the House.

##### Right to regulate the internal affairs of the House:

- The House has the right to regulate its internal affairs. A member of the House is free to say whatever he likes subject only to the internal discipline of the House or the Committee concerned.

#### **Privileges committee**

- In the Lok Sabha, the Speaker nominates a committee of privileges consisting of 15 members as per respective party strengths.
- A report is then presented to the House for its consideration. The Speaker may permit a half-hour debate while considering the report. The Speaker may then pass final orders or direct that the report be tabled before the House.
- A resolution may then be moved relating to the breach of privilege that has to be unanimously passed. In the Rajya Sabha, the deputy chairperson heads the committee of privileges, that consists of 10 members.

### **9. All states had Covid fight role, federal structure is a model for world: PM Modi**

#### **Context:**

Speaking at the **NITI Aayog's Governing Council meeting**, the Prime Minister also gave credit to state governments which, he said, focused on grassroots delivery of public services to the people through cooperation across political lines.

#### **Composition of NITI Aayog**

- **Chairperson:** Prime Minister
- **Vice-Chairperson:** To be appointed by Prime-Minister
- **Governing Council:** Chief Ministers of all states and Lt. Governors of Union Territories.
- **Regional Council:** To address specific regional issues, Comprising Chief Ministers and Lt. Governors Chaired by Prime Minister or his nominee.
- **Adhoc Membership:** 2 members in ex-officio capacity from leading Research institutions on rotational basis.
- **Ex-Officio membership:** Maximum four from Union council of ministers to be nominated by Prime minister.
- **Chief Executive Officer:** Appointed by Prime-minister for a fixed tenure, in rank of Secretary to Government of India.
- **Special Invitees:** Experts, Specialists with domain knowledge nominated by Prime-minister.

#### **NITI Aayog Hubs**

- **Team India Hub** acts as interface between States and Centre.
- **Knowledge and Innovation Hub** builds the think-tank acumen of NITI Aayog.
- The Aayog planned to come out with three documents — 3-year action agenda, 7-year medium-term strategy paper and 15-year vision document.

#### **Objectives and Features**

- NITI Aayog is developing itself as a state-of-the-art resource centre with the necessary knowledge and skills that will enable it to act with speed, promote research and innovation, provide strategic policy vision for the government, and deal with contingent issues. It is supported by an attached office, **Development Monitoring and Evaluation Organisation (DMEO)**, a flagship initiative, **Atal Innovation Mission (AIM)** and an autonomous body, **National Institute of Labour Economics Research and Development (NILERD)**.

#### **Major Initiatives of NITI Aayog**

- SDG India Index, Composite Water Management Index, Atal Innovation Missions Project, Aspirational District Programme, School Education Quality Index, District Hospital Index, Health Index, Agriculture Marketing And Farmer Friendly reform Index, India Innovation Index, Women Transforming India Awards, Good Governance Index, Women Entrepreneurship Platform (WEP) Strategy for New India at 75, 'Methanol Economy' programme

#### **e-AMRIT Portal**

- E-Amrit is a one-stop destination for all information **on electric vehicles—busting myths around the adoption of EVs**, their purchase, investment opportunities, policies, subsidies, etc.

- The portal has been developed and hosted by NITI Aayog under a collaborative knowledge exchange programme with the UK government and as part of the **UK–India Joint Roadmap 2030**, signed by the Prime Ministers of the two countries.

#### 10. House panel bats for equality in guardianship

##### Context

- A mother and father should have equal rights as guardians of their children and the **Hindu Minority and Guardianship Act (HMGA), 1956** should be amended as it discriminates against women, a parliamentary panel has recommended in its report.

##### Hindu Minority and Guardianship Act, 1956

- The Act in its current form does **not provide for joint guardianship nor does it recognise the mother as the guardian of the minor legitimate child unless the father is deceased or is found unfit.**
- The Act gives preference **to father over mother, it goes against the right to equality and right against discrimination envisaged under Articles 14 and 15 of the Constitution.** The committee feels that there is **an urgent need to amend the HMGA and accord equal treatment to both mother and father as natural guardians**
- **Section 6 of the HMGA lays down that in the case of a Hindu minor boy and a Hindu minor unmarried girl, the father is the natural guardian and ‘after’ him the mother.**
- **Section 7 of the same Act provides that the natural guardianship of an adopted son, who is a minor, passes on adoption to the adopted father and ‘after’ him to the adoptive mother**

##### Juvenile Justice (Care and Protection of Children) Act, 2015

- Under the act the prospective adoptive parents should be physically, mentally, emotionally stable, financially capable.
- While single men can adopt only boys, single women can adopt a child of any gender.
- It also says **that no child should be given in adoption to a couple unless they have at least two years of stable marital relationship.**

#### 11. Petition to recognise minorities at district level is contrary to law: Supreme Court

##### Context

- A Bench of Justices U. U. Lalit and S. Ravindra Bhat **remarked that minority status of linguistic and religious communities has to be considered State wise.**
- The judge was referring to the majority verdict given by **the 11-judge Bench in the T. M. A Pai versus State of Karnataka case in 2002.**
- In the previous hearing before Justice Lalit’s Bench, Mr. Thakur had complained that followers of Judaism, Bahaism and Hinduism, who were the real minorities in Ladakh, Mizoram, Lakshadweep, Kashmir, Nagaland, Meghalaya, Arunachal Pradesh, Punjab and Manipur could not establish and administer educational institutions of their choice, thus **jeopardising their basic rights guaranteed under Articles 29 and 30.**
- But the Court had indicated **that a religious or linguistic community which were a minority in a particular State could inherently claim protection and the right to administer and run their own education institutions under Articles 29 and 30 of the Constitution.**

##### Who are the minorities notified by the Government of India?

- Currently, only those communities notified under **section 2(c) of the NCM (National Commission for Minorities) Act, 1992**, by the central government are regarded as minority.
  - Despite the **Supreme Court’s 11-judge bench judgment in T.M.A Pai case**, which clearly determined that linguistic and religious minorities must be identified at the state level rather than at the national level, **section 2(c) of the National Commission for Minorities (NCM) Act 1992 gave the Centre “unbridled power” to inform minorities.**
- **In 1992, with the enactment of the NCM Act, 1992, the MC became a statutory body and was renamed as the NCM.**

- **In 1993**, the first Statutory National Commission was set up and five religious communities viz. **The Muslims, Christians, Sikhs, Buddhists and Zoroastrians (Parsis) were notified as minority communities.**
- In 2014, **Jains were also notified** as a minority community.

#### **NCM Composition:**

- NCM consists of **a Chairperson, a Vice-Chairperson and five members** and all of them shall be from **amongst the minority communities.**
- **Total of 7 persons** to be nominated by the **Central Government** should be from amongst persons of **eminence, ability and integrity.**
- **Tenure:** Each Member holds office for a period of **three years** from the date of assumption of office.

#### **What are the Constitutional Provisions for Minority?**

- **Article 29:**
  - It provides that any section of the citizens residing in any part of India having a distinct language, script or culture of its own, **shall have the right to conserve the same.**
  - It grants **protection to both religious minorities as well as linguistic minorities.**
  - However, the SC held that the scope of this article is not necessarily restricted to minorities only, as use of the word ‘**section of citizens**’ in the Article includes **minorities as well as the majority.**
- **Article 30:**
  - All minorities shall have the **right to establish and administer educational institutions** of their choice.
  - The protection **under Article 30 is confined only to minorities** (religious or linguistic) and does not extend to any section of citizens (as under Article 29).
- **Article 350-B:**
  - The **7th Constitutional (Amendment) Act 1956** inserted this article which provides for a **Special Officer for Linguistic Minorities appointed by the President of India.**
  - It would be the duty of the **Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities** under the Constitution.
  - He would **report to the President upon those matters at such intervals as the President may direct.** The President should **place all such reports before each House of Parliament and send them to the governments** of the states concerned
  - The Constitution **does not specify the qualifications, tenure, salaries and allowances, service conditions and procedure for removal of the Special Officer for Linguistic Minorities**

#### **12. Govt. plans system to scour dailies for public grievances**

##### **Context**

- The **Ministry of Personnel, Public Grievance and Pensions** has informed a Parliamentary Standing Committee that the government is working on to develop a “**technology solution**”, where grievances published in newspapers and on social media platforms can be suo motu registered on the **Centralised Public Grievance Redress and Monitoring System (CPGRAMS)** for action by the authorities concerned.
- **CPGRAMS** is an online platform available to the citizens **24x7** to lodge their grievances to the public authorities on any subject related to service delivery. The Department of Administrative Reforms and Public Grievances (**DARPG**) informed the parliamentary panel that in 2016, **all Ministries, organisations and departments were requested to regularly examine** the grievances column of newspapers to pick up the cases coming under their purview and take expeditious action to redress them in a time bound manner.

#### **13. Indian Pharmacopoeia Commission (IPC)**

##### **Context**



The Union Ministry for Health & Family Welfare published a new Bill to replace the colonial era Drugs & Cosmetics Act, 1940.

**Concept:**

- It is an **Autonomous Institution of the Ministry of Health and Family Welfare, Govt. of India.**
- IPC is created to **set standards of drugs in the country.**

**Functions**

- Its basic function is to update **regularly the standards of drugs** commonly required for treatment of diseases prevailing in this region.
- It publishes **official documents for improving Quality of Medicines** by way of adding new and updating existing monographs in the form of Indian Pharmacopoeia (IP).
- It further **promotes rational use of generic medicines by publishing National Formulary of India.**
- IP prescribes standards for **identity, purity and strength of drugs essentially required from health care perspective** of human beings and animals.
- IPC also **provides IP Reference Substances (IPRS)** which act as a finger print for identification of an article under test and its purity as prescribed in IP.

**Indian Pharmacopoeia (IP)**

- It is published by the **Indian Pharmacopoeia Commission (IPC) on behalf of the Ministry of Health & Family Welfare**, Government of India in fulfilment of the requirements of the Drugs and Cosmetics Act, 1940 and Rules 1945 there under.
- IP is recognized as the **official book of standards for the drugs being manufactured and/or marketed in India.**
- IP contains a **collection of authoritative procedures** of analysis and specifications of drugs for their identity, **purity and strength.**
- The standards of the IP **are authoritative in nature and are enforced by the regulatory authorities for ensuring the quality of drugs** in India.
- During quality assurance and at the time of dispute in the court of law the IP standards are legally acceptable.
- The Standards prescribed in the IP are to establish the compliance with regulatory requirements on an article.
- The criteria to be adhered are: The interpretation of a monograph must be in accordance with all the general requirements, testing methods, texts and notices pertaining to it, in the IP.
- A product is not of standard quality unless it complies with all the requirements of the monograph.

**The National Formulary of India**

- It is essentially meant for the guidance of **the members of the medical profession; medical students, nurses and pharmacists** working in hospitals and in sales establishments.
- In the preparation of this Formulary, the **expert opinion of medical practitioners, teachers in medicine, nurses, pharmacists and pharmaceutical manufacturers have been obtained.**
- **The selection of drugs** for inclusion in the National Formulary has been **made taking into consideration the relative advantages and disadvantages** of the various drugs used, the extent of their use in current medical practice and their availability in the country.
- Thus, the National Formulary of India represents **a broad consensus of medical opinion in respect of drugs and their formulations** and provides the physician with carefully selected therapeutic agents of proved effectiveness which form the basis of national drug therapy.

**The Pharmacovigilance Programme of India (PvPI)**

- It was launched with a broad objective **to safe guard the health of 1.27 billion people of India.**

- **Adverse drug Reactions (ADRs)** are reported from all over the country to NCC-PvPI, which also work in collaboration with the **global ADR monitoring centre (WHO-UMC)**, Sweden to contribute in **the global ADRs data base**.
- NCC-PvPI monitors the ADRs among Indian population and helps the regulatory **authority of India (CDSCO) in taking decision** for safe use of medicines.

#### **Quality Assurance (QA)**

- The Indian Pharmacopoeia Commission (IPC) is **maintaining quality management system through its Quality Assurance Department (QA)**.
- The Quality Assurance Department is playing a **vital role in the maintenance of quality standards**.
- The purpose of the quality assurance department is to maintain the **quality system of the Indian Pharmacopoeia Laboratory** at Indian Pharmacopoeia Commission and ensure its compliance with “General Requirement for the Competence of Testing and Calibration Laboratories” (ISO/IEC 17025:2017), “General requirement for the Competence of Reference Material Producer” (ISO/IEC 17034:2016), “Conformity Assessment- General requirement for Proficiency Testing” (ISO/IEC 17043:2010) and WHO prequalification, adherence to the laid down system and procedures at IPC.

### **14. House panel bats for equality in guardianship**

#### **Context**

- **A mother and father should have equal rights as guardians of their children** and the **Hindu Minority and Guardianship Act (HMGA), 1956** should be amended as it discriminates against women, a parliamentary panel has recommended in its report.

#### **Hindu Minority and Guardianship Act, 1956**

- The Act in its current form does **not provide for joint guardianship nor does it recognise the mother as the guardian** of the **minor legitimate child unless the father is deceased or is found unfit**.
- The Act gives preference to **father over mother, it goes against the right to equality and right against discrimination envisaged under Articles 14 and 15 of the Constitution**. The committee feels that there is **an urgent need to amend the HMGA and accord equal treatment to both mother and father as natural guardians**
- **Section 6 of the HMGA** lays down that in the case of a **Hindu minor boy and a Hindu minor unmarried girl, the father is the natural guardian and ‘after’ him the mother**.
- **Section 7 of the same Act** provides that the **natural guardianship of an adopted son, who is a minor, passes on adoption to the adopted father and ‘after’ him to the adoptive mother**

#### **Juvenile Justice (Care and Protection of Children) Act, 2015**

- Under the act the prospective **adoptive parents should be physically, mentally, emotionally stable, financially capable**.
- While single **men can adopt only boys, single women can adopt a child of any gender**.
- It also says **that no child should be given in adoption to a couple unless they have at least two years of stable marital relationship**.

### **15. The PESA Act and the reason behind parties trying to woo tribals in Gujarat**

#### **Context**

#### **AAP’s election manifesto in Gujarat**

#### **Concept**

- The PESA Act was enacted in **1996 “to provide for the extension of the provisions of Part IX of the Constitution relating to the Panchayats to the Scheduled Areas”**. Other than Panchayats, Part IX, comprising **Articles 243-243ZT of the Constitution, contains provisions relating to municipalities and cooperative societies**.
- Under the Act, **Scheduled Areas** are those referred to in **Article 244(1)**, which says that the **provisions of the Fifth Schedule shall apply to the Scheduled Areas and Scheduled Tribes in states other than Assam, Meghalaya, Tripura, and Mizoram**. The Fifth Schedule provides for a range of special provisions for these areas.

### What is the PESA Act?

- The PESA Act was enacted to ensure self-governance through Gram Sabhas (village assemblies) for people living in the Scheduled Areas. It recognises the right of tribal communities, who are residents of the Scheduled Areas, to govern themselves through their own systems of self-government.
- The Act empowers Gram Sabhas to play a key role in approving development plans and controlling all social sectors. This includes the processes and personnel who implement policies, exercising control over minor (non-timber) forest resources, minor water bodies and minor minerals, among other things.
- Ten states — Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Telangana — have notified Fifth Schedule areas that cover (partially or fully) several districts in each of these states.
- After the PESA Act was enacted, the Union government circulated model PESA Rules. So far, six states have notified these Rules.

### Tribes of Gujarat

- There are 11 major tribes in Gujarat, the largest being Bhil which is nearly 48% of the state's total tribal population. Other major tribes are Gamit, Dhodias, Bawcha, Kunbi, Rabari, Siddi, Pateliya, Naikda, Chaudhary.

### 16. Justice U.U. Lalit appointed 49th Chief Justice of India

#### Context

Justice Uday Umesh Lalit was appointed the 49th Chief Justice of India (CJI) on Wednesday after President Droupadi Murmu signed his warrant of appointment.

#### Concept:

- In exercise of the powers conferred by clause (2) of Article 124 of the Constitution of India, the President is pleased to appoint Shri Justice Uday Umesh Lalit, judge of the Supreme Court, to be the Chief Justice of India with effect from 27 August, 2022
- While Supreme Court judges retire on attaining the age of 65, judges of the 25 High Courts superannuate at the age of 62.

#### Article 124: Establishment and constitution of Supreme Court.

(1) There shall be a Supreme Court of India consisting of a Chief Justice of India and, until Parliament by law prescribes a larger number, of not more than seven other Judges.

(2) Every Judge of the Supreme Court shall be appointed by the President by warrant under his hand and seal after consultation with such of the Judges of the Supreme Court and of the High Courts in the States as the President may deem necessary for the purpose and shall hold office until he attains the age of sixty-five years.

(3) A person shall not be qualified for appointment as a Judge of the Supreme Court unless he is a citizen of India and

(a) has been for at least five years a Judge of a High Court or of two or more such Courts in succession; or

(b) has been for at least ten years an advocate of a High Court or of two or more such Courts in succession; or

(c) is, in the opinion of the President, a distinguished jurist.

(4) A Judge of the Supreme Court shall not be removed from his office except by an order of the President passed after an address by each House of Parliament supported by a majority of the total membership of that House and by a majority of not less than two – thirds of the members of that House present and voting has been presented to the President in the same session for such removal on the ground of proved misbehaviour or incapacity.

(5) Parliament may by law regulate the procedure for the presentation of an address and for the investigation and proof of the misbehaviour or incapacity of a Judge under clause (4).

(6) Every person appointed to be a Judge of the Supreme Court shall, before he enters upon his office, make and subscribe before the President, or some person appointed in that behalf by him, an oath or affirmation according to the form set out for the purpose in the Third Schedule.

(7) No person who has held office as a Judge of the Supreme Court shall plead or act in any court or before any authority within the territory of India.

### 17. Dowry harassment, rioting, use of obscene words made compoundable offences in M.P.

**Context:**

Former President Ram Nath Kovind on the advice of the Union Home Ministry in June assented to a 2019 legislation passed by the Madhya Pradesh Assembly that makes the criminal offences of dowry harassment, rioting and use of obscene words in the State compoundable offences.

**Concept**

- In a compoundable offence, parties involved can effect a compromise while the case is under trial in the court.
- The Malimath Committee constituted by the Atal Bihari Vajpayee government in 2000 also favoured making Section 498A of IPC (dowry harassment) a bailable and compoundable offence.

**Malimath Committee Report**

Malimath Committee (2000) on reforms in the Criminal Justice System of India (CJS) submitted its report in 2003. It suggested 158 changes in the CJSI but the recommendations weren't implemented.

The Committee had opined that the existing system “weighed in favour of the accused and did not adequately focus on justice to the victims of crime.”

18. **HC abolishes Karnataka ACB under state govt, shifts cases to Lokayukta****Context**

The court said it is “high time” the state government strengthened the institution of Lokayukta and Upa-Lokayukta and got back their “glory”. It observed that the institution of Lokayukta has been reduced to being “paper tigers” by the March 14, 2016 executive order to transfer police powers to ACB.

- The HC stated that “there was no necessity for the State Government to constitute ACB parallel to the institution of Lokayukta, that too when a person to be appointed as Lokayukta shall be a person who has held the office of a **Judge of Supreme Court**, or that of the Chief Justice of a High Court, or a person who has held the office of a Judge of a High Court for not less than ten years; and a person to be appointed a Upa-Lokayukta shall be a person who has held the office of a Judge of a High Court for not less than five years.”

**Concept****What are Lokpal and Lokayukta?**

- The **Lokpal and Lokayukta Act, 2013** provided for the establishment of Lokpal for the Union and Lokayukta for States.
- These institutions are **statutory bodies** without any constitutional status.
- They perform the function of an “ombudsman” and inquire into allegations of corruption against certain public functionaries and for related matters.

**What is the Structure of Lokpal?**

- Lokpal is a **multi-member body**, that consists of **one chairperson and a maximum of 8 members**.
- **Chairperson** of the Lokpal should be **either the former Chief Justice of India or the former Judge of Supreme Court or an eminent person with impeccable integrity** and outstanding ability, having special knowledge and **expertise of minimum 25 years in the matters relating to anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management**.
- Out of the maximum eight members, **half will be judicial members and minimum 50% of the Members will be from SC/ ST/ OBC/ Minorities and women**.
- The **judicial member** of the Lokpal either a former Judge of the Supreme Court or a former Chief Justice of a High Court.
- The **non-judicial member** should be an **eminent person with impeccable integrity and outstanding ability**, having special knowledge and expertise of minimum 25 years in the matters relating to anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management.
- The **term of office for Lokpal Chairman and Members is 5 years or till the age of 70 years**.
- The **members are appointed by the president** on the recommendation of a Selection Committee.

- The selection committee is composed of the Prime Minister who is the Chairperson, Speaker of Lok Sabha, Leader of Opposition in Lok Sabha, Chief Justice of India or a Judge nominated by him/her and One eminent jurist.
- For selecting the chairperson and the members, the selection committee constitutes a search panel of at least eight persons.

#### **What comes under the Jurisdiction of Lokpal and its Powers?**

- Jurisdiction of Lokpal includes Prime Minister, Ministers, members of Parliament, Groups A, B, C and D officers and officials of Central Government.
- Jurisdiction of the Lokpal included the Prime Minister **except on allegations of corruption relating to international relations, security, the public order, atomic energy and space.**
- The Lokpal does not have jurisdiction over Ministers and MPs in the matter of anything said in Parliament or a vote given there.
- Its jurisdiction also **includes any person who is or has been in charge (director/ manager/ secretary) of anybody/ society set up by central act** or any other body financed/ controlled by central government and any other person involved in act of abetting, bribe giving or bribe taking.
- The Lokpal Act mandates **that all public officials should furnish the assets and liabilities of themselves as well as their respective dependents.**
- It has the powers to superintendence over, and to give direction to CBI.
  - If Lokpal has referred a case to CBI, the investigating officer in such case cannot be transferred without the approval of Lokpal.
- The Inquiry Wing of the Lokpal has been **vested with the powers of a civil court.**
- Lokpal has **powers of confiscation of assets, proceeds, receipts and benefits arisen or procured by means of corruption** in special circumstances.
- Lokpal has the **power to recommend transfer or suspension of public servant** connected with allegation of corruption.
- Lokpal has the **power to give directions to prevent the destruction of records** during the preliminary inquiry.

#### **What are the Key Provisions of the Lokpal and Lokayuktas (Amendment) Act, 2016?**

- It amended the Lokpal and Lokayukta Act, 2013.
- It also **amended section 44 of the 2013 Act that deals with the provision of furnishing of details of assets and liabilities of public servants within 30 days of joining the government service.**
- It replaces the **time limit of 30 days, now the public servants will make a declaration of their assets and liabilities in the form and manner as prescribed by the government.**

#### **How does Lokayukta Work in the States?**

- **Section 63** of the Lokpal and Lokayuktas Act, 2013 states: “Every state shall establish a body to be known as the Lokayukta for the State, if not so established, constituted or appointed, by a law made by the State Legislature”.
- It will be created **to deal with complaints relating to corruption against certain public functionaries**, within a period of one year from the date of commencement of this Act.
  - However, the law is a mere framework, leaving it to the states to decide the specifics.
  - Given that states have autonomy to frame their own laws, the **Lokayukta’s powers vary from state to state** on various aspects, such as tenure, and need of sanction to prosecute officials.
- **When the 2013 Act was passed, Lokayuktas were already functioning in some states – including in Madhya Pradesh and Karnataka** where they were very active.
  - Following the Act and the intervention of the Supreme Court, most states have now set up a Lokayukta.

## **19. Essential Commodities Act**

### **Context**

To rein in tur dal price surge, Centre invokes Essential Commodities Act

### **Concept:**

### **Essential Commodities Act**



- The ECA was enacted way back in 1955.
- It has since been used by the Government to regulate the production, supply and distribution of a whole host of commodities it declares ‘essential’ in order to make them available to consumers at fair prices.
- The list of items under the Act include drugs, fertilisers, pulses and edible oils, and petroleum and petroleum products.
- The Centre can include new commodities as and when the need arises, and take them off the list once the situation improves.
- Under the Act, the government can also fix the maximum retail price (MRP) of any packaged product that it declares an “essential commodity”.
- **How it works?**
- If the Centre finds that a certain commodity is in short supply and its price is spiking, it can notify stock-holding limits on it for a specified period.
- The States act on this notification to specify limits and take steps to ensure that these are adhered to.
- Anybody trading or dealing in a commodity, be it wholesalers, retailers or even importers are prevented from stockpiling it beyond a certain quantity.
- A State can, however, choose not to impose any restrictions. But once it does, traders have to immediately sell into the market any stocks held beyond the mandated quantity.

## 20. Bengaluru woman goes to Delhi HC to stop friend’s euthanasia trip to Europe

### Context:

- A 49-year-old woman from Bengaluru wants the court to stop her friend, a Noida-based 48-year-old man with a debilitating health condition, from travelling to Europe allegedly to undergo assisted suicide or euthanasia — an option not available in India to a person who is not terminally ill.
- According to the petition, the patient earlier obtained a **Schengen visa**, which **allows unrestricted travel to 26 European countries**, by providing “false information” that he is seeking treatment at a clinic in Belgium.
- In 2011, voters in Zurich rejected Swiss plans to ban assisted suicide or outlaw it for foreigners. Many countries, including Singapore, have come under criticism for promoting “suicide tourism”.
- In 2018, **the Supreme Court had delivered a landmark ruling that made passive euthanasia legal for terminally ill individuals**, allowing them to **decline the use of life support measures**, and letting families of those in incurable coma to **withdraw such measures**.
- While **Section 309 of IPC criminalises attempted suicide**, the **Mental Healthcare Act Section 115(1)** states that “any person who attempts to commit suicide shall be presumed, unless proved otherwise, to have severe stress and shall not be tried and punished under the said Code.”

### Aruna Ramachandra Shanbaug Judgement 2011

- Supreme court in 2011 recognised **passive euthanasia in this case by which it had permitted withdrawal of life-sustaining treatment** from patients not in a position to make an informed decision.
- Subsequent to this, **in a landmark judgment (2018), the Supreme Court recognised passive euthanasia and “living will”**.

### Living Will

- A ‘living will’ is a concept where **a patient can give consent that allows withdrawal of life support systems if the individual is reduced to a permanent vegetative state with no real chance of survival**.
- **An adult with a sound and healthy mind can make a Living Will.**
- It should be **voluntarily executed and based on informed consent**.
- It should be **expressed** in specific terms in a language **“absolutely clear and unambiguous”**

- The Living Will **should contain the circumstances in which medical treatment should be withheld or withdrawn.**
- It should give the name of the **“guardian or close relative” who will give the go-ahead** for starting the procedure of passive euthanasia.
- It should specify that **the Will can be revoked any time.**
- An individual has the right **to withdraw or alter the Living Will, but only in writing.**
- So, if there are more than one Living Will, the latest one will be valid.
- The Will shall be attested **by two independent witnesses.**
- It should preferably be **counter-signed by the Judicial Magistrate First Class (JMFC) who is assigned the jurisdiction by the District Court.**

#### **Rationale behind SC judgment**

- **Right to Die** – The Supreme Court has upheld that the fundamental right to life and dignity includes right to refuse treatment and die with dignity.
- **Dignified death** – Lack of legal backing sometimes lead to suffering and undignified death of the patient.
- **Individual Liberty** – The issue of death and when to die transcended the boundaries of law.

## **21. Lokadalats**

### **Context**

Over 74 lakhs pending and pre-litigation cases, many of them part of a huge backlog created by the pandemic, were settled across the country in the third National Lok Adalat.

In a move away from convention, the legal services authorities under Chief Justice of India-designate, Justice U.U. Lalit, who is the executive chairman of the National Legal Services Authority (NALSA), used technological platforms to conduct ‘digital lokadalat’ in Maharashtra and Rajasthan.

### **Concept:**

- Lok Adalat is one of the alternative dispute redressal mechanisms, it is a forum where disputes/cases pending in the court of law or at pre-litigation stage are settled/ compromised amicably.
- The Lok Adalats are formed to fulfil the promise given by the preamble of the Indian Constitution– securing Justice – social, economic and political of every citizen of India.

### **Constitutional basis:**

- **Article 39A** of the Constitution provides for free legal aid to the deprived and weaker sections of the society and to promote justice on the base of equal opportunity.
- **Articles 14** of the Constitution also make it compulsory for the State to guarantee equality before the law.

### **Statutory provisions:**

- Under the **Legal Services Authorities Act, 1987** Lok Adalats have been given **statutory status.**
- The decision made by the Lok Adalats is considered to be a verdict of a civil court and is ultimate and binding on all parties.

### **No appeal:**

- There is no provision for an appeal against the verdict made by Lok Adalat.
- But, they are free to initiate litigation by approaching the court of appropriate jurisdiction by filing a case by following the required procedure, in exercise of their right to litigate.

### **Court fee:**

- There is **no court fee** payable when a matter is filed in a Lok Adalat.
- Note: If a matter pending in the court of law is referred to the Lok Adalat and is settled subsequently, the court fee originally paid in the court on the complaints/petition is also refunded back to the parties.

### **Nature of Cases to be Referred to Lok Adalat:**

- Any case pending before any court.
- Any dispute which has not been brought before any court and is likely to be filed before the court.
- Provided that any matter relating to an offence not compoundable under the law shall not be settled in Lok Adalat.

## 22. **Bilkis Bano case: 11 lifers convicted for Gujarat riots gangrape, murder set free in Godhra Context**

Gujarat Additional Chief Secretary (Home) Raj Kumar told that **the application for remission was considered due to the “completion of 14 years” in jail and other factors such as “age, nature of the crime, behaviour in prison and so on”.**

### **Pardoning Power of President and Governor**

- **Article 72 and Article 161** empowers the **President and the Governors respectively**, the power to **grant pardons, reprieves, respites or remissions** of punishment or to **suspend, remit or commute** the sentence of any person convicted of any offence.
- The **pardoning power of the President** extends to the:
  - Punishment or sentence for an offence against a Union Law,
  - Punishment or sentence is by a court-martial (military court), and
  - Punishment is a Death sentence.
- The **pardoning power of the Governor** extends to the sentence of any person convicted of any offence against any State law.
  - The Governor **cannot pardon against the death sentence and sentence of a Court Martial.**
- The scope of the pardoning power of the President under Article 72 is **wider** than the pardoning power of the Governor under Article 161.
- The meaning of the terms:
  - **Pardon:** It removes **both the sentence and the conviction** and **completely absolves** the convict from all sentences, punishments, and disqualifications.
  - **Commutation:** It denotes the **substitution of one form of punishment with a lighter form of punishment**. For example, a death sentence may be commuted to rigorous imprisonment.
  - **Remission:** It implies **reducing the period of the sentence without changing its character**. For example, a sentence of rigorous imprisonment for five years may be remitted to rigorous imprisonment for one year.
  - **Respite:** It denotes **awarding a lesser sentence in place of one originally awarded due to some special fact**, such as the physical disability of a convict or the pregnancy of a woman offender.
  - **Reprieve:** It implies a **stay of the execution of a sentence (especially that of death) for a temporary period**. Its purpose is to enable the convict to have time to seek pardon or commutation from the President.

### **Recent SC decision**

- The Supreme Court recently held that the **Governor of a State can pardon prisoners, including death row ones, even before they have served a minimum 14 years of prison sentence.**
- In fact, the **Governor’s power to pardon overrides a provision in the Code of Criminal Procedure — Section 433A** —which mandates that a prisoner’s sentence can be remitted only after 14 years of jail, a Bench of Justices Hemant Gupta and A.S. Bopanna observed in a judgment.
- In fact, the court noted that the **sovereign power of a Governor to pardon a prisoner under Article 161 is actually exercised by the State government and not the Governor on his own.**
- The **advice of the appropriate government binds the Head of the State**
- The action of commutation and release can thus **be pursuant to a governmental decision and the order may be issued even without the Governor’s approval**. However, under the Rules of Business and as a **matter of constitutional courtesy, it may seek approval of the Governor, if such release is under Article 161 of the Constitution.**

## 23. **The principle of lis alibi pendens and Forum non conveniens**

### **Context**

The Madras High court only the Karnataka High Court can decide a dispute related to removing a Bengaluru medical college from the ambit of a deemed-to-be university in Chennai.

**Concept:**

- Federalism is a part of the **basic structure** of the Constitution and it applies to the **judiciary as well**.
- A High Court in one State cannot exercise powers which, under normal circumstances, can be exercised only by the High Court in another State,

**The principle of Forum non conveniens**

- **Forum non conveniens** is a common law legal doctrine through which a court acknowledges that another forum or a court where the case might have been brought is a **more appropriate venue for a legal case and transfers the case** to such a forum.
- A **concern** often raised in applications of the doctrine is forum shopping or picking a court **merely to gain advantage** in a proceeding.

**The principle of lis alibi pendens**

- The principle of **lis alibi pendens** (a dispute pending elsewhere) applies to address the problem of **potentially contradictory judgments**.
- If two courts were to **hear the same dispute**, it is possible for them to reach inconsistent decisions.
- Lis alibi pendens arises from the **international comity** and it permits a court to **refuse exercising jurisdiction** when there is a **parallel litigation pending** in another jurisdiction.

**The case:**

- The '2019 ambit notification' passed by the Union Ministry of Education declaring that the Bengaluru college would fall within the ambit of the Chennai university.
- The State government had also filed a writ petition before the Karnataka High Court in 2020, challenging the '2019 ambit notification'. A joint writ petition filed against the withdrawal of the '2019 ambit notification'
- The Karnataka High court rejected the argument that a part of cause of action had arisen in Chennai due to the location of the university and therefore, the Madras High Court could entertain the case.
- The Madras High court only the Karnataka High Court can decide a dispute related to removing a Bengaluru medical college from the ambit of a deemed-to-be university in Chennai.
- The appropriate court for deciding the lis (dispute) is the Karnataka High Court

**24. Grameen Udyami****Context**

Grameen Udyami Project launched in Ranchi to promote skill development and Entrepreneurship amongst the tribal youth, gives boost to Skill India Mission

**Concept:**

- Grameen Udyami is a unique **multiskilling project, funded by NSDC** that aims to train 450 tribal students in Madhya Pradesh and Jharkhand.
- The project is being implemented in six states— Maharashtra, Rajasthan, Chhattisgarh, Madhya Pradesh, Jharkhand, and Gujarat. This concept was crystallized by MoS, Shri. Rajeev Chandrasekhar and tribal MPs.
- Grameen Udyami Yojana is implemented under **Sansadiya Parisankul Yojana**.

The training under the project will be conducted in the following Job roles which are relevant to the local economy.

- Electrician & Solar PV Installation Technician
- Plumbing & Masonry
- 2-Wheeler Repair & Maintenance
- IT/ITES with e-Governance
- Farm Mechanization

**25. Parliamentary ST Cluster Development Project****Context**

The conference of Honourable MPs was held in Mumbai to discuss the upliftment of tribal communities in January 2020

**Concept:**

- Scheduled Tribe organizations called for a 'Parliamentary ST Cluster Development Project' which has been initiated in **The conference of Honourable MPs** was held in Mumbai to discuss the upliftment of tribal communities in January 2020
- Under which, 49 clusters in 15 states of India have been selected by 40 tribal MPs of Lok Sabha and Rajya Sabha. One development associate is appointed by the MPs in each cluster.

**Following objectives must be achieved under the project:**

- Increase in Rural/Local Economy
- Enhance employment opportunities
- Reduce forced migration due to lack of local opportunities
- Conservation of natural resources

**26. What is India's policy on the Rohingya?**

**Context**

Officially, about 1,200 Rohingya have been identified as among the first batch to have arrived in Delhi in 2012. After they protested outside **the UNHCR (UN Refugee Agency) office in Delhi**, they were provided with refugee cards.

- The **Foreigners Regional Registration Office (FRRO)**, responsible for tracking foreigners and their visas, has been requesting space at a new location for the Rohingya from the Delhi government since 2021. **The FRRO is under the administrative control of the MHA.**

**What is the process of deportation?**

- According to the MHA, **illegal immigrants are detected, detained and deported under provisions of the Passport Act, 1920 or the Foreigners Act, 1946.**
- The **powers to identify and deport them** have also been **delegated to State governments and Union Territories**. Once a 'foreigner' has been apprehended by the police for staying illegally, without any document, he or she is **produced before the local court**. If the accused is **found guilty**, they can be imprisoned for **three months to eight years**. After completing their sentence, **the court orders deportation**. The foreign inmates are moved to **detention centres till the country of origin verifies and accepts them**.

**What is India's stand on refugees?**

- India is not a signatory to the **1951 UN Convention relating to the Status of Refugees and the 1967 Protocol**. All foreign undocumented nationals are governed as per the provisions of **The Foreigners Act, 1946, The Registration of Foreigners Act, 1939, The Passport (Entry into India) Act, 1920 and The Citizenship Act, 1955.**
- The MHA informed Parliament on April 5 that **"foreign nationals who enter into the country without valid travel documents are treated as illegal immigrants."** In 2016, Mr. Rijju told the Lok Sabha that **"there is no national law on refugees at present. Only Standard Operating Procedures are issued by the MHA to deal with foreign nationals in India, who claim to be refugees."**

**e-FRRO scheme**

- The e-FRRO scheme is aimed at building a **centralized, transparent online platform for the foreigners to avail visa related services and to provide Faceless, Cashless and Paperless services to the foreigners with user friendly experience.**
- Under the scheme, foreigners would be able to **get as many as 27 Visa and Immigration related services in India from the comfort of their place of stay**. Using the e-FRRO application, foreigners can **apply online on the portal and obtain the service(s) through email/post without appearing in person at the FRO/FRRO office.**

**Constitutional Provisions**

- The Constitution deals with citizenship from **Articles 5 to 11 under Part II**. However, it contains neither any permanent nor any elaborate provisions in this regard.



- It only **identifies the persons who became citizens of India** on 26<sup>th</sup> January 1950 (i.e. when the Constitution commenced).
- It empowers the Parliament to enact a law to provide for **matters relating to citizenship**. Accordingly, the Parliament has enacted the **Citizenship Act, 1955**, which has been recently amended in 2015.

## 27. 23rd meeting of Central Zonal Council

### Context

Union Home and Cooperation Minister Shri Amit Shah chaired the 23rd meeting of Central Zonal Council in Bhopal today.

### Concept:

- The Zonal Councils are the statutory (and not the constitutional) bodies. They are established by an Act of the Parliament, that is, **States Reorganisation Act of 1956**.
- The act divided the country into **five zones** (Northern, Central, Eastern, Western and Southern) and provided a zonal council for each zone.
- While forming these zones, several factors have been considered which includes: the natural divisions of the country, the river systems and means of communication, the cultural and linguistic affinity and the requirements of economic development, security and law and order.
- Each zonal council consists of the following members:
  - (a) **home minister** of Central government.
  - (b) **chief ministers of all the States** in the zone.
  - (c) **Two other ministers** from each state in the zone.
  - (d) **Administrator** of each union territory in the zone.
- Besides, the following persons can be associated with the zonal council as advisors (i.e., without the right to vote in the meetings):
  - (i) a person nominated by the **Planning Commission**;
  - (ii) **chief secretary** of the government of each state in the zone; and
  - (iii) **development commissioner of each state** in the zone.
- The home minister of the Central government is the common chairman of the five zonal councils.
- Each chief minister acts as a vice-chairman of the council by rotation, holding office for a period of one year at a time.
- The zonal councils aim at promoting cooperation and coordination between states, union territories and the Centre.
- They discuss and make recommendations regarding matters like economic and social planning, linguistic minorities, border disputes, inter-state transport, and so on.
- They are only deliberative and advisory bodies.

### The objectives (or the functions) of the zonal councils, in detail, are as follows:

- To achieve an emotional integration of the country.
- To help in arresting the growth of acute state-consciousness, regionalism, linguism and particularistic trends.
- To help in removing the after-effects of separation in some cases so that the process of reorganisation, integration and economic advancement may synchronise.
- To enable the Centre and states to cooperate with each other in social and economic matters and exchange ideas and experience in order to evolve uniform policies.
- To cooperate with each other in the successful and speedy execution of major development projects.
- To secure some kind of political equilibrium between different regions of the country.

## 28. Kerala Assembly passes unanimous resolution to counter divisive forces

### Context

- The resolution was moved and passed during **the special one-day conference held in the House to commemorate the 75th anniversary** of India's independence.
- The conference also marked the **beginning of the 10-day Assembly session which has been convened in the wake of 11 ordinances** of the state government expiring on August 8 for want of approval of the Kerala Governor.

**Article 174: Sessions of the State Legislature, prorogation and dissolution.**

(1) The **Governor shall from time to time summon** the House or each House of the Legislature of the State to meet at such time and place as he thinks fit, but **there should not be a gap of more than six months between two sessions (from last sitting of a session to first sitting of next session)**

(2) The Governor may from time to time—

(a) prorogue the House or either House

(b) dissolve the Legislative Assembly

**Article 213: Power of Governor to promulgate Ordinances during recess of Legislature.**

- Governor can promulgate an ordinance **only when the legislative assembly (in case of a unicameral legislature) is not in session or (in case of a bicameral legislature) when both the Houses of the state legislature are not in session or when either of the two Houses of the state legislature is not in session.** The last provision implies that an ordinance can be promulgated by the governor when only one House (in case of a bicameral legislature) is in session because a law can be passed by both the Houses and not by one House alone.
- He can promulgate an ordinance **only when he is satisfied that circumstances exist which render it necessary for him to take immediate action.**
- His ordinance-making power is **co-extensive with the legislative power of the state legislature.** This means that he **can issue ordinances only on those subjects on which the state legislature can make laws.**
- An ordinance issued by him **has the same force and effect as an act of the state legislature.**
- An ordinance issued by him is **subject to the same limitations as an act of the state legislature.** This means that an ordinance issued by him **will be invalid to the extent it makes any provision which the state legislature cannot make.**
- He **can withdraw an ordinance at any time.**
- His ordinance-making power is **not a discretionary power.** This means that he **can promulgate or withdraw an ordinance only on the advice of the council headed by the chief minister.**
- An ordinance issued by him **should be laid before the legislative assembly or both the Houses of the state legislature (in case of a bicameral legislature) when it reassembles.**
- An ordinance issued by him **ceases to operate on the expiry of six weeks from the reassembly of the state legislature.** It may **cease to operate even earlier than the prescribed six weeks, if a resolution disapproving it is passed by the legislative assembly and is agreed to by the legislative council (in case of a bicameral legislature).**
- He **cannot make an ordinance without the instructions from the President in three cases:**
  - (a) **If a bill containing the same provisions would have required the previous sanction of the President for its introduction into the state legislature.**
  - (b) **If he would have deemed it necessary to reserve a bill containing the same provisions for the consideration of the President.**
  - (c) **If an act of the state legislature containing the same provisions would have been invalid without receiving the President's assent.**

**29. Department of Commerce being rejigged to make it future ready: Minister****Context**

The Department of Commerce is being restructured to make it 'future ready' and put in place an ecosystem to **achieve the \$2 trillion export target by 2030**, Union Minister Piyush Goyal said on Tuesday.

- **A dedicated trade promotion body to be set up to devise overall strategy to achieve targets,** said Union Minister Piyush Goyal

**Departments**

- **Department of Commerce**

- **Department of Industrial Policy and Promotion**
  - Autonomous Institutions
    - **Indian Rubber Manufacturers Research Association**
    - **National Institute of Design**
    - **National Productivity Council**
    - **Quality Council of India**
  - Attached Offices
    - **Office of the Economic Adviser, New Delhi.**
    - **Tariff Commission, New Delhi.**
    - **Office of the Salt Commissioner, Jaipur**
  - Subordinate Offices
    - **Office of the Controller General of Patents, Designs and Trade Marks, Mumbai.**
    - **Petroleum & Explosives Safety Organization, Nagpur**
    - **Copyrights Office**
      - **Intellectual Property Appellate Board**

#### **Attached Offices**

- **Directorate General of Foreign Trade**
- **Directorate General of Trade Remedies (DGTR)**

#### **Sub-ordinate Offices**

- **Directorate General of Commercial Intelligence and Statistics**
- **Special Economic Zones**

#### **Autonomous bodies**

- **Agricultural and Processed Food Products Export Development Authority**
- **The Marine Products Export Development Authority (MPEDA)**
- **Indian Institute of Foreign Trade**
- **Indian Institute of Packaging**
- **Export Inspection Council**
- **Export Inspection Agency**
- **Commodity Boards**
  - **Coffee Board: HQ – Bengaluru, Karnataka**
  - **Tobacco Board: HQ – Guntur, Andhra Pradesh**
  - **Rubber Board – HQ – Kottayam, Kerala**
  - **Tea Board: HQ – Kolkata, West Bengal**
  - **Spices Board: HQ – Kochi, Kerala**

#### **PSU**

- **GEM (Directorate General of Supplies and Disposals)**
- **State Trading Corporation**
- **PEC Limited**
- **MMTC Limited**
- **Export Credit Guarantee Corporation of India Limited**
- **India Trade Promotion Organization**

#### **Other Organization**

- **Indian Diamond Institute**
- **Footwear Design And Development Institute (FDDI)**
- **India Brand Equity Foundation**
- **Price Stabilization Fund Trust**
- **Indian Institute of Plantations Management, Bengaluru**

#### **Export Promotion Councils**

- **Federation of Indian Export Organisations**
- **Cashew Export Promotion Council of India**
- **Basic Chemicals, Pharmaceuticals and Cosmetics Export Promotion Council**
- **Council for Leather Exports**
- **Chemical and Allied Products Export Promotion Council**
- **The Gem and Jewellery Export Promotion Council**

- Engineering Export Promotion Council
- National Manufacturing Competitiveness Council
- Plastics Export Promotion Council
- Sports Goods Export Promotion Council
- Project Exports Promotion Council of India
- Pharmaceutical Export Promotion Council
- Indian Oil Seeds & Produce Export Promotion Council (IOPEPC)
- Services Export Promotion Council
- EEPC India

### 30. Untouchability in India

#### Context

#### Rajasthan case

- Article 17 of the Constitution of India has abolished “Untouchability”, its practice in any form is forbidden and enforcement of any disability arising out of “Untouchability” is an offence punishable in accordance with law.
- In pursuance of this Constitutional provision, the **Untouchability (Offences) Act, 1955** was enacted and notified on 08.05.1955. Subsequently, it was amended and renamed in the year 1976 as the Protection of Civil Rights {PCR} Act, 1955. The PCR Act prescribes punishment for the enforcement of any disability arising from the practice of untouchability. The Act is implemented by respective State Governments/Union Territory Administrations.
- Section 7 of the PCR Act prescribes punishment for preventing any person from exercising any right accruing to him by reasons of the abolition of “untouchability”. Explanation I of the said section, inter-alia, states that a person shall be deemed to boycott another person who refuses to let such a person use or occupy any house, which would be commonly done in the ordinary course. A Centrally Sponsored Scheme, Central assistance is also provided to State Governments/Union Territory Administrations for effective implementation of the PCR Act, which, inter-alia, includes incentive for inter-caste marriages where one of the spouses is a member of a Scheduled Caste and awareness generation.

### 31. Amends Supreme Court Judges Rules

#### Context

#### The Supreme Court Judges (Amendment) Rules, 2022.

- The government has amended the original **Supreme Court Judges Rules of 1959** in exercise of powers conferred to it under the **Supreme Court Judges (Salaries and Conditions of Service) Act, 1958**.
- Rule entitle a **retired Chief Justice rent-free Type – VII accommodation in Delhi for six months from the date of superannuation**.
- A notification issued by the Ministry of Law and Justice said **the accommodation would be other than the designated official residence**.
- The amended Rules added that **a retired Chief Justice and judges of the Supreme Court shall be entitled to a chauffeur, secretarial assistant and a round-the-clock security cover in addition to his or her personal security guard for a period of a year from the date of retirement**.
- Further, the amended Rules mandated that **a retired Chief Justice and judges should be extended, as per protocol, courtesies at ceremonial lounges at airports**.

#### Supreme Court Judges

- **Articles 124 to 147 in Part V of the Constitution deal with the organisation, independence, jurisdiction, powers, procedures and so on of the Supreme Court.**
- **The Parliament is also authorised to regulate them.**

#### Salaries and Allowances

- **The salaries, allowances, privileges, leave and pension of the judges of the Supreme Court are determined from time to time by the Parliament. They cannot be varied to their disadvantage after their appointment except during a financial emergency.**
- **They are also paid sumptuary allowance and provided with free accommodation and other facilities like medical, car, telephone, etc.**

- The retired chief justice and judges are entitled to 50 per cent of their last drawn salary as monthly pension.

### 32. Jharkhand in turmoil: What does the law say on holding an office of profit?

#### Context

Jharkhand is in a state of turmoil after reports suggested that Chief Minister Hemant Soren may be sacked by the Election Commission of India (ECI) in the office-for-profit case.

- The ECI has reportedly sent its recommendations to Governor Ramesh Bais on the allegations against Soren.

#### Concept:

##### What is an 'office of profit'?

- An office of profit is a position that brings any financial gain, advantage, or benefit to the officeholder.
- In the Jharkhand case, the mining lease had the capacity to bring financial gain to Soren.
- The office of profit law simply seeks to enforce a basic feature of the Constitution- The principle of separation of power between the legislature and the executive.

##### Constitutional provisions on 'Office of Profit'?

- The law does not clearly define what constitutes an office of profit but the definition has evolved over the years with interpretations made in various court judgments.
- Under Article 102 (1) and Article 191 (1) of the Constitution, an MP or an MLA (or an MLC) is barred from holding any office of profit under the central or state government.
- The articles clarify that "a person shall not be deemed to hold an office of profit under the government of India or the government of any state by reason only that he is a minister".
- Parliament has also enacted the Parliament (Prevention of Disqualification) Act, 1959, which has been amended several times to expand the exempted list.
- Also, the state legislature can declare that a particular office of profit will not disqualify its holder from its membership
- A foreigner holding any office of profit or trust under the state cannot accept any title from any foreign state without the consent of the president.
- No citizen or foreigner holding any office of profit or trust under the State is to accept any present, emolument or office from or under any foreign State without the consent of the president.
- Presidential Candidate should not hold any office of profit under the Union government or any state government or any local authority or any other public authority. A sitting President or Vice-President of the Union, the Governor of any state and a minister of the Union or any state is not deemed to hold any office of profit and hence qualified as a presidential candidate.
- Vice-Presidential candidate should not hold any office of profit under the Union government or any state government or any local authority or any other public authority
- CONDITIONS OF GOVERNOR'S OFFICE- He should not hold any other office of profit.

##### Factors which are considered in this determination of Office of Profit based on Supreme Court judgments:

- Whether the government is the appointing authority
- Whether the government has the power to terminate the appointment
- Whether the government determines the remuneration
- What is the source of remuneration
- Power that comes with the position

##### Related Judgments of the Supreme Court

- CM will be disqualified under Section 9A of the Representation of Peoples' Act, 1951 in view of three judgments of the apex court.
- Under that section, a contract has to be made for the supply of goods or the execution of any work undertaken by the government.



- Under the RoPA 1951, He must not be a director or managing agent nor hold an office of profit in a corporation in which the government has at least 25 per cent share
- A constitution bench of the Supreme Court in 1964 in the case of **CVK Rao vs Dentu Bhaskara Rao** has held that a mining lease does not amount to a contract of supply of goods.
- In 2001, a three-judge bench of the apex court in the case of **Kartar Singh Bhadana vs Hari Singh Nalwa & others** also made it clear that a mining lease does not amount to execution of a work undertaken by the government.
- Even if the CM is disqualified by any authority, he can challenge it in the high court and in that case and as per a Supreme Court order, the adjudication has to be completed within four months.
- Under Article 164 (4), one person can be a minister for six months without being a member.
- The Supreme Court in its seminal decision in the **Jaya Bachchan v. Union of India** case developed the doctrine of 'potential effect of an office' to ascertain the nature of office, If the "pecuniary gain" is "receivable" in connection with the office then it becomes an office of profit, irrespective of whether such pecuniary gain is actually received or not.

### 33. The 38th Meeting of Ministerial level Joint Rivers Commission

#### Context

The 38th Meeting of the Ministerial level Joint Rivers Commission of India and Bangladesh was held in New Delhi on 25th August, 2022. The Indian delegation was led by Shri Gajendra Singh Shekhawat, Union Minister for Jal Shakti.

#### Concept:

- The Joint Rivers Commission of India and Bangladesh was constituted in the year 1972 as a bilateral mechanism to address issues of mutual interest on common / border / transboundary rivers.
- India and Bangladesh share **54 rivers, of which 7 rivers** have been identified earlier for developing framework of water sharing agreements on priority.
- During the meeting, it has been agreed to widen this area of ongoing cooperation by including 8 more rivers for data exchange.
- One of the important areas of cooperation, where India has been assisting Bangladesh, is **sharing of real time flood data**.
- Both sides finalized the text of **MoU on Interim Water Sharing of Kushiyara river**.
- Both sides also welcomed finalization of the design and location of water intake point on the **Feni River** to meet the drinking water needs of **Sabroom town in Tripura** as per the October 2019 India -Bangladesh MoU on this subject.

### 34. Intergovernmental Committee of UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage

#### Context

On 7th July 2022, India was elected as a member of the Intergovernmental Committee of UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage for the 2022-2026 cycle.

#### Concept:

- The Convention of the Safeguarding of the Intangible Cultural Heritage was adopted by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2003 and entered into force in 2006.
- It comprises 24 members and is elected in the General Assembly of the Convention according to the principles of equitable geographical representation and rotation. Members of the Committee are elected for a term of four years.
- Objectives: To safeguard the expressions of intangible cultural heritage, To ensure respect for the intangible cultural heritage, To raise awareness at the local, national and international levels
- Other Publications are Representative List of the Intangible Cultural Heritage of Humanity, List of Intangible Cultural Heritage in Need of Urgent Safeguarding, Register of good safeguarding practices.

#### India 's election:

- India was elected as a member of the Intergovernmental Committee of UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage for the 2022-2026 cycle.
- The elections for the Intergovernmental Committee were held during the 9th General Assembly of the 2003 Convention held at UNESCO headquarters, Paris, from 5th to 7th July 2022.
- India won the elections by a comfortable majority of 110 votes out of the 155 State Parties present and voting.
- With India getting elected to this body it aims to strengthen the scope and impact of the Convention and mobilize the capacity of different actors worldwide in order to effectively safeguard intangible heritage across the globe.
- For its current term, India has formulated a clear vision for the protection and promotion of the intangible cultural heritage of humanity.
- Some of the priority areas that India will focus upon include fostering community participation, strengthening international cooperation through intangible heritage, promoting academic research on intangible cultural heritage, and aligning the work of the Convention with the UN Sustainable Development Goals.

**35. There will be at least one Constitution Bench in Supreme Court throughout the year: CJI-designate U.U. Lalit.**

- A constitution bench consists of at least five or more judges of the court which is set up to decide substantial questions of law with regard to the interpretation of the constitution in a case.
- The provision for a constitution bench has been provided in the Constitution of India under **Article 143**.
- It is the Chief Justice of India who is constitutionally authorized to constitute a constitution bench and refer cases to it.

**Constitution benches are set up when the following circumstances exist:**

1) When a case involves a substantial question of law pertaining to the interpretation of the Constitution [Article 145(3)].

- Article 145(3) provides, "The minimum number of Judges who are to sit for the purpose of deciding any case involving a substantial question of law as to the interpretation of this Constitution or for the purpose of hearing any reference under Article 143 shall be five."

2) When President of India has sought the Supreme Court's opinion on a question of fact or law under Article 143 of the Constitution.

- Article 143 of the Constitution provides for Advisory jurisdiction to the Supreme Court of India. As per the provision, the President of India has the power to address questions to the Supreme Court, which he deems important for public welfare. The Supreme Court upon reference advises the President by answering the query. However, such referral advice by the apex court is not binding on the President, nor is it 'law declared by the Supreme Court'.

3) When two or more three-judge benches of the Supreme Court have delivered conflicting judgments on the same point of law, necessitating a definite understanding and interpretation of the law by a larger bench.

The Constitution benches are set up on ad hoc basis as and when the above-mentioned conditions exist.

**36. What is a full court meeting- called by the new CJI soon after taking charge?**

- Within hours of taking over, the new Chief Justice of India U U Lalit called a meeting of the 'full court' Saturday where **the judges discussed how to deal with issues relating to listing and backlog of cases.**

**What is a full court meeting?**

- A full court meeting literally means one which **is attended by all the judges of the court.**

**When is it held?**

- There **are no written rules** dealing with this.

- As per convention, full-court meetings are called by the Chief Justice of India to discuss issues of importance to the judiciary. The senior designations of practising advocates in the Supreme Court and high courts are also decided during the full court meetings.

**What is the significance of a full court meeting?**

- The basic idea is to **take everyone along**. Full court meetings are **an ideal occasion to arrive at common solutions to deal with problems** that beset the country's legal system and to make any amends, if necessary, in the administrative practices of the court.

**How frequently is it held?**

- As a full court meeting is convened **at the discretion of the Chief Justice of India, it does not follow any particular calendar.**

### 37. CJI tenure

**Context**

Justice Uday Umesh Lalit, sworn in as the 49th Chief Justice of India on Saturday, will demit office on November 8 with a tenure of 74 days.

- Article 124 of the Constitution of India, caps the age of retirement for Supreme Court judges at age 65.
- So, each Chief Justice's tenure begins from the date of his/her elevation to the date of his/her retirement.
- As a result, the tenure of each CJI is predicated upon their age at the time of their appointment to the Supreme Court, their rank in seniority and their date of elevation as the Chief Justice.
- In the US, Supreme Court judges leave office only by death, or when they themselves, alone and individually, resign.
- In order to be appointed as a Judge of the Supreme Court, a person must be a citizen of India and must have been, for at least five years, a Judge of a High Court or of two or more such Courts in succession, or an Advocate of a High Court or of two or more such Courts in succession for at least 10 years or he must be, in the opinion of the President, a distinguished jurist.

**Article 124 in The Constitution Of India 1949**

- **Establishment and constitution of Supreme Court**

**(1) There shall be a Supreme Court of India constituting of a Chief Justice of India and, until Parliament by law prescribes a larger number, of not more than seven other Judges**

**(2) Every Judge of the Supreme Court shall be appointed by the President by warrant under his hand and seal after consultation with such of the Judges of the Supreme Court and of the High Courts in the States as the President may deem necessary for the purpose and shall hold office until he attains the age of sixty five years.**

Supreme Court judges retire on attaining the age of 65 while high court judges retire at 62.

**CJI with tenure less than 100 days**

- **Justice Kamal Narain Singh**, who was the CJI between November 25, 1991 and December 12, 1991, had a tenure of 18 days.
- **Justice S Rajendra Babu** had a tenure of 30 days as the chief justice of India between May 2, 2004 and May 31, 2004.
- **Justice J C Shah** had a tenure of 36 days when he was the CJI between December 17, 1970 and January 21, 1971.
- **Justice G B Patnaik** had a 41-day tenure as the head of the Indian judiciary when he held the office of the CJI from November 8, 2002 to December 18, 2002.
- **Justice L M Sharma** had a tenure of 86 days as the CJI when he was in office between November 18, 1992 and February 11, 1993.

### 38. Central Arid Zone Research Institute (CAZRI)

**Context**

Four new facilities at Central Arid Zone Research Institute (CAZRI), Jodhpur inaugurated by Union Minister

**Concept:**

- The Central Arid Zone Research Institute (CAZRI) is one of the biggest research institutes of the Indian Council of Agricultural Research (ICAR), an autonomous organization

working under the aegis of the Department of Agriculture Research and Education (DARE) of the Ministry of Agriculture and Farmers Welfare of Government of India.

- The institute made a humble beginning in 1952 when Government of India initiated Desert Afforestation Research Station at Jodhpur to carry out research on sand dune stabilization and for establishment of shelter belt plantations to arrest wind erosion.
- It was reorganized as Desert Afforestation and Soil Conservation Station in 1957 and finally in its present form Central Arid Zone Research Institute in 1959 on recommendation of the UNESCO (United Nations Educational, Scientific and Cultural Organization) expert

#### **Mandate:**

- Basic and applied research on sustainable farming systems in arid ecosystem
- Repository of information on the state of natural resources and desertification processes
- Livestock-based farming systems and range management practices for the chronically drought affected areas
- Generation and transfer of location-specific technologies Infrastructure

### **39. What is the NCRB's 'Crime in India' report, and how to read its findings**

#### **Context**

- A new edition of **'Crime in India', the annual report of the National Crime Records Bureau (NCRB)**, was released on August 29, for crime-related statistics in 2021. NCRB reports have been a valuable **compilation of statistics over the years on offences ranging from crimes against women to economic and financial crimes.**

#### **Who publishes the NCRB report?**

- The NCRB was established in January **1986** with the aim of establishing a body to compile and **keep records of data on crime.**
- It **functions under the Union Home Ministry.**
- Apart from publishing annual reports, its functions **include "Collection, coordination and exchange of information on inter-state and international criminals to the respective states".**
- NCRB also acts as a **"national warehouse" for the fingerprint records of Indian and foreign criminals, and assists in locating interstate criminals through fingerprint search.**

#### **National Crime Records Bureau (NCRB)**

- It is **implementing and monitoring agency of Crime & Criminal Tracking Network System (CCTNS)**, a Mission Mode Project under the National e-Governance Plan of Government.
- It also **imparts training in Information Technology (IT) and Finger Print Science for Indian Police Officers** as well Foreign Police officers.
- NCRB publishes **4 annual publications on Crime, Prison Statistics, Accidental Deaths & Suicides and Finger Prints.** These publications serve as principal reference points on crime statistics.

### **40. CJI bench to hear EWS quota, reservation for Muslims in Andhra**

#### **Context**

**A five-judge Constitution bench** of the Supreme Court headed by Chief Justice of India U U Lalit will **take up two pleas dealing with reservation from September 13.**

- Another Constitution bench headed by Justice Indira Banerjee, which also met on Tuesday, fixed the second week of October to take up for hearing petitions challenging **constitutional validity of the practice of polygamy and nikah halala permitted by Muslim personal law.**
- While one of the petitions before the CJI bench challenges the constitutional validity of the **103rd Amendment Act, 2019, which introduced the provision for a 10-per cent quota for Economically Weaker Sections (EWS),** the other, pending since 2005, pertains to **reservation given to Muslims in Andhra Pradesh as a Socially and Economically Backward Class (SEBC)** and raises questions of religion-based reservation.

#### **Constitution bench of the Supreme Court**

- A Constitution Bench is a bench of the Supreme Court **having five or more judges on it.**
- These benches are not a routine phenomenon.
- A vast majority of cases before the **Supreme Court are heard and decided by a bench of two judges (called a Division Bench), and sometimes of three.**

### Constitutional provisions

#### Article 145(3):

- **Article 145(3) provides, “The minimum number of Judges who are to sit for the purpose of deciding any case involving a substantial question of law as to the interpretation of this Constitution or for the purpose of hearing any reference under Article 143 shall be five.”**

#### Article 143:

- When the **President seeks the Supreme Court’s opinion** under law under **Article 143** of the Constitution.
- As per the provision, the President of India **has the power to address questions to the Supreme Court**, which he deems important for public welfare.
- The Supreme Court upon reference advises the President by answering the query. However, such referral advice by the apex court is **not binding on the President**, nor is it ‘law declared by the Supreme Court’.

#### 41. New edible coating to prolong shelf life of fruits and vegetables

- A team of researchers at the Indian Institute of Technology (IIT) — Guwahati has developed an **edible material that, coated on vegetables and fruits, substantially extended their shelf-life.**
- The material was **tested on potato, tomato, green chili, strawberry**, Khasi Mandarin, apple, pineapple and kiwifruit and was found to keep these vegetables fresh for nearly two months.

#### Dunaliellatertiolecta

- The team used a mix of an extract of a **marine microalga called Dunaliellatertiolecta** and **polysaccharides to produce it.** The microalga is known for its **antioxidant properties and has various bioactive compounds such as carotenoids and proteins.**
- It is also used to **produce algal oil**, a non-animal source of **omega-3 fatty acid** and is considered a **good source of biofuel.** After the oil is extracted, the residue is usually discarded.
- The researchers **used extracts from this residue in formulating their film**, in combination with **chitosan**, which is a **carbohydrate.** It also has **antimicrobial and antifungal properties and can be made into an edible film.**
- The researchers said, “The films were made with **varying algal extract contents and their properties were analysed** and compared with controls. They displayed **superior antioxidant activity, thermal stability, mechanical strength, total phenolic content and water vapour barrier property.** They also had excellent **UV-Vis light-blocking properties”.**

#### 42. One Herb One Standard

##### Context

Ministry of Ayush has taken a significant step to achieve “One Herb, One Standard”. 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)

##### Concept:

- The primary objective of this MoU is the development of cooperative efforts between PCIM&H and IPC to promote public health by facilitating the development of harmonized Herbal drug standards. Since both PCIM&H and IPC are working with the common cause, it is logical and meaningful to harmonize the standards to achieve “One Herb – One Standard”.
- 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.
- The sole authority of publication of monographs categorized under the “one herb one standard” will lie with **PCIM&H only.**
- Ministry of Ayush believes that this 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.



- 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.

#### 43. Integrated Public Alert System

##### Context

**C-DOT (Centre for Development of Telematics)**, the premier R&D centre of the Department of Telecommunications (DoT), Ministry of Communications, Government of India and (NDMA) National Disaster Management Authority, Government of India are jointly conducting an All India Workshop centred on Common Alerting Protocol (CAP) based Integrated Alert System

##### Concept:

- **Integrated Public Alert System**, an early warning platform based on ITU's Common Alerting Protocol (CAP), has been developed by C-DOT for effective disaster management.
- The platform has been widely used by National and State Disaster Management authorities for dissemination of alerts, advisories and other useful information to the masses on all available media during emergencies like floods, cyclones and Covid pandemic.
- It provides a converged platform for dissemination of targeted alerts to people in vernacular languages through SMS.
- As a one-stop solution and a concrete step towards realizing Hon'ble Prime Minister's 10 point Agenda for **Disaster Risk Reduction**, soon messages will be disseminated over all available communication media including, Cell Broadcast, Radio, TV, Siren, Social Media, Web Portal and Mobile Application.
- The system is already operational in 34 States and UTs. More than 75 Crores SMSes have already been sent by the system during various disasters like Cyclones (Asani, Yass, Nivar, Amphan), Floods (Assam, Gujarat), Lightning (Bihar), etc. The system has also been used to facilitate the pilgrims during Amarnath Ji Yatra

#### 44. Governors as chancellors: The points of conflict

- In the initial years of our Republic, there were hardly any conflicts between governors as chancellors and state governments. The Congress was in power at the national and state level. **The President, bound by the Prime Minister's advice, appointed individuals closely linked to the party as governors.**

##### Colonial Time

- **The Bengal Council of Education** championed the **setting up of a university that had** the power to grant degrees in arts, science, law, medicine and civil engineering. The council suggested that the government **model the university along the lines of the University of London**, an examination and degree-awarding institution. Nine years later, the **government in India accepted this proposal with some modifications.**
- The **'Despatch of 1854 on the General Education in India'** famously called **Wood's Despatch**, suggested the creation of universities in India.
- It recommended **that the universities consist of a chancellor, vice-chancellor and fellows, who would constitute a senate.**
- It stated further that the **'offices of chancellor and vice-chancellor will naturally be filled by persons of high station, who have shown an interest in the cause of education...'**. Acting on this suggestion, the **Governor General decided that he would be the chancellor of the university at Calcutta**, and the **governors for Bombay and Madras would be the chancellors for the universities** in the two presidency towns.
- These three universities were set up in 1857 at Calcutta, Bombay, Madras, by separate laws passed by the Legislative Council of India.

##### Post-Independence

- After Independence, a **committee headed by Dr Sarvepalli Radhakrishnan** observed that the practice of the governor being a chancellor had worked well in states with only one university.

- The commission left it **to the states to decide whether they wanted the governor to be the chancellor, especially if the state had multiple universities.** States opted to stick to the status quo, and while enacting legislation for universities in their states, they made the governor their chancellor.
- **In 2010, the Punchi commission(Centre-state relations) stated that when governors act as chancellors, it opens their office to controversies and public criticism.**
- earlier this year, **the West Bengal Legislature passed a law making the Chief Minister the chancellor of 31 state universities.**

#### Wood's Despatch on Education in 1854 I

- It laid the foundation on which the educational system has since developed. Various problems related to education in India had become one of the key concerns of the British government by 1853.

#### Recommendations

- For the first time, Wood's Despatch recommended the **establishment of a Department of Public Instruction in each of Bengal's five provinces:** Bombay, Madras, Punjab, and the North-Western provinces.
- The **expansion of mass education** was another major recommendation of the Despatch.
- Because it was discovered that the common people lacked educational opportunities, much **emphasis was placed on increasing the number of primary, middle, and high schools.**
- The **establishment of universities** in the three Presidency towns of Calcutta, Bombay, and Madras was recommended by the Despatch. The universities were to be modeled after the University of London.
- **Departments of Arabic, Sanskrit, and Persian**, as well as law and civil engineering, were to be established at the universities.
- Wood's Despatch advocated for the **establishment of a grant-in-aid system** in Indian education.
- The Wood's Despatch emphasized **the importance of teaching English while also emphasizing the importance of teaching Indian languages.**
- The Despatch recommended that the government **always support women's education.**
- The Wood's Despatch recommended **that teacher training schools be established** in each province. Engineering, medicine, and law teachers should be trained in special schools.
- The Wood's Despatch **advocated for the establishment of a nationwide network of graded schools.**

#### Governor

The Governor's appointment, his powers and everything related to the office of Governor have been discussed under **Article 153 to Article 162** of the Indian Constitution.

- The appointment and powers of government can be **derived from Part VI of the Indian constitution.** **Article 153** says that there shall be a Governor for each State. One person can be appointed as Governor for two or more States.
- The governor acts in **'Dual Capacity'** as the Constitutional head of the state and as the representative.
- He is the part of federal system of Indian polity and acts as a bridge between union and state governments.
- **Article 157** and **Article 158** of the Constitution of India specify eligibility requirements for the post of governor. They are as follows:
  - **A governor must:**
    1. Be a citizen of India.
    2. Be at least 35 years of age.
    3. Not be a member of the either house of the parliament or house of the state legislature.
    4. Not hold any office of profit.
  - The **term of governor's office is normally 5 years** but it can be terminated earlier by:
    1. Dismissal by the president on the advice of the council of minister headed by the prime minister of the country.

2. Dismissal of governors without a valid reason is not permitted. However, **it is the duty of the President to dismiss a governor whose acts are upheld by courts as unconstitutional and malafide.**
3. Resignation by the governor.

#### **Constitutional provisions**

- **Article 163:** It talks about **the discretionary power of governor.**
- **Article 256:** The executive power of the Union shall extend to **the giving of such directions to a State as may appear to the Government of India to be necessary for that purpose.**
- **Article 257:** The executive power of the Union shall also extend to the giving of directions to a State as to the construction and maintenance **of means of communication declared in the direction to be of national or military importance**
- **Article 355:** It entrusts the **duty upon Union to protect the states against “external aggression” and “internal disturbance”** to ensure that the government of every State is carried on in accordance with the provisions of Constitution.
- **Article 356:** In the event that a state government is **unable to function according to constitutional provisions, the Central government can take direct control of the state machinery.** The state’s governor issues the proclamation, after obtaining the consent of the President of India.
- **Article 357:** It deals with **Exercise of legislative powers under Proclamation issued under Article 356 by the central government.**

## **INTERNATIONAL RELATIONS**

### **1. India observes Chabahar Day with emphasis on linkage with Central Asia**

#### **Context**

The Ministry of Port, Shipping and Waterways (MoPSW) on Sunday observed 'Chabahar Day' in Mumbai to mark the Chabahar – Link to International North-South Transport Corridor (INSTC) – Connecting Central Asian Markets.

#### **Chabahar**

- Chabahar is **located strategically off Makran coast in the Gulf of Oman** at the southern end of Persian Gulf and Iran's closest and best access point to the Indian Ocean.
- It is far away from Iran's other major port of Bandar Abbas that currently handles the bulk of its trans shipments but is constrained due to capacity and inability to berth large ships.
- In contrast, **Chabahar is an oceanic port and capable of handling much larger vessels.** Developing it and utilising its true potential is in Iranian interest as that will reduce the distance. When linked with the Iranian railway network, it will connect the port with the rest of Iran.
- The **development of Chabahar-Zahedan railway line** and its development has provided an opportunity to Iran to initiate developmental projects in the region since it enjoys exemptions from the new round of the US. sanctions that were obtained due to Indian pressure and leverage with the USA, due it being the **preferred port of transit for goods destined for Afghanistan for providing relief and humanitarian assistance to the people of Afghanistan.**
- The impetus to the development of the port came in May 2016 when India, Iran and Afghanistan signed a key trilateral deal, known as the **Chabahar Agreement, to establish a strategic India-Iran-Afghanistan Trilateral Agreement on Transport and Transit Corridors** to facilitate trade with Afghanistan, Central Asia, Russia and Europe for utilizing **Chabahar port as a hub, giving a boost to Indian access to Afghanistan and creating the International North-South Transport Corridor (INSTC).**

#### **INSTC**

- The INSTC is a key trade corridor project, wherein India is partnering with 12 countries to establish an economic corridor.
- 7,200-km multi-mode transport (Rail, sea, Road) project to move freight among India, Iran, Afghanistan, Armenia, Azerbaijan, Russia, Central Asia and Europe.
- Aim is to increase trade connectivity between major cities such as Mumbai, Moscow, Tehran, Baku, Bandar Abbas, Astrakhan, Bandar Anzali, etc.
- Dry runs of two routes were conducted in 2014, the first was Mumbai to Baku via Bandar Abbas and the second was Mumbai to Astrakhan via Bandar Abbas, Tehran and Bandar Anzali.

### **2. The violent conflict in the DRC, in which two BSF personnel were killed**

#### **Context**

Two Border Security Force personnel who were part of the **United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO), the UN Peacekeeping Mission in the Democratic Republic of Congo (DRC),** were among the 15 people who were killed during the violent protests in the city of Butembo on Tuesday

- The DRC has witnessed a decades-long conflict between state forces and rebel groups that has resulted in the death and displacement of millions of people. **The UN, which has deployed peacekeeping forces in the country since 1999,** is routinely criticised by locals for being unable to protect civilians from the militias in the region.
- India has contributed more personnel to UN Peacekeeping Missions than any other country. Since 1948, more than 2,53,000 Indians have served in 49 of the 71 missions across the world.

#### **Latest Conflict**

- The DRC's army is engaged in battle with more than 100 armed militias that are jockeying for power and territory in the eastern part of the country, and violence has escalated over the past few months. Chief among them is the **M23 rebel group**, which has been able to take control of key territories, and in June it captured the **town of Bunagana** located on the Ugandan border towards the east.
- DRC's eastern region holds massive reserves of **valuable minerals such as gold, diamond, copper, zinc, tin, cobalt and coltan**, worth an estimated \$24 trillion, according to the think tank Council on Foreign Relations. Rebel groups are aiming to control these resources to buy weapons and recruit more fighters.
- In June, the **DRC topped the Norwegian Refugee Council's list of the world's most neglected displacement crises in 2021**

### M23 Group

- The rebel group known as M23, short for **the March 23 Movement**, refers to the date of **failed peace accords** signed in **2009 between the DRC government and the rebel group** known as the **National Congress for the Defence of People (CNDP)**. After claiming that the terms of the deal were not followed by the DRC government, the **CNDP members formed the M23 movement**.
- The rebel group primarily **consists of ethnic Tutsis**, and they claim to defend the **interests of people of Rwandan ancestry** in eastern DRC, especially **against the Hutu rebels associated with the 1994 Rwanda genocide**

### UN Peacekeeping – covered in DPN April

#### Democratic Republic of Congo (DRC):

- The **Democratic Republic of the Congo** is located in sub-Saharan Africa, bordered to the northwest by the Republic of the Congo, to the north by the Central African Republic, to the northeast by South Sudan, to the east by Uganda, Rwanda and Burundi, and by Tanzania, to the south and southeast by Zambia, to the southwest by Angola, and to the west by the South Atlantic Ocean and the Cabinda exclave of Angola.
- By area, it is the **second-largest country** in Africa and the 11th-largest in the world
- The DRC is the world's largest producer of cobalt ore, and a major producer of copper and diamonds

### 3. Kalapani, Limpiyadhura and Lipulekh

#### Context

Former Nepalese PM KP Sharma Oli has claimed that he was removed from power last year after his government published a new map of Nepal that included Kalapani, Limpiyadhura and Lipulekh sits territories

#### Concept:

- The Lipulekh pass is a far western point near Kalapani, a disputed border area between Nepal and India. Both India and Nepal claim Kalapani as an integral part of their territory
- Lipulekh is a **Himalayan pass**. The pass is near the Chinese trading town of Taklakot (Purang) in Tibet and used since ancient times by traders, mendicants and pilgrims transiting between India and Tibet.
- This pass links the Byans valley of Uttarakhand, India with the Tibet Autonomous Region of China, and forms the last territorial point in Indian territory.
- The **Kailash Mansarovar Yatra**, a Hinduism pilgrimage to Mount Kailash and Lake Manasarovar, traverses this pass.
- Presently, Lipulekh Pass is open for cross-border trade every year from June through September.
- It is also known as Lipu-Lekh Pass/Qiangla or Tri-Corner is a high altitude mountain pass situated in the western Himalayas with a height of 5,334 metre or 17,500 feet.
- It is an International mountain pass between India, China and Nepal.

#### Nepalese claims

- The Nepalese claims to the southern side of the pass, called Kalapani territory, are based on **1816 Sagauli Treaty** between British East India Company and Nepal. The treaty



delimited the boundary along the Kali River (**also called the Sharda River and Mahakali River**).

- India claims that the river begins at the Kalapani village as this is where all its tributaries merge. But Nepal claims that it begins from the Lipulekh Pass.
- The historical record shows that, sometime around 1865, the British shifted the border near Kalapani to the watershed of the Kalapani river instead of the river itself, thereby claiming the area now called the Kalapani territory. This is consistent with the British position that the Kali River begins only from the Kalapani springs, which meant that the agreement of Sugauli did not apply to the region above the springs.

#### **Kali River**

- It is also known as **Sharda River or Kali Ganga** in Uttarakhand.
- It joins Ghagra river in Uttar Pradesh, which is a tributary of Ganga.
- **River Projects:** Tanakpur hydro-electric project, Chameliya hydro-electric project, Sharda Barrage.

#### **4. India to host UNSC meet on counter terrorism in October**

##### **Context**

In a first, India will host **diplomats and officials from all 15 countries of the United Nations Security Council**, including China, Russia and the United States, for a special meeting on terrorism, in Delhi and Mumbai in October.

##### **Concept:**

- The meeting of the **Counter-Terrorism Committee (CTC)**, which India is chairing for 2022 as a member of the UNSC, will focus particularly on challenges such as terrorism financing, cyberthreats and the use of drones, said officials.
- In addition, India has been pushing for the UN members to adopt a Comprehensive **Convention on International Terrorism (first proposed in 1996)**, which is likely to be raised during the meeting.

##### **UNSC**

- The Security Council was established by **the UN Charter in 1945**. It is one of the **six principal organs of the United Nations**.
- The other 5 organs of the United Nations are—the **General Assembly (UNGA)**, the **Trusteeship Council**, the **Economic and Social Council**, the **International Court of Justice**, and the **Secretariat**.
- Its primary responsibility is **to work to maintain international peace and security**.
- The council is **headquartered at New York**.

##### **Members:**

- The council has **15 members: the five permanent members and ten non-permanent members** elected for **two-year terms**.
  - The **five permanent members are the United States, the Russian Federation, France, China and the United Kingdom**.
  - India, for the **eighth time**, has entered the UNSC as a **non-permanent member** last year (2021) and will stay on the council **for two years i.e 2021-22**.
- **Each year**, the General Assembly **elects five non-permanent members** (out of ten in total) for a two-year term. The ten non-permanent seats are **distributed on a regional basis**.
- The **council's presidency is a capacity that rotates every month among its 15 members**.

##### **Voting Powers:**

- Each member of the Security Council **has one vote**. Decisions of the Security Council on matters are **made by an affirmative vote of nine members including the concurring votes of the permanent members**. A “No” vote from one of the five permanent members blocks the passage of the resolution.
- Any member of the United Nations which is **not a member of the Security Council may participate**, without vote, in the discussion of any question brought before the Security Council whenever the latter considers that the interests of that member are specially affected.

#### **5. Taiwan dominates the world's supply of computer chips — no wonder the US is worried**

**Context:**

- One aspect of Nancy Pelosi's trip to Taiwan that has been largely overlooked is her **meeting with Mark Lui, chairman of the Taiwan Semiconductor Manufacturing Corporation (TSMC)**. Pelosi's trip coincided with US efforts to convince TSMC — the world's largest chip manufacturer, on which the US is heavily dependent — to establish a manufacturing base in the US and to stop making advanced chips for Chinese companies.

**Why Taiwan is important for US?**

- Taiwan's autonomy has become a **vital geopolitical interest for the US because of the island's dominance of the semiconductor manufacturing market**.
- Transformational, **super-fast 5G internet emerged is enabling a world of connected devices of every kind (the "Internet of Things") and a new generation of networked weapons**.
- US semiconductor **design companies, such as Intel, were heavily dependent on Asian-based supply chains for the manufacturing of their products**.
- In particular, **Taiwan's position in the world of semiconductor manufacturing is a bit like Saudi Arabia's status in OPEC**. TSMC has a 53% market share of the global foundry market (factories contracted to make chips designed in other countries). Other Taiwan-based manufacturers claim a further 10% of the market.
- The United States is **heavily dependent on a single company — TSMC — for producing its leading-edge chips**. The fact that **only TSMC and Samsung (South Korea) can make the most advanced semiconductors (known as five nanometres)** puts at risk the ability to supply current and future [US] national security and critical infrastructure needs.
- This is all part of a broader **"tech war" between the US and China, in which the US is aiming to constrain China's technological development and prevent it from exercising a global tech leadership role**.

**6. IMF Surveillance****Context****IMF help to Sri Lanka and Bangladesh**

- Surveillance is **one of three main activities of the International Monetary Fund (IMF), together with lending and technical assistance**. Via surveillance, the IMF **oversees the international monetary system and the policies of all of its member countries** to promote **global financial and economic stability**. It does so at the **country, regional, and global levels**.
- At the country level, the IMF **conducts bilateral surveillance through the 'Article IV Consultation', named after Article IV of the IMF's Articles of Agreement**. These consultations involve **an annual IMF staff visit to each of its member countries**, during which they discuss, with government officials and other stakeholders, the country's overall economic condition, its fiscal and monetary policies, and any perceived economic risks. The IMF then compiles a staff report with an evaluation and recommendations, **the views of the IMF Executive Board, a summary press release, and in some cases a summary from the Executive Director representing the country**. Together, these materials are the Article IV report.
- **Policy advice in Article IV reports is not binding, but it is mandatory for all 189 IMF member states to undergo bilateral surveillance**.

**Article IV Scanner**

- The Article IV Scanner has therefore **been designed to enable civil society, researchers, and officials to search for key words and phrases in over 2,000 IMF Article IV reports since 2000 all in one place**. This allows the IMF's bilateral surveillance to be more transparent, accessible, and open to civil society engagement.

**7. China Taiwan Issue: One China Policy****CONTEXT:**

- **House Speaker Nancy Pelosi arrived in Taiwan**, casting aside private warnings from the Biden administration about the risk that her high-profile diplomatic visit could stoke a new crisis in Asia and immediately prompting a sharp response from the Chinese government.

#### WHAT IS ONE CHINA POLICY?

- The One China policy is a key cornerstone of Sino-US relations. It is the **diplomatic acknowledgement of China's position that there is only one Chinese government**.
- Under the policy, the US recognises and has formal ties with China rather than the island of Taiwan, which China sees as a breakaway province.
- China insists Taiwan is an inalienable part of one China. So, any country that wants diplomatic relations with mainland China must break official ties with Taipei.
- Since, the US established formal diplomatic ties with Beijing in 1979, it had to sever ties with Taiwan and closed its Taipei embassy. This has resulted in Taiwan's diplomatic isolation from the international community.

#### China and Taiwan issue (Background):

- China and Taiwan **separated amid civil war in 1949** and **China considers Taiwan part of its territory** to be taken control of by force if necessary.
- But **Taiwan's leaders** say that **Taiwan is a sovereign state**.
- After decades of hostile intentions and angry rhetoric, relations between China and Taiwan **started improving in the 1980s**. **China put forward a formula, known as "one country, two systems"**, under which Taiwan would be given significant autonomy if it accepted Chinese reunification.
- In Taiwan, the offer was rejected, but the **government did relax rules** on visits to and investment in China.
- There were also limited talks between the two sides' unofficial representatives, though Beijing's insistence that **Taiwan's Republic of China (ROC) government is illegitimate** prevented government-to-government contact.
- China's implementation of a **national security law in Hong Kong** in 2020 was seen by many as yet another sign that Beijing was becoming significantly more assertive in the region.
- **China's Concerns:**
  - **One China Policy Challenged:**
    - This means that countries seeking diplomatic relations with the People's Republic of China (PRC, Mainland China) must break official relations with the Republic of China (ROC, Taiwan) and vice versa.
    - The ROC, Taiwan has diplomatic relations with 15 countries and substantive ties with many others such as Australia, Canada, EU nations, Japan and New Zealand.
      - Besides, Taiwan has full membership in 38 intergovernmental organizations and their subsidiary bodies, including the **World Trade Organization, Asia-Pacific Economic Cooperation, Asian Development Bank** and Central American Bank for Economic Integration.
  - **Agreements/Exercises Countering China:**
    - Formation of AUKUS (Australia, UK, USA) to counter china.
    - **Malabar Exercise** (US, Japan, India and Australia) is also a major step towards building a sustainable Indo-Pacific.
  - **Strategic and Defense Support to Taiwan by US:**
    - Taiwan has sought to improve its defenses with the purchase of US weapons, including upgraded F-16 fighter jets, armed drones, rocket systems and Harpoon missiles.
  - **India's Stand on the Issue:**
    - Since 1949, India has **accepted the "One China" policy** that accepts Taiwan and Tibet as part of China.
    - Even though India has stopped mentioning its adherence to One China policy in joint statements and official documents since 2010, its

engagement with Taiwan is still restricted due to the framework of ties with China.

- India and Taiwan **do not have formal diplomatic relations** but since 1995, both sides have maintained representative offices in each other's capitals that function as de facto embassies.

#### 8. Russia suspends START arms inspections over US travel restrictions

##### START TREATY:

- It is a treaty between the United States of America and the Russian Federation on measures for the further reduction and limitation of strategic offensive arms.
- It entered into force on 5th February, 2011.
- New START has replaced the 1991 START I treaty, which expired December 2009, and superseded the 2002 Strategic Offensive Reductions Treaty (SORT), which terminated when New START entered into force.
- It is a successor to the START framework of 1991 (at the end of the Cold War) that limited both sides to 1,600 strategic delivery vehicles and 6,000 warheads.
- It continues the **bipartisan process of verifiably reducing the USA and Russian strategic nuclear arsenals** by limiting both sides to 700 strategic launchers and 1,550 operational warheads.
- It will lapse in February 2021 unless extended for a five-year period.

#### 9. The Gulf Cooperation Council (GCC), Eurasian Economic Union (EAEU) and European Free Trade Association (EFTA) want to negotiate trade pact

##### Concept

##### GCC:

- The Gulf Cooperation Council (GCC) is a **political and economic alliance of six countries** in the Arabian Peninsula: **Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates**.
- **Established in 1981**, the GCC promotes economic, security, cultural and social cooperation between the six states and holds a summit every year to discuss cooperation and regional affairs.

##### Eurasian Economic Union (EAEU)

- The Eurasian Economic Union is an international organization for regional economic integration. It has international legal personality and is established by the Treaty on the Eurasian Economic Union.
- The EAEU provides for free movement of goods, services, capital and labor, pursues coordinated, harmonized and single policy in the sectors determined by the Treaty and international agreements within the Union.
- The Member-States of the Eurasian Economic Union are the **Republic of Armenia**, the **Republic of Belarus**, the **Republic of Kazakhstan**, the **Kyrgyz Republic** and the **Russian Federation**.
- The Union is being created to comprehensively upgrade, raise the competitiveness of and cooperation between the national economies, and to promote stable development in order to raise the living standards of the nations of the Member-States.

##### European Free Trade Association (EFTA)

The European Free Trade Association (EFTA) is the intergovernmental organisation of **Iceland, Liechtenstein, Norway and Switzerland**. It was set up in 1960 by its then seven Member States for the promotion of free trade and economic integration between its members.

#### 10. India slams China for blocking proposal to list JeM deputy chief Asghar a designated terrorist

China on Thursday **thwarted a joint India-U.S. bid to list Jaish-e-Mohammad** deputy chief Rauf Asghar as a **UN Security Council designated terrorist** by placing a “technical hold” on the process, a move India called “politically motivated” and evidence of China’s “doublespeak” on Pakistan-based terrorism.

##### Concept

##### 1267 UN listing

- The 1267 UN listing mandates **members to ensure that terrorists and organisations designated must not be allowed to travel, have recourse to funds or weapons**.

- However, a **UNSC permanent member can place a hold on any listing for a period of up to 6 months**, followed by an extension of 6 months, after which it must either accept or deny the listing.
- Expressing India's frustration with similar decisions by China in the past, U.N. permanent representative Ambassador Ruchira Kamboj had said on Tuesday that "double standards and continuing politicisation" of the process had rendered the credibility of the sanctions regime at an "all-time low."

## 11. Guillermo Rios is new leader of UNMOGIP

### Context

U.N. Secretary General Antonio Guterres has appointed Rear Admiral Guillermo Pablo Rios of Argentina as the Head of Mission and Chief Military Observer for the United Nations Military Observer Group in India and **Pakistan (UNMOGIP)**, the office of the U.N. Secretary General has announced.

### United Nations Military Observer Group in India and Pakistan (UNMOGIP)

- UNMOGIP emerged from **N. Security Council Resolution 39 of January 1948 that set up the U.N. Commission for India and Pakistan (UNCIP)**.
- The **Karachi Agreement of July 1949** firmed up the role of UN-level military observers and permitted supervision of the Cease Fire Line established in Jammu and Kashmir.

### India's stance on UNMOGIP

- India has **not officially gone to the UNMOGIP since 1972 with complaints against Pakistan**.
- India **officially maintains that the UNMOGIP's role was "overtaken" by the Simla Agreement of 1972 that established the Line of Control or the LoC**.
- This with minor deviations followed the earlier Ceasefire Line.
- **Pakistan, however, did not accept the Indian argument** and continued to seek cooperation from the UNMOGIP.
- As a result of these divergent policies, **Pakistan continues to lodge complaints with the UNMOGIP against alleged Indian ceasefire violations**.

### What is Shimla Agreement and why was it signed?

- The Shimla Agreement was signed by Prime Minister Indira Gandhi and Pakistani President Zulfikar Ali Bhutto on **2 July 1972**, following a full-blown war between India and Pakistan in 1971.
- The Shimla Agreement was "much more than a peace treaty seeking to reverse the consequences of the 1971 war (i.e. to bring about withdrawals of troops and an exchange of PoWs)." It was a comprehensive blue print for good neighbourly relations between India and Pakistan.
- Under the Shimla Agreement both countries undertook to **abjure conflict and confrontation** which had marred relations in the past, and to work towards the establishment of durable peace, friendship and cooperation.
- The two countries not only agreed to put an end to "**conflict and confrontation**" but also work for the "**promotion of a friendly and harmonious relationship and the establishment of durable peace in the sub-continent**, so that both countries may henceforth devote their resources and energies to the pressing task of advancing the welfare of their peoples."

## 12. India and Iran sign MoU for smooth movement of seafarers between both countries

### Context:

- In a bid to smoothen the movement of seafarers between the two countries, India and Iran on Monday signed a Memorandum of Understanding (MoU) on **recognition of Certificates of Competency in Unlimited Voyages** to help seafarers from both the countries as per the provisions of **International Convention on Standards of Training, Certification and Watch Keeping for Seafarers (1978)**.

**International Convention on Standards of Training, Certification and Watch Keeping for Seafarers (1978)**



- It sets **qualification standards for masters, officers and watch personnel on seagoing merchant ships.**
- STCW was **adopted in 1978 by conference at the International Maritime Organization (IMO) in London, and entered into force in 1984.**
- The 1978 STCW Convention was the **first to establish basic requirements on training, certification and watch keeping for seafarers on an international level.**
- The Convention **prescribes minimum standards relating to training, certification and watch keeping for seafarers which countries are obliged to meet or exceed.**
- One important feature of the Convention is that **it applies to ships of non-party States when visiting ports of States which are Parties to the Convention.**
- The **Manila amendments to the STCW Convention and Code** were adopted on 25 June 2010, marking a major revision of the STCW Convention and Code.

### 13. What You Need to Know About Immunity Debt and How May It Affect Kids

#### Context:

Just when it felt like the resumption of regular life was on the horizon, parents are being warned of a new threat to their children's health. Doctors have expressed concern that a surge in common illnesses—such as **respiratory syncytial virus (RSV) and seasonal influenza**—could be around the corner. This is due to what is being called an **“immunity debt,”** a phenomenon caused by the **non-pharmaceutical measures** taken to combat COVID-19.

- Doctors fear that as COVID-19 restrictions end, so too will the temporary suppression of illnesses such as **RSV, chickenpox, strep throat, flu, and more, potentially causing further epidemics down the line.**

#### Immunity Debt

- “Immunity debt” refers to the lack of **immune stimulation due to the reduced exposure to viruses, germs and bacteria** as a result of COVID-19 safety and lockdown measures.
- The “immunity debt” **occurs because of measures like lockdowns, hand-washing, social distancing and masks which are not only effective at controlling Covid-19 but they also suppress the spread of other illnesses that transmit in a similar way, including the flu, common cold etc.**

#### Respiratory syncytial virus (RSV)

- It is a common respiratory virus that usually causes mild, cold-like symptoms.

#### Symptoms

- **Runny nose, Decrease in appetite, Coughing, Sneezing, Fever, Wheezing**
- The symptoms usually reflect within 4-6 days after getting infected and appear in stages.

#### Recovery Period

- Usually, **people recover in 1-2 weeks but it can prove to be serious for infants and older adults.**

#### Cure

- While there is **no specific treatment for RSV infection**, consuming over the counter fever reducers and pain relievers, drinking enough fluids to prevent dehydration may provide some relief to the symptoms.

### 14. China pledges support to Sri Lanka at UNHRC session

#### Context:

Weeks ahead of the **UN Human Rights Council session in Geneva, where a resolution on Sri Lanka is expected to be tabled**, China has said it would “continue to support” Sri Lanka in international fora, while slamming countries “far or near” for “bullying” the island nation.

- Ambassador Zhenhong Qi also highlighted the “successful” docking of **Chinese military vessel Yuan Wang 5 at Sri Lanka’s southern Hambantota Port** after China and Sri Lanka “altogether resisted the rude and unreasonable interference from third parties”.

#### UN Human Rights Council

- The Human Rights Council is **an inter-governmental body within the United Nations system responsible for strengthening the promotion and protection of human rights** around the world.

#### Formation:

- The Council was **created by the United Nations General Assembly in 2006**. It replaced the **former United Nations Commission on Human Rights**.
- The **Office of the High Commissioner for Human Rights (OHCHR)** serves as the **Secretariat** of the Human Rights Council.
- OHCHR is **headquartered in Geneva, Switzerland**.

#### Members:

- It is made up of **47 United Nations Member States** which are elected by the UN General Assembly (UNGA).
  - The UNGA considers the candidate States' contribution to the **promotion and protection of human rights**, as well as their **voluntary pledges and commitments in this regard**.
- The Council's Membership is based on **equitable geographical distribution**. Seats are distributed as follows:
  - **African States**: 13 seats
  - **Asia-Pacific States**: 13 seats
  - **Latin American and Caribbean States**: 8 seats
  - **Western European and other States**: 7 seats
  - **Eastern European States**: 6 seats
- Members of the Council **serve for a period of three years** and are **not eligible for immediate re-election after serving two consecutive terms**.

#### Procedures and Mechanisms:

- **Universal Periodic Review**: UPR serves to **assess the human rights situations in all United Nations Member States**.
- **Advisory Committee**: It **serves as the Council's "think tank"** providing it with expertise and advice on thematic human rights issues.
- **Complaint Procedure**: It **allows individuals and organizations to bring human rights violations to the attention of the Council**.
- **UN Special Procedures**: These are **made up of special rapporteurs**, special representatives, independent experts and working groups that monitor, examine, advise and **publicly report on thematic issues or human rights situations in specific countries**.

#### India and UNHCR

- In 2020, India's **National Human Rights Commission** submitted its mid-term report to the Council as a part of the third round of the **Universal Periodic Review (UPR) process**.
- India **was elected to the Council** for a period of three years beginning 1<sup>st</sup> January 2019.

#### 15. US urges India to join coalition seeking price cap on Russia oil

##### Context:

- US deputy treasury secretary Wally Adeyemo on Friday said Washington **wants India to join the coalition that is seeking to impose a price cap on Russian oil**. The restriction is aimed at squeezing revenue streams for Moscow and softening the global energy prices.
- To rein in Russia's revenue from sale of oil being used to fund **its over six-month-old aggression into Ukraine**, a group of seven (G7) richest economies, including the US, aims to have a price-capping mechanism on Russian oil exports in place by December, when European Union sanctions banning seaborne imports of Russian crude come into force

#### Group of Seven (G7)

1. It is an **intergovernmental organisation** that was **formed in 1975**.
2. The bloc meets annually to discuss issues of common interest like **global economic governance, international security and energy policy**.
3. The G7 countries are the **UK, Canada, France, Germany, Italy, Japan and the US**.
4. **All the G7 countries and India are a part of G20**.
5. **The G7 does not have a formal charter or a secretariat**. The presidency, which rotates among member countries each year, is in charge of setting the agenda. **Sherpas, ministers and envoys hammer out policy initiatives before the summit**.
6. As of 2022, **G7 countries make up 10% of the world's population, 31% of global GDP, and 21% of global carbon dioxide emissions**, according to the **Summit website**.

**China and India, the two most populous countries with among the largest GDP figures in the world, are not part of the grouping.**

**Oil Reserves by Country**

Venezuela> Saudi Arabia> Canada> Iran> Iran> Kuwait>United Arab Emirates>Russia>Libya>Nigeria

**Oil Production by Country**

United States>Saudi Arabia>Russia>China>Canada>Iraq>Iran>United Arab>Brazil> Kuwait

**16. Mikhail Gorbachev's tragedy – a flawed reformer on an impossible mission**

- Gorbachev, who died on Tuesday, had set out to revitalize the moribund Communist system and **shape a new union based on a more equal partnership between the 15 republics**, of which the two most powerful **were Russia and Ukraine**. Yet in the space of six years, both Communism and the Union came crashing down.
- He attempted **political and economic reforms simultaneously** and on too ambitious a scale, unleashing forces he could not control. It was **a lesson not lost on China's leaders, who embraced the market economy but served notice with the 1989 killings of protesters on Tiananmen Square that they would act ruthlessly to defend the Communist Party's grip on power.**

**He introduced two reforms** Perestroika and Glasnost

**Perestroika**

Perestroika, which in English translates to “restructuring,” was Gorbachev’s program to restructure the Soviet economy in an attempt to revitalize it.

To restructure, Gorbachev decentralized the controls over the economy, effectively lessening the government’s role in the decision-making processes of individual enterprises. Perestroika also hoped to improve production levels by bettering the lives of workers, including giving them more recreation time and safer working conditions.

**Glasnost**

Glasnost has several general and specific meanings – a policy of maximum openness in the activities of state institutions and freedom of information, the inadmissibility of hushing up problems, and so on. It has been used in Russian to mean “openness and transparency” since at least the end of the 18th century.

**Baltic republics**

- Baltic states, the northeaster region of Europe, includes the countries **of Estonia, Latvia, and Lithuania, on the eastern shores of the Baltic Sea.**
- In 1991, their then **popularly elected governments declared independence from the Union of Soviet Socialist Republics (USSR) with overwhelming support.**

## **ECONOMY**

### 1. India's unique jobs crisis

- India has “too many people” in agriculture and the inability to move surplus labour from farms constitutes a major policy failure of successive governments.
- Overall, between 1993-94 and 2018-19, agriculture's share in India's workforce came **down from 61.9% to 41.4% based on data from the National Statistical Office's Periodic Labour Force (previously known as 'employment and unemployment') Surveys**

#### **Kuznets Curve**

- Kuznets Curve is used to **demonstrate the hypothesis that economic growth initially leads to greater inequality, followed later by the reduction of inequality. The idea was first proposed by American economist Simon Kuznets.**

#### **Kuznets Process**

- It is the movement of labour from farms – to higher value-added non-farm activities, specifically manufacturing and modern services

#### **What is the Periodic Labour Force Survey?**

- Considering the importance of the availability of labour force data at more frequent time intervals, **the National Statistical Office (NSO) launched the Periodic Labour Force Survey (PLFS) in April 2017.**

#### **The objective of PLFS is primarily twofold:**

- To estimate the **key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate)** in the short time interval of three months for the urban areas only in the CWS.
- To **estimate employment and unemployment indicators in both usual Status and CWS in both rural and urban areas annually.**

#### **National Statistical Office (NSO)**

- The National Sample Survey Office (NSSO) merged with the Central Statistical Office (CSO) to form the National Statistical Office (NSO).
- NSO was **first envisaged by Rangarajan Commission** to implement and maintain statistical standards and coordinate statistical activities of Central and State agencies as laid down by the National Statistical Commission (NSC).
- NSO would **be headed by Secretary (Statistics and Programme Implementation).**
- CSO coordinates the statistical activities in the country and also evolves statistical standards.
- NSSO is responsible for the **conduct of large scale sample surveys in diverse fields on an all India basis.**
- It is the **statistical wing of the Ministry of Statistics and Programme Implementation (MoSPI).**

#### **NSO is mandated with the following responsibilities-**

- Acts as the **nodal agency for planned development of the statistical system** in the country,
- **Lays down and maintains norms and standards in the field of statistics, involving concepts and definitions, methodology of data collection, processing of data and dissemination of results.**
- **Prepares national accounts as well as publishes annual estimates of national product, government and private consumption expenditure, capital formation, savings, estimates of capital stock and consumption of fixed capital.**
- **Maintains liaison with international statistical organizations, such as the United Nations Statistical Division (UNSD), the Economic and Social Commission for Asia and the Pacific (ESCAP), the Statistical Institute for Asia and the Pacific (SIAP), etc.**
- Compiles and releases **the Index of Industrial Production (IIP) every month** in the form of 'quick estimates' and conducts the **Annual Survey of Industries (ASI)**
- Organizes and conducts **periodic all-India Economic Censuses** and follow-up enterprise surveys.

- It has conducted the **first Time Use Survey (TUS)** in India during January to December 2019.

## 2. No question of recession or stagflation in India, says FM Sitharaman

### Context

According to Finance Minister, **India** is nowhere near a recession or stagflation and the government is making all efforts to bring down retail inflation below 7 per cent. While many major economies have triple-digit debt-to-GDP ratios, the central government's debt-to-GDP ratio declined to 56.29 per cent of GDP in FY22 from the revised estimate of **59.9 per cent** for the same year. According to the IMF, India's general government (centre+states) debt stood at 86.9 per cent of GDP in FY22. Comparing the economic situation during the 2013 taper tantrum when India was considered one of the **fragile five economies**, FM said the NDA government has kept inflation under control

### Key concepts:

### CPI, WPI and WPI Vs CPI covered in DPN June

### Stagflation

- It is a seemingly **contradictory condition** described by slow economic growth and relatively high unemployment, or economic stagnation, which is at the same time accompanied by rising prices (i.e. inflation).
- Stagflation can also be alternatively defined as a **period of inflation combined with a decline in gross domestic product (GDP)**.

### Recession

- Recession is a **slowdown or a massive contraction in economic activities**. A significant fall in spending generally leads to a recession.
- Such a slowdown in economic activities **may last for some quarters thereby completely hampering the growth of an economy**.
- In such a situation, **economic indicators such as GDP, corporate profits, employments, etc., fall**.
- This creates a mess in the entire economy. To tackle the menace, economies **generally react by loosening their monetary policies by infusing more money into the system**, i.e., by increasing the money supply.
- The debt-to-GDP ratio indicates how likely the country can pay off its debt. Investors often look at the debt-to-GDP metric to assess the government's ability of finance its debt. Higher debt-to-GDP ratios have fuelled economic crises worldwide.

### Fragile Five:

In August 2013, a financial analyst at Morgan Stanley coined the term "Fragile Five" to represent **emerging market economies that have become too dependent on unreliable foreign investment to finance their growth ambitions**. The five members of the Fragile Five include Turkey, Brazil, India, South Africa and Indonesia.

## 3. Reserve Bank of India's financial inclusion index

### Context

The **Reserve Bank of India's (RBI's)** composite financial inclusion index (FI-Index) that captures the extent of financial inclusion across the country, rose to 56.4 in March 2022, up from 53.9 in March 2021, reflecting growth across all sectors.

### Concept:

- The annual FI Index will be **published in July every year**, the RBI said in a release.
- The index incorporates details of banking, investments, insurance, postal as well as the pension sector in consultation with the government and respective sectoral regulators.
- The index captures information on various aspects of financial inclusion in a single value ranging between 0 and 100, **where 0 represents complete financial exclusion and 100 indicates full financial inclusion**.
- The FI Index comprises three broad parameters (weights indicated in brackets)
  - **Access (35 percent)**,
  - **Usage (45 percent)**, and



- **Quality (20 per cent)** with each of these consisting of various dimensions, which are computed based on a number of indicators.
- It has been constructed **without any 'base year'**.
- A unique feature of the index is the **Quality parameter** that captures the quality aspect of financial inclusion as reflected by financial literacy, consumer protection, and inequalities and deficiencies in services
- The FI-Index is responsive to ease of access, availability and usage of services, and quality of services, comprising in all 97 indicators. A unique feature of the FI-Index is the quality parameter, which captures the quality aspect of financial inclusion as reflected by financial literacy, consumer protection, and inequalities and deficiencies in services.
- The RBI had conceptualised the FI-Index as a comprehensive index incorporating details of banking, investments, insurance, postal as well as the pension sector in consultation with the government and respective sectoral regulators. The FI-Index is published annually in June every year.

#### 4. Income tax—rising number & trend

##### Context:

The Income Tax Department has cut the time limit for verification of return to 30 days from 120 days earlier.

##### Details:

At present, there are **two options for verification** –

- e-Verify returns online, or
- sending a physical copy of duly signed ITR-V to Centralized Processing Centre, Income Tax Department, Bangalore.

##### Income Tax Return (ITR):

- Income Tax Return (ITR) is a form which a person is supposed to submit to the Income Tax Department of India.
- It contains **information about the person's income and the taxes to be paid on it during the year.**
- Information filed in ITR should pertain to a particular financial year, i.e. starting on 1st April and ending on 31st March of the next year.
- The Income Tax Department has prescribed **7 types of ITR forms – ITR-1, ITR-2, ITR-3, ITR-4, ITR-5, ITR-6, ITR-7** and the **applicability of the form** will depend on the nature and amount of income and the type of taxpayer.

##### Income Tax:

- Income tax is perhaps the most well-known direct tax imposed by the government on annual income generated by businesses and individuals.
- Income tax is calculated as per the **provisions of Income Tax Act, 1961** and is **directly paid to the central government on an annual basis.**
- **Income** does not only mean money earned in the form of salary. It also includes income from house property, profits from business, gains from profession (such as bonus), capital gains income, and 'income from other sources.
- Income tax is levied on the **income of individuals, Hindu undivided families (HUF), unregistered firms and other associations of people.**
  - **Hindu Undivided Family (HUF)** consists of all persons directly descended from a common ancestor, and also the wives and daughters of the male descendants.
  - One can save on taxes by creating a family unit and pooling in assets to form an HUF.
  - An HUF is taxed separately from its members, therefore, deductions (such as under Section 80) or exemptions allowed under tax laws can be claimed by it separately.
  - An HUF is taxed on the same rate as applicable to an individual income tax assesses.
- In India, the nature of income tax is **progressive.**
- The benchmark we use refers to the Top Marginal Tax Rate for individuals, including health and education cess on tax and surcharge.

**Trends:**

- Against the **Union Budget estimates of Rs 22.17 lakh crore**, the revenue collections as per the **pre-actual figures is Rs 27.07 lakh crore**, almost Rs 5 lakh crore above the budget estimates.
- 2021-22 marks the **highest tax-GDP ratio of 11.7%** (which is much lower than the emerging market economy average of 21 percent and OECD average of 34 percent).
  - **direct tax to GDP ratio** at 6.1%
  - **indirect tax to GDP ratio** at 5.6%.
- The **tax buoyancy** (which is a measure of growth in tax revenues as compared to GDP growth) is 1.9, with
  - **2.8 for direct taxes** and
  - **1.1 for indirect taxes.**
- **The ratio of direct to indirect taxes** recovered from 0.9 in 2020-21 back to 1.1 in 2021-22.
- During 2021-22, **70.14 million returns were filed as compared to 60.97 million last year.**
  - **In 2022-23 58.3 million income tax returns (ITRs)** were filed by **July 31**. This latest figure is nearly the **same as that of the previous financial year (2020-21)**.
  - However, on July 31, 7.24 million ITRs had been filed, **highest ever single-day records** (the maximum being 4.9 million in 2019).
  - India has **one taxpayer for every 16 voters.**
  - **Only 1% of India's population** pays income tax.

**Other types of direct taxes in India:**

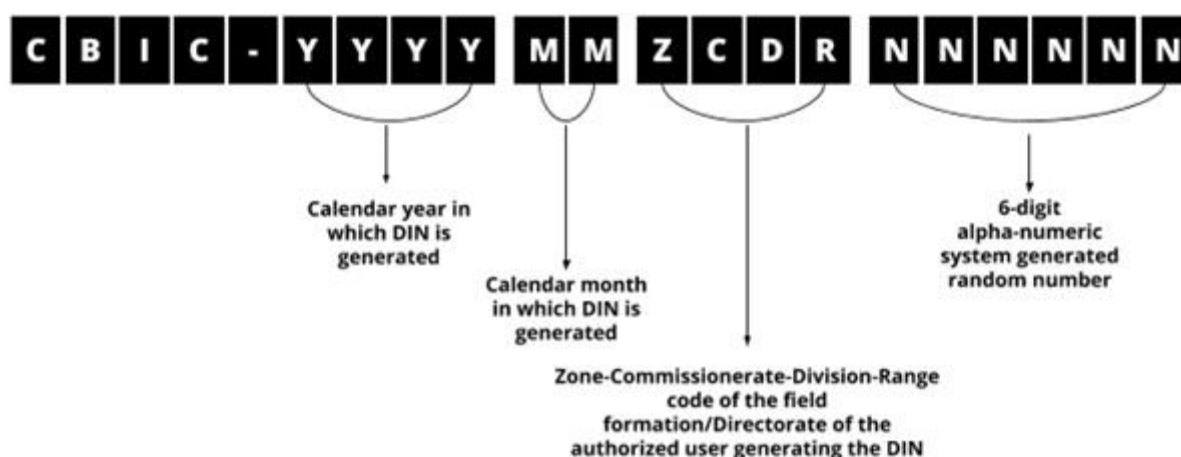
- **Corporate Tax**-At present, companies having gross turnover up to Rs.250 crore are liable to pay corporate tax at 25% of the net profit while companies with a gross turnover of more than Rs.250 crore are liable to pay the corporate tax at 30%.
- **Minimum Alternative Tax (MAT)**-MAT is imposed on “zero tax companies”, which typically refer to companies that declare little or no income in order to save tax.
- **Fringe Benefits Tax (FBT)**-The FBT tax is imposed on the fringe benefits like drivers and maids provided/paid for by companies to their employees.
- **Dividend Distribution Tax (DDT)**-An amount that is declared, distributed or paid as dividend to the shareholders by a domestic company is taxed under the Dividend Distribution Tax. It is applicable to domestic companies only. Foreign companies distributing dividends in India do not pay this tax (such dividends are taxable in the hands of the shareholder).
- **Securities Transaction Tax (STT)**: The SST is imposed on the income which the companies get through taxable securities transactions. This tax is free of any surcharge.
- **Capital Gains Tax**-The capital gains tax is imposed on the income derived from the sale of investments or assets. On the basis of the holding period, capital tax is categorized under **short-term gains and long-term gains.**

**5. System of electronic generation of a Document Identification Number (DIN)****Context**

The Supreme Court has directed the Union of India/GST Council to issue an advisory to States regarding implementation of the system of electronic (digital) generation of a Document Identification Number (DIN) in indirect tax administration.

**Document Identification Number (DIN):**

- **A Document Identification Number (DIN)** is a unique 20-digit identification code attached to every communication issued by the Government offices to taxpayers.
  - With this number, the taxpayer can **ascertain the genuineness of the communication received from the government, digitally.**
- **Issued by** The Central Board of Indirect Taxes and Customs.
- **Purpose-** for all GST related communications (including emails) to be sent by the government offices to taxpayers and other concerned parties.
- **Structure:**



- **Importance**– It will help in creating a digital directory for maintaining a proper audit trail of genuine Government communications.
  - **Taxpayers can verify if the communication received from officials is valid or not.**
- **The documents that need to have a document identity number mandatorily are:**
  - Search authorisation letters,
  - Summons,
  - Arrest memos,
  - Inspection notices and
  - Letters issued during an enquiry.
- **Exceptions:**
  - When there are technical difficulties in generating the electronic DIN or
  - When communication for investigation/enquiry/GST DIN Verification, etc., is to be issued on a short notice or in urgency and the authorised officer is unavailable at his regular place of duty (office).
- Taxpayers are requested to take note that any documents issued by Government offices without a DIN (other than those issued in the circumstances mentioned under exceptions) **will be treated as invalid.**

## 6. RBI Monetary Policy Highlights

### Context:

The central bank raised the repo rate to above pre-pandemic level and the Monetary Policy Committee is focused on withdrawal of accommodation.

### Highlights:

- The RBI Governor said that India has witnessed–financial stability, macroeconomic stability and resilience of growth despite two Black Swan events i.e. the coronavirus pandemic and the Russia-Ukraine war.
  - **Black Swan event** refers to an unpredictable event that has negative consequences.
- The key lending rate–**the repo rate, has been raised by 50 basis points (bps).**
  - **A 1% change equals a change of 100 basis points.**
  - **The repo rate** now stands at 5.4 per cent.
  - The RBI's hawkish stance will also stabilize the rupee from depreciating further.
- **Inflation projection** for the current financial year remains unchanged at 6.7 percent.
  - It denotes that the retail inflation would remain **above the upper tolerance level of 6 per cent through the first three quarters of 2022-23.**
- RBI has **expanded the scope of the Internal Ombudsman framework** by mandating Credit Information Companies (CICs) to have their own Internal Ombudsman (IO) framework.

### Concept:

### The Reserve Bank – Integrated Ombudsman Scheme, 2021

- **It integrates the existing three Ombudsman schemes of RBI namely:**
  - the Banking Ombudsman Scheme, 2006;
  - the Ombudsman Scheme for Non-Banking Financial Companies, 2018;
  - the Ombudsman Scheme for Digital Transactions, 2019.
- It **also includes** under its ambit Non-Scheduled Primary Co-operative Banks with a deposit size of ₹50 crore and above.
- The Scheme adopts the **‘One Nation One Ombudsman’ approach** by making the **RBI Ombudsman mechanism jurisdiction neutral**.
- It is **framed by the Reserve Bank** under Section 35A of the Banking Regulation Act, 1949, Section 45L of the Reserve Bank of India Act, 1934 and Section 18 of the Payment and Settlement Systems Act, 2007
- It will provide **cost-free redress of customer complaints involving deficiency in services rendered by entities regulated by RBI**, if not resolved to the satisfaction of the customers or not replied within a period of 30 days by the regulated entity.
  - It will **no longer be necessary for a complainant to identify under which scheme he/she should file a complaint with the Ombudsman**.
  - The Scheme has **done away with the jurisdiction of each ombudsman office**.
  - **A Centralised Receipt and Processing Centre** has been set up at RBI, Chandigarh for receipt and initial processing of physical and email complaints in any language.
  - The **Regulated Entity will not have the right to appeal** in cases where an Award is issued by the ombudsman against it for not furnishing satisfactory and timely information/documents.

### OBICUS

- **The RBI** has been conducting the **OBICUS of the manufacturing sector on a quarterly basis since 2008**.
- **It stands for** – Order Books, Inventories and Capacity Utilization Survey (OBICUS).
- The survey provides an **insight into the demands of the Indian manufacturing sector**.
- The survey **covers 2,500 companies both in the public and private sector**.
- The survey represents the **movements in actual data on order books, inventory levels of raw materials and finished goods and capacity utilization**.
  - Inventory is the amount of goods held by a company.
  - Capacity utilization refers to the manufacturing and production capabilities that are being utilized by a nation or enterprise.
- The survey also gives out the **ratio of total inventories to sales and ratio of raw material (RM) and finished goods (FG) inventories to sales in percentages**.
- It considered as important indicator to measure economic activity, inflationary pressures and the overall business cycle.
- The survey provides valuable input for monetary policy formulation.
- The Reserve Bank of India has launched the **58th round of its Order Books, Inventories and Capacity Utilisation Survey (OBICUS)**. The survey is for the reference period **April – June 2022 (Q1:2022-23)**.

## 7. IMF-External Sector Report

### Context:

The International Monetary Fund (IMF) suggested India withdraw fiscal and monetary policy stimulus gradually in its External Sector Report.

### Details:

### Concept:

### Fiscal and Monetary Policy Stimulus:

- **In general, stimulus measures** are aimed at boosting demand either by government spending on its own account or increasing disposable incomes of households through cash transfers or tax concessions.
- It revives business confidence, restarts stalled projects, helps in job creation and sets off a **virtuous cycle of demand and growth**.
- **Both the Monetary and Fiscal stimulus packages** are rolled out **during a recession or when the production and employment levels are well below sustainable levels**.
  - **Fiscal stimulus refers** to increasing government consumption or lowering of taxes.
    - **Example-** during the COVID-19 pandemic, the central government announced a fiscal stimulus package of Rs. 20 Lakh crore.
  - **Monetary stimulus refers** to lowering interest rates or other ways of increasing the amount of money or credit.

Fiscal stimulus	Monetary stimulus
Fiscal stimulus is a government-controlled measure that involves <b>changing government spending and taxation</b> to revive the economy	The monetary stimulus is controlled by central banks to stabilise the economic growth by changing the amount of <b>money available and cost of borrowing i.e. the interest rate</b>
The government used fiscal stimulus packages to influence overall supply and demand by <b>cutting down on taxes, increasing spending and boosting economic growth</b>	A monetary stimulus is a policy model adopted by central banks to manage the supply of money in the country. <b>The primary tool of a monetary stimulus is reducing the interest rates</b>
Fiscal stimulus is carried out by the government through direct spending and increase the hiring process to promote employment and growth	Monetary stimulus works in the following ways <ul style="list-style-type: none"> <li>• Encouraging investments by businesses through the <b>reduction in marketing interest rates</b>.</li> <li>• <b>Increasing the money supply</b> by injecting more cash into the economy</li> </ul>
Fiscal stimulus packages are the last resort to <b>increase demand and economic activity during recession</b> .	A monetary stimulus puts <b>extra money into people's hands during times of recession</b>

#### Why does it need to be withdrawn?

- As per the **Tobin Funnel model**, a nation-state has control over two taps; one for **net government spending and another for money supply**.
- The water rushes through a common funnel into a tank below. The moment the tank below the funnel gets full, **it overflows in the form of inflation**.
- The extra government borrowing **creates huge public debt**.
  - For example, in the case of India, the bond market believes that the Centre's borrowing program in the next fiscal year is too high. Along with this, there is inflation and RBI is the inflation manager of the economy as well as debt manager.
- It puts RBI into the dilemma whether it **should raise interest rates to tackle inflation or keep them low to support the government budget**.
- So, given the rising inflation and limits to financing the debts the **stimulus should be withdrawn gradually**.

#### The External Sector Report

It analyses global external developments and provides multilaterally consistent assessments of external positions of the world's largest economies, representing over 90 percent of global GDP.

**The report includes:**



- an overview chapter that emphasizes multilateral issues;
- an analytical chapter that covers topics relevant to the analysis of external sector dynamics and adjustment mechanisms; and
- a final chapter that provides details of the external assessment of each of the 30 economies considered.

The External Sector Report, produced annually since 2012, is a **key part of the IMF's surveillance**.

## 8. Tax to GDP ratio

### Context

India's tax to GDP ratio is higher than proclaimed and it is time to change the quality of expenditure.

### Details

- **Taxes, fiscal deficit, and debt are interrelated —**
  - lower tax revenue means higher fiscal deficit, for the same level of expenditures, and higher deficit means higher debt.
  - Thus, all the three have an effect on growth and/or inflation.
- **Tax to GDP ratio for India**
  - It is around 10-11 percent of GDP and it has stayed at close to that level for the last 20 years
  - In comparison with its peers, India's Tax to GDP ratio is much lower (Central tax to GDP ratio).
  - However according to the **World Revenue Longitudinal Data for- 1990-2019:**

G20 Countries	Tax to GDP ratio (at all level of government)
India	16.7
China	15.9
Mexico	14.1
Indonesia	11
Saudi Arabia	5.9

- Further, **tax-GDP ratio adjusted for PPP per capita income—**
  - **Tax gap —** the difference between actual and actual adjusted for level of income.

### Gross Tax Collection/GDP ratio 2011-2019 : India is Higher than "Normal"

Region	Means 2011-2019 weighted by share in world				
	per capita GDP\$	Tax/GDP	Predicted Tax/GDP	TaxGap	Fiscal Deficit/GDP
	in 000	%	%	%	%
	1	2	3	4	5
Advanced Economies	49.2	22.5	23.5	-1.0	-4.0
East Asia	10.7	16.6	19.3	-2.4	-1.9
Russia and East Europe	11.5	21.5	20.6	0.9	-2.3
Latin America	10.4	18.2	19.5	-1.3	-3.9
Middle East and N Africa	10.0	17.3	20.0	-2.6	-5.1
South Asia	1.7	15.5	15.6	0.0	-6.7
Sub-Saharan Africa	3.4	16.9	15.2	1.6	-3.9
Above (104 countries)	26.7	19.5	20.8	-1.3	-3.6
<b>India</b>	<b>2.070</b>	<b>16.9</b>	<b>15.6</b>	<b>1.2</b>	<b>-7.2</b>

Source: IMF World Revenue database, <https://data.imf.org/?sk=77413f1d-1525-450a-a23a-47aedd40fe78>  
 Resource Rich economies, population < 3 million not in sample  
 Predicted tax/GDP based on a regression of tax/GDP ratio on log per capita GDP PPP

- **World average tax gap** is -1.3 percent
- **India has a tax gap +1.2 per cent for the nine years 2011-2019.** So, India's tax GDP ratio averages 2.5 percentage points more than an average economy.
- However, there is **little evidence that a higher tax/GDP ratio helps growth.**
  - According to **one theory-higher taxation would lower the fiscal deficit and increase growth.**

- **Triple whammy**-if tax rates were lowered, revenues would decline, the fiscal deficit & inequality would increase.
  - However, according to **another theory (Laffer curve)** -higher corporate tax rates stifle investment, increase tax non-compliance, and lower growth.
- **India's Experience:**
  - In September **2019 the corporate tax rate was lowered** by around 10 percentage points.
  - For the three months April-June 2022, corporate tax revenues, y-o-y, increased by 30 per cent.
  - Using 2019-20 as a base, **corporate tax revenue has increased by 66 per cent, GDP by 33 per cent** — an average tax buoyancy of 2.0 over three years.
  - Tentatively, the tax-GDP ratio in the fiscal year 2022-23 will average over 18 per cent in India, a level close to Japan and the US.
- The Indian economy should thus shift away from simplistic notions of the tax-GDP ratio being low to expenditures and quality of expenditures.

#### **Laffer Curve:**

- It was introduced by economist **Arthur Laffer in 1979**.
- Laffer Curve is based on the principle that **lowering tax rates boost economic growth** as it causes increased spending by putting money into the hands of taxpayers.
- **The Laffer curve showcases the relationship between rates of taxation and the resulting levels of government revenue.**
  - The underlying principle of the Laffer curve is that tax revenue is increased as the government increases tax rates. However, at very high rates of taxation, practices of tax evasion start, there is low motivation to work, hence if the tax rates are lowered it can boost the revenue.

#### **Tax-to-GDP Ratio**

- **It is a gauge of a nation's tax revenue relative to the size of its economy as measured by gross domestic product (GDP).**
- **Tax-to-GDP ratio is calculated** by dividing the tax revenue of a specific time period by the GDP.
- The ratio provides a useful look at a country's tax revenue because **it reveals potential taxation relative to the economy.**
- It also enables a view of the overall direction of a nation's tax policy, as well as international comparisons between the tax revenues of different countries.
- **Developed nations typically have higher tax-to-GDP ratios than developing nations.**
- A tax-to-GDP ratio of 15% or higher ensures economic growth and, thus, poverty reduction in the long-term, **according to the World Bank.**

### **9. Food Inflation**

#### **Context**

Food inflation may ease faster than expected.

#### **Details:**

- **The UN Food and Agriculture Organization's Food Price Index (FPI)** averaged 140.9 points in July, 8.6% down from its previous month's level and marking the **steepest monthly drop since October 2008**.
- Between March and July, the FPI has cumulatively declined by 11.8%.
  - This has been led by vegetable oils and cereals, whose average prices have fallen even more.

#### **Factors determining food prices:**

There were four major supply-side shock drivers of the great global food inflation especially since October 2020:

- **Weather—**
  - Droughts in Ukraine (2020-21) and South America (2021-22) impacted sunflower and soybean supplies.
  - March-April 2022 heat wave that devastated India's wheat crop.
- **Pandemic**

- **Example-** Malaysia's oil palm plantations hampered as done by **migrant labourers from Indonesia and Bangladesh.**
- **Russia-Ukraine war**
  - It led to supply disruptions from the two countries.
  - In 2019-20 (a non-war, non-drought year), these two accounted for **28.5% of the world's wheat, 18.8% of corn, 34.4% of barley and 78.1% of sunflower oil exports.**
- **Export controls**
  - Shortage concerns at home triggers such actions
  - Example-palm oil by Indonesia, wheat by India during March-May 2022.

#### **Causes of declining food prices:**

- **Global factors:**
  - **Resumption of exports** from Ukraine via the Black Sea.
  - The UN-backed agreement for **unblocking of the Black Sea trade route** also provides for unimpeded shipments of Russian food and fertilisers.
  - **Indonesia has lifted its ban** on palm oil exports.
  - The US, Brazil, Argentina and Paraguay are set to **harvest bumper soybean crops.**
- **Domestic factor:**
  - **Above average rainfall** across the South Peninsula, Central and Northwest India has boosted acreages under most crops this kharif (monsoon) season.
    - The benefits of groundwater recharge would **also flow to the rabi crop.**
  - **Higher buffer stock** with the government.
  - **International exportable surpluses**, primarily from Canada and Australia, are also higher than last year's by about 0.5 mt each for both pulses.
  - **Policy of duty-free imports** of arhar, **urad** and masur till March 31.

A good monsoon would also mean more fodder and water for animals, further **reducing livestock input costs and inflationary pressures on milk, egg and meat.**

#### **10. What RBI's surveys tell about India's economy?**

##### **Context:**

The RBI unveiled its latest monetary policy review as well as seven surveys that help it ascertain how the economy is doing.

##### **Details:**

- **Trade Survey:**
  - **Widening trade deficit-**
- **Impact of rising trade deficit:**
  - It is one of the main reasons for the **depreciation of the Indian rupee.**
  - India's **Current Account Deficit (CAD)** is expected to rise from 1.2% of GDP in 2021-22 to around **4% (of the GDP) in 2022-23.**
- **Consumer Confidence Survey (CCS):**
  - The CCS asks people across 19 cities about their current perceptions and one-year ahead expectations on the general economic situation, employment scenario, overall price situation and own income and spending.
  - Based on the responses, the RBI comes up with two indices: **the Current Situation Index (CSI) and the Future Expectations Index (FEI).**
  - An index below the 100 mark implies people are pessimistic and a value higher than 100 conveys optimism.
    - **The CSI** has been **recovering** since falling to a historic low in July 2021. However, consumer confidence still remains in the negative territory.
    - **The FEI** is in the **positive territory** but stays below the pre-pandemic levels.
- **Inflation Expectations Survey (IES)**
  - It tracks people's expectations of inflation.

- It shows that the **households' inflation perception for the current period has moderated** along with their three months and one-year ahead median inflation expectations.
- **Order Books, Inventories and Capacity Utilisation Survey –OBICUS Survey**
  - It attempts to provide demand conditions in India's manufacturing sector on a quarterly basis.
  - A low level of Capacity Utilisation implies that manufacturing firms can meet the existing demand without needing to boost production. This in turn would have negative implications for job creation and private sector investments in the economy.
    - According to the latest report the CU is **above the pre-pandemic level** — suggesting India's aggregate demand is recovering steadily.
- **Industrial Outlook Survey (IOS)**
  - It is a qualitative assessment of the business climate by Indian manufacturing companies.
    - It shows that the **businesses were optimistic (above the 100 level) in Q1, although not as much as they were in the recent past.**
- **Services and Infrastructure Outlook Survey (SIOS)**
  - It is a qualitative assessment of how Indian companies in the services and infrastructure sectors view the current situation and the future prospects.
    - It shows that the companies in **the services space are far more optimistic than the companies in the infrastructure sector.**
- **Bank Lending Survey (BLS)**
  - It is a qualitative assessment and expectations — of major scheduled commercial banks (SCBs) on credit parameters like-loan demand and terms & conditions of loans for major economic sectors.
    - It shows that the **bankers' assessment of loan demand remained positive for all major sectors.**
- **Survey of Professional Forecasters (SPF)**
  - It is a survey of 42 professional forecasters (outside the RBI) on key macroeconomic indicators such as GDP growth rate and inflation rate in the current year and the next financial year.
    - **India's real GDP is expected to grow by 7.1 per cent in 2022-23 and 6.3 per cent in 2023-24.**

## 11. Fin Min invites applications for post of PFRDA chairperson

### Context

The government has started the search for a successor to the chairman of the Pension Fund Regulatory and Development Authority Supratim Bandyopadhyay whose term ends in January 2023.

The PFRDA chairperson holds office for five years or till the age of 65. The chairperson is entitled to a consolidated salary of ₹4.50 lakh per month without the facility of a house and car, the finance ministry said while inviting an application for the post.

### Concept

Pension Fund Regulatory and Development Authority (PFRDA) is the **statutory authority** established by an enactment of the Parliament, to regulate, promote and ensure orderly growth of the **National Pension System (NPS)** and pension schemes to which this Act applies. NPS was initially notified for central government employees joining services wef 1<sup>st</sup> Jan 2004 and subsequently adopted by almost all State Governments for its employees. NPS was extended to all Indian citizens (resident/non-resident/overseas) on a voluntary basis and to corporates for its employees.

## 12. Capex push to states

### Context

The Centre has released an advance instalment in addition to the regular monthly instalment of tax devolution to states totalling Rs 1.16 lakh crore

#### Why?

- To increase capital and developmental expenditure.
- To ease fiscal pressure of states after the end of the compensation mechanism under the Goods and Services Tax (GST) regime

#### Concept:

#### How do States get revenue from the Centre?

- **Article 280** of the Constitution mandates that each **Finance Commission** make **recommendations** about:
  - the distribution of net proceeds of taxes between the Union and states (called **vertical devolution**) and
  - the distribution of net proceeds of taxes also among states (called **horizontal devolution**).

#### Vertical Devolution:

- As per the **15th Finance Commission Recommendations**, 41% of the divisible pool should be devolved to the States.
- While distributing the 41 per cent among states, **the formula recommended the Finance Commission** should be used – which takes into weight different parameters like
  - Income Distance
  - Population of 2011
  - Area
  - Forest & Ecology
  - Demographic Performance
  - Tax Effort
- **Without being included in the Union Budget**, the Centre transfers states' share of taxes from the Gross Tax Revenue. This forms a significant part of the devolution.
- At present, **41 per cent of tax collected is devolved in 14 instalments during a financial year.**

#### Horizontal Devolution:

For horizontal devolution, **the 15th Finance Commission has suggested:**

- 12.5% weightage to demographic performance,
- 45% to income,
- 15% each to population and area,
- 10% to forest and ecology and
- 2.5% to tax and fiscal efforts

#### States' source of revenue from Centre:

- **Devolution (States' share of taxes):** As states share taxes from the Gross Tax Revenue. (This is extra-budgetary)
- **Scheme Related Transfer:** As Centrally Sponsored Schemes from the Scheme Expenditure. (Based on Budget Allocations).
- **Finance Commission Grants:** As Transfer to States from the Transfers, Expenditure, and Other Expenses. (Based on Budget Allocations)
- **Other Transfers:** Other grants or loans. (Based on Budget Allocations).

#### Capital Expenditure

- Capital expenditure is the **money spent by the government on the development** of machinery, equipment, building, health facilities, education, etc.
- It also includes the **expenditure incurred on acquiring fixed assets** like land and investment by the government that gives profits or dividends in future.
- Along with the creation of assets, **repayment of loan** is also capital expenditure, as it reduces liability.
- Capital spending is associated with **investment or development spending, where expenditure has benefits extending years into the future.**

#### Different from Revenue Expenditure:



- Unlike capital expenditure, which creates assets for the future, **revenue expenditure is one that neither creates assets nor reduces any liability of the government.**
- Salaries of employees, interest payment on past debt, subsidies, pension, etc, fall under the category of revenue expenditure. It is **recurring in nature.**

### 13. Digital lending

#### Context

Reserve Bank of India (RBI) has issued guidelines for entities engaged in digital lending.

#### Details

- The guidelines apply to the RBI's **regulated entities (REs) and the LSPs engaged by them** to extend credit facilitation services.
  - For the second category digital lenders, the respective regulator may formulate rules on digital lending, based on the recommendations of the working group.
  - For entities in the third category, the working group has suggested specific legislative and institutional interventions for consideration by the government to curb illegitimate lending.
- All digital loans must be disbursed and repaid **through bank accounts of regulated entities only**, without pass-through of lending service providers (LSPs) or other third parties.
- Any fees payable to LSPs in the credit intermediation process shall be **paid directly by the RE and not by the borrower.**
- A standardised **key fact statement (KFS)** must be provided to the borrower before executing the loan contract including all-inclusive cost of digital loans in the form of annual percentage rate (APR).
- **Automatic increases in credit limit** without the explicit consent of borrowers has been **prohibited.**
- The loan contract must provide for a cooling-off or look-up period for **loan exit without any penalty.**
- All digital lending products involving short term credit or deferred payments must also be **reported to credit bureaus by the REs.**

#### Concept:

#### Digital Lending:

- It consists of lending through web platforms or mobile apps, by taking advantage of technology for authentication and credit assessment.
- Banks have launched their own independent digital lending platforms to tap in the digital lending market by leveraging existing capabilities in traditional lending.

#### Digital lenders are classified into three categories:

- entities regulated by the RBI and permitted to carry out lending business,
- entities authorised to carry out lending as per other statutory or regulatory provisions but not regulated by the RBI, and
- entities lending outside the purview of any statutory or regulatory provisions.

#### Steps Taken by RBI:

- **Non-Banking Financial Companies (NBFCs) and banks** need to state the names of online platforms they are working with.
- RBI has also mandated that **digital lending platforms** which are used on behalf of Banks and NBFCs should disclose the **name of the Bank(s) or NBFC(s) upfront to the customers.**
- The central bank had also asked lending apps to issue a **sanction letter to the borrower on the letter head of the bank/ NBFC concerned before the execution of the loan agreement.**
- Legitimate public lending activities can be undertaken by banks, NBFCs registered with the RBI and other entities who are regulated by state governments under statutory provisions.

- **The RBI constituted a WG on digital lending** including lending through online platforms and mobile apps in January, 2021.
  - The panel was set up in the backdrop of business conduct and customer protection concerns arising out of the spurt in digital lending activities.
  - **Key proposals:**
    - Digital lending apps should be subjected to a verification process by a nodal agency to be set up in consultation with stakeholders.
    - To set up a Self-Regulatory Organisation (SRO) covering the participants in the digital lending ecosystem.
      - The use of unsolicited commercial communications for digital loans to be governed by a code of conduct to be put in place by the proposed SRO.
      - The maintenance of a 'negative list' of lending service providers by the proposed SRO.
    - Disbursement of loans should be directly into bank accounts of borrowers.
    - All data to be stored in servers located in India.
    - Algorithmic features used in digital lending to be documented should ensure necessary transparency.

#### 14. Banking licence

##### Context

The Reserve Bank of India has cancelled the banking licence of Rupee Cooperative Bank, and directed the Registrar of Cooperative Societies to liquidate it.

##### Why did RBI cancel the licence of Rupee Cooperative Bank?

- The bank does not have adequate capital and earning prospects as per Section 11(1), Section 22 (3) (d) and Section 56 of the Banking Regulation Act, 1949.
  - Section 11 deals with requirements as to minimum paid-up capital and reserves.
  - Section 22 deals with licensing of banking companies.
  - Section 56 is about the applicability of the Act to cooperative societies, subject to modifications
- The bank has failed to comply with certain other provisions of the Banking Regulation Act, 1949.
- The continuance of the bank is prejudicial to the interests of its depositors.
- It would be unable to pay its present depositors in full given the present financial condition.
- Adverse to the public interest if further allowed to do business.

##### What will happen to the depositors' money in Rupee Cooperative Bank?

- Depositors with Rs 5 lakh or less in the bank would get back all of their money through the Deposit Insurance and Credit Guarantee Corporation (DICGC).
- Depositors with more than Rs 5 lakh would not get back their money beyond 5 lakh.

##### What is a banking licence?

- The **RBI** issues the licence **under the Banking Regulation Act of 1949** for banking operations such as accepting deposits or lending.
- **Parameters:**
  - The 1949 Act focuses on adequate capital and protection of the public interest before the licence is granted.
    - **Capital Adequacy Ratio (CAR)** — the ratio of a bank's available capital to its risk weighted credit exposure.
    - **Loan to Deposit Ratio (LDR)** — the ratio of a bank's total loans to total deposits in the same period.
- No company other than one that has been issued a banking licence is allowed to use the word bank in its name while doing business.

- The RBI audits banks every year, and can act if it notes an increase in bad debts or other suspicious activities in their books.
  - **For example** –if a bank does not have enough capital to cover its exposure and pay its depositors, its licence **can be cancelled by the RBI**.
- **Options other than cancellation:**
  - All banking activities like withdrawal can be suspended
  - The board of directors can be superseded
  - Appointment of administrator to revive the bank, including merging the bank with a financially stable bank, filing of criminal cases against defaulting directors, employees, and seizing of their properties.

### Cooperative Banking

- A **Co-operative bank** is a financial entity which belongs to its members, who are at the same time the owners and the customers of their bank.
- Co-operative banks in India are **registered under the States Cooperative Societies Act**.
- The Co-operative banks are also **regulated by the Reserve Bank of India (RBI) and governed by the**
  - Banking Regulations Act 1949
  - Banking Laws (Co-operative Societies) Act, 1955.
- **The rural co-operative credit** system in India is primarily mandated to ensure flow of credit to the agriculture sector.
  - It comprises **short-term and long-term co-operative credit structures**.
    - The short-term co-operative credit structure operates with a three-tier system –
- **Primary Agricultural Credit Societies (PACS)** at the village level and the are outside the purview of the Banking Regulation Act, 1949 and hence not regulated by the Reserve Bank of India.
- **Central Cooperative Banks (CCBs)** at the district level and
- **State Cooperative Banks (StCBs)** at the State level.
- StCBs/DCCBs are **registered under the provisions of State Cooperative Societies Act** of the State concerned and are **regulated by the Reserve Bank**.
- Powers have been **delegated to National Bank for Agricultural and Rural Development (NABARD)** to conduct inspection of State and Central Cooperative Banks.
- **Primary Cooperative Banks (PCBs)**, also referred to as **Urban Cooperative Banks (UCBs)**, cater to the financial needs of **customers in urban and semi-urban areas**.
- UCBs are primarily registered as cooperative societies under the provisions of either the **State Cooperative Societies Act of the State concerned or the Multi State Cooperative Societies Act, 2002** if the area of operation of the bank extends beyond the boundaries of one state.
- There is **duality of control over these banks** with **banking related functions** being regulated by the **Reserve Bank of India** and **management related functions** regulated by respective **State Governments/ Central Government**.
- **Deposit Insurance of the Cooperative Banks:**
  - All eligible co-operative banks as defined in Section 2 (gg) of the Deposit Insurance Act, 1961 are covered by the Deposit Insurance Scheme.
  - All State, Central and Primary co-operative banks functioning in the States/Union Territories which have amended their Co-operative Societies Act as required under the DICGC Act, 1961, empowering RBI to order the Registrar of Co-operative Societies of the respective States/Union Territories to wind up a co-operative bank or to supersede its committee of management and requiring the Registrar not to take any action for winding up, amalgamation or reconstruction of a co-operative bank without prior sanction in writing from the RBI, are treated as eligible banks.
- **At present all Co-operative banks are covered by the Scheme.**
- The Union Territories of **Lakshadweep and Dadra and Nagar Haveli do not have Co-operative Banks**.

## 15. Concessional Tax Regime

### Context

The government aims to establish a tax regime with no exemptions and deductions.

### Details

- The **Union Budget 2020-21** introduced a new tax regime.
- It gave taxpayers the option to **choose between the old regime and the new tax regime**.
- The intention behind the move was to provide **significant relief to individual taxpayers and to simplify the income-tax law**.
- **Outcome-** people who have finished their home and education loans are willing to shift to the new tax regime as they have no exemptions to claim.
- **A similar tax regime for corporate taxpayers** was introduced in September 2019 by significantly lowering rates and removing exemptions.
  - **It reduced the base corporate tax for:**
    - **existing companies** to 22 percent from 30 per cent
    - **new manufacturing firms**, incorporated after October 1, 2019, and starting operations before March 31, 2024, to 15 per cent from 25 per cent.
  - Companies opting for these new tax rates will **have to forego all exemptions and incentives**.

### Concept

#### Old Tax regime:

It is a tax regime with various deductions and exemptions.

#### Concessional (new) Tax Regime

- Assessee willing to **forgo deductions and exemptions** such as those under sections 80C, 80D, house rental allowance and leave travel allowance could **choose to pay tax on their income at a reduced rate**.
- **It requires the taxpayer to forego certain specified deductions.**
  - These include standard deduction of Rs 50,000, deduction under section 80C of Rs 1.50 lakh and interest on self-occupied property of Rs 2 lakh, deductions which are availed by most taxpayers.

#### Tax rate under these regimes:

#### Prelims fact:

- **Corporation tax** is a direct tax placed on a company's net income or profit from its operations.
- Corporation tax is payable by **both public and private companies** registered in India under the **Companies Act 1956**.
- **Corporate tax** is a tax imposed on the **net income of the company**, whereas **income tax** is a type of tax imposed on an **individual's income, such as wages and salaries**.
- **Tax Concession:** A reduction made by the government in the amount of tax that a particular group of people or type of organization has to pay or a change in the tax system that benefits those people.

## 16. Development of Enterprise and Service Hubs (DESH) Bill

### Context

The Union Budget 2022, proposed to replace the existing law governing Special Economic Zones (SEZs) with a new legislation to enable states to become partners in 'Development of Enterprise and Service Hubs' (DESH).

### Concept:

#### Special Economic Zone:

- An SEZ is a **territory within a country** that is typically **duty-free and has different business and commercial laws** chiefly to encourage investment and create employment.
- **Asia's first EPZ** (Export Processing Zones) was established in **1965 at Kandla, Gujarat**.
- While these EPZs had a **similar structure to SEZs**, the government began to establish **SEZs in 2000 under the Foreign Trade Policy** to redress the infrastructural and bureaucratic challenges that were seen to have limited the success of EPZs.
- **The Special Economic Zones Act was passed in 2005**. The Act came into force along with the SEZ Rules in 2006.

- **Objectives of the SEZ Act:**
  - To create additional economic activity.
  - To boost the export of goods and services.
  - To generate employment.
  - To boost domestic and foreign investments.
  - To develop infrastructure facilities.
- 
- India's SEZs were structured closely with **China's successful model**.
- Presently, 379 SEZs are notified, out of which **265 are operational**
- There are **eight functional SEZs in India at the moment including** — Santa Cruz (Maharashtra), Cochin (Kerala), Kandla and Surat (Gujarat), Chennai (Tamil Nadu), Visakhapatnam (Andhra Pradesh), Falta (West Bengal) and Noida (Uttar Pradesh).
- **About 64% of the SEZs** are located in five states – **Tamil Nadu, Telangana, Karnataka, Andhra Pradesh and Maharashtra**.
- The **Board of Approval** is the apex body and is headed by the **Secretary, Department of Commerce (Ministry of Commerce and Industry)**.
- **Major Incentives and Facilities Available to SEZ:**
  - Duty-free import or domestic procurement of goods for developing, operating and maintaining SEZ units.
  - 100% Income tax exemption on export income for SEZ units under the Income Tax Act for first 5 years, 50% for next 5 years thereafter and 50% of the ploughed back export profit for next 5 years. (Sunset Clause for Units will become effective from 2020).
  - Units are exempted from Minimum Alternate Tax (MAT).
  - They were exempted from Central Sales Tax, Service Tax and State sales tax. These have now subsumed into GST and supplies to SEZs are zero-rated under the IGST Act, 2017.
  - Single window clearance for Central and State level approvals.
  - There is no need for a license for import.
  - In the manufacturing sector, barring a few segments, 100% FDI is allowed.
  - Profits earned are permitted to be repatriated freely with no need for any dividend balancing.
  - There is no need for separate documentation for customs and export-import policy.
  - Many SEZs offer developed plots and ready-to-use space.

#### Status:

- As of June 30, 2022, the government has given **formal approvals to 425 SEZ developers**, out of which **268 are operational**.
- These zones have attracted about Rs **6.5 lakh crore investments** and **employ about 27 lakh persons**.
- During April-June this fiscal, **exports from these zones rose by 32 per cent**.

### 17. Gross savings rate-Trends

#### Context

In the last 30 years, savings and investment opportunities have grown by leaps and bounds.

#### Trends:

- India's gross savings rate –**increased from 9 percent of GDP in the 1950s to over 30 percent of GDP in recent years.**
  - **Savings** represent sums put away by both individuals and institutions (public and private sectors).
    - While savings by the **public sector have been declining in recent years.**
    - Both **households and the private corporate sector have raised their contributions.**
- As per the **Indian Household Finance Report 2017-**

1950s-Five Year Plan	1990s-LPG	Post-Covid
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<p>Earlier Indian retail savers invested in hard assets</p> <ul style="list-style-type: none"> <li>• <b>77 per cent</b> of the average household's assets- in real estate (mainly a self-occupied home or farm land)</li> <li>• <b>11 per cent</b>- gold,</li> <li>• <b>5 percent</b>- allocation to financial assets</li> </ul>	<ul style="list-style-type: none"> <li>• Shift to investment in financial assets</li> <li>• This shift has put a significant <b>savings pool at the disposal of Indian financial sector players</b>- be it banks, insurance companies, mutual funds, the behemoth LIC, corporate issuers of bonds and equities or new-fangled fintech platforms.</li> <li>• Investments in unregulated entities— unregistered NBFCs, chit fund and orchard, teak and emu-rearing schemes backed by promotional blitzes and celebrity endorsements.</li> </ul>	<ul style="list-style-type: none"> <li>• The last five years have seen a <b>material shift in preferences towards financial assets</b>, with Covid giving financial assets a particularly big lift.</li> <li>• Individuals shifted to 'paper' assets such as stocks and mutual funds from precious metals and real estate as being <b>transmitted and liquidated at short notice</b>.</li> <li>• <b>Surge</b> in stocks, mutual funds, SIPs, curated portfolios such as small cases and even derivatives trading for their vastly better returns.</li> <li>• <b>The number of demat accounts</b> opened in the Indian markets has trebled in the last three years, crossing the 10 crore mark providing <b>protection from large scale capital outflows</b>.</li> <li>• Increase in <b>insurance and health insurance providers</b>.</li> <li>• Increase internet penetration led surge in <b>unregulated assets</b> - cryptocurrencies, Non-Fungible Tokens, DeFi token</li> </ul>
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**Concept:**

- **Gross Domestic Saving** is GDP minus final consumption expenditure.
- It is expressed as a **percentage of GDP**.
- Gross Domestic Saving consists of **savings of the household sector, private corporate sector and public sector**.
- Gross domestic savings had **followed a downward trajectory after 2008**.
- The more concerning issue is the perceptible shift of investors' preference towards physical assets as compared to financial assets. This can be **attributable to a rise in inflationary pressures**.

- **Gross capital formation is a function of gross domestic savings.**

## 18. The competition bill 2022

### Context

Last week, the government of India introduced the Competition (Amendment) Bill, 2022, in the Lok Sabha.

**Bill is not needed for Prelims.**

## 19. Rural Inflation

### Context

Amidst headline retail inflation• coming down to a 5month low in July, 11 States, including Maharashtra and Gujarat, have recorded higher than the national average.

### Details:

- All India CPI recorded 6.71 per cent in July, which is the lowest in five months.
- 11 States have recorded higher than the national average ranging between 8.58 to 6.89 per cent in July.
  - States –Telangana, Andhra Pradesh, Assam, Gujarat, Haryana, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Uttar Pradesh, West Bengal and Rajasthan
- Rural inflation continues to be higher than urban in many of the 22 States and Union Territories.

### Why is rural inflation greater than urban inflation?

Urban inflation has usually tended to be higher than rural inflation by an average of about 0.8 percentage points through most of 2021 — the only exception being August.

### Causes of divergence:

- **Different basket of products:**
  - Higher inflation in food, which has a higher weight in the Consumer Price Index, along with inflation in fuel and light and clothing, were the key factors driving up rural prices.
  - For example, food has a weight of 54.18% in the CPI rural index and only 36.29% in the urban index. Also, the urban index takes into consideration housing prices that are not a part of the rural index. These variations affect the final numbers drastically.
- **Fuel prices:**
  - fuel prices are higher in rural areas due to connectivity issues, while prices of traditional fuel like firewood have also risen
  - The Urban index concentrates on the more widely used LPG and diesel. The prices for these have fallen because of low global prices.
- **Differences in food:**
  - Ironically, food products are somewhat costlier in rural India than in urban India.
  - One reason is the drought-like conditions, which could have driven up prices..
- **Higher pent up demand**
  - The pent-up demand is higher in rural India mainly due to labour migration to rural areas, so clothing and many other items are seeing higher inflation as demand picks up.
- A persistently **higher inflation in education costs and other services.**
- **Structural problems:**
  - Rural India suffers from poor infrastructure. This leads to bottlenecks in responding to supply shortage in food items.
  - Inadequate distribution channels hinder bringing imported vegetables and oilseeds to rural areas, many experts say.
  - RBI is unable to do much when it comes to supply related bottlenecks.

### Concept:

### Types of Consumer Price Index:

- **CPI for Industrial Workers (CPI-IW)**
  - It attempts to quantify changes in the pricing of a fixed basket of products and services used by Industrial Workers over time.

- A typical working-class family from any of these seven economic sectors, ranging from industries, mines, plantations, motor transport, port, railways, and energy generation and distribution, would be the target demographic.
- The Labour Bureau compiled this list. This functions under the Ministry of Labour and Employment.
- **CPI for Agricultural Laborers (CPI-AL)**
  - The Labor Bureau compiles this data to help revise minimum wages for agricultural labor in different States.
- **CPI for Rural Labourer (CPI-RL)**
  - The Labour Bureau compiled this list. This functions under the Ministry of Labour and Employment.
- **CPI (Urban Non-Manual Employees) (CPI-UNME)**
  - This information is compiled by the Central Statistics Office (CSO), which is now known as the National Statistical Office (NSO).
  - The Ministry of Statistics and Program Implementation oversees the NSO.
- With effect from January 2011, the Central Statistics Office (CSO), Ministry of Statistics, and Programme Implementation began issuing Consumer Price Indices (CPI) on a monthly basis for all of India and States/UTs, separately for rural, urban and combined.
  - In January 2011, the **CPI (R), CPI (U), and CPI (C) with Base Year 2010 were issued.**
  - The following are the primary components of CPI (C): (along with their weights)
    - Food and Beverage – 45.86;
    - Food and Beverage – 45.86;
    - Housing – 10.07;
    - Fuel and Light – 6.84;
    - Clothing and Footwear – 6.53;
    - Pan, tobacco, and intoxicants – 2.38;
    - Miscellaneous – 28.32;

## 20. Corporate Tax

**Context:** Corporate tax cut has led to a revenue loss of ₹1.84 lakh crore to the public exchequer as per the Parliamentary Estimates Committee report.

**Details:**

- The **Taxation Laws (Amendment) Bill, 2019** caused a reduction in the base corporate tax rate, that is, from **30 percent to 22 per cent** for the **existing businesses** and
- For **new manufacturing firms** that have been established post 1st October, 2019 and prior to 31st March, 2023, the base corporate tax was reduced from **25 per cent to 15 per cent.**
- The new corporate tax rates in India are **much lower than USA (27%), Japan (30.62%), Brazil (34%), and Germany (30%)** and for the new firms the tax rate is similar to Singapore (17%).

**Concept:**

- A **corporate tax, also called corporation tax or company tax**, is a direct tax imposed by a jurisdiction on the income or capital of corporations or analogous legal entities.
- Corporate tax is the tax which is levied on the **income of the domestic and foreign companies that arose in India.**
- It is levied on **both the public and private companies registered under the Companies Act of 2013.**
- The rate at which the tax is imposed as per the provisions of the **Income Tax Act, 1961** is known as the Corporate Tax Rate.
- The **Minimum Alternate Tax (MAT) does not apply to such companies.**
  - **The Minimum Alternate Tax** is a measure to include all companies in the income tax loop. The MAT ensures that no company with healthy finances and substantial income can avoid paying income tax, even after claiming exemptions.
- Taxes are levied on a **company's taxable income**, which comprises revenue minus cost of goods sold, general and administrative expenses, selling and marketing, R&D, depreciation, and other operating costs.

- Corporate tax is an expense of a business levied by the government that **represents a country's main source of income**, whereas income tax is a type of tax governmentally imposed on an individual's income, such as wages and salaries.
- **Corporate tax rate to be 22 per cent without exemptions** and Effective corporate tax rate after surcharge and cess to be 25.17 percent for existing companies.
- The effective tax for new companies shall be 17.01 percent, including cess and surcharge. Companies enjoying tax holidays would be able to avail concessional rates post the exemption period.

#### Estimates Committee

- The Estimates Committee is a **Committee of Lok Sabha**. The motion for election of the first Estimates Committee was adopted by the Provisional Parliament on 3<sup>rd</sup> April, 1950 and the Committee was elected on **10<sup>th</sup> April 1950**.
- The Committee consist of not more than **30 Members** from Lok Sabha who shall be elected by the House every year from amongst its members according principle of promotional representation by means of single transferable vote. The Speaker is empowered to appoint the Chairman of the Committee from amongst its members.

#### Functions of the Committee

Rule 310 of the Rules of Procedure and Conduct of Business in Lok Sabha define the scope of functions of the Committee as under: -

- (a) to report what economies, improvements in organization, efficiency or administrative reform, consistent with the policy underlying the estimates, may be affected;
- (b) to suggest alternative policies in order to bring about efficiency and economy in administration;
- (c) to examine whether the money is well laid out within the limits of the policy implied in the estimates; and
- (d) to suggest the form in which the estimates shall be presented to Parliament;

## 21. Decentralised Finance (DeFi)

### Context

With the massive rise in cryptocurrency investments, individuals and institutions are now beginning to explore decentralized finance (DeFi).

### Concept

- **Decentralized finance, or DeFi**, loosely describes an **alternative finance ecosystem** where consumers transfer, trade, borrow and lend cryptocurrency, theoretically **independently of traditional financial institutions and the regulatory structures**
- It's a **computer-controlled market that automatically executes transactions**, like issuing loans backed by crypto or paying interest on holdings.
- DeFi platforms are **structured to become independent from their developers and backers** over time and to ultimately be **governed by a community of users** whose power comes from holding the protocol's tokens.
- The DeFi movement **aims to "disintermediate" finance**, using computer code to eliminate the need for trust and middlemen from transactions.
- DeFi uses **smart contract technology on the blockchain network with zero human intervention**. This reduces the chances of errors and increases efficiency.
- DeFi **removes middlemen and enables more efficient financial services at low costs**.
- DeFi is **on a blockchain network** and generally open source, anyone with an internet connection can view, audit the source code and see all the transactions.
- Blockchain data is immutable in nature, which means once the information is on the blockchain network, it cannot be changed.
- **How does DeFi work?**
  - A DeFi protocol uses computer code called **smart contracts** that run on the blockchain network.
  - The source code of most of the DeFi projects are **available for anyone in the world to check and audit**.

- Users of the DeFi protocol can communicate with these smart contracts using their wallets to transfer funds, borrow, lend or avail any service that the DeFi provides.
- **Decentralized Exchanges (DEXs)** users can interact directly with the blockchain protocol to execute trades or avail services.
- The non-custodial framework of a DEX means that users can retain their cryptocurrency ownership and have complete control over their assets in their wallets.

## 22. Super Vasuki

### Context

To mark the beginning of Amrit Kaal, Indian Railways ran Super Vasuki, five loaded train long haul on 15th Aug 2022 as a part of Azadi Ka Amrit Mahotsav Celebration.

### Concept:

- Super Vasuki is a **3.5-km-long** freight train with **295 wagons carrying 27,000 tonnes**.
- The effort came from South East Central Railway
- Super Vasuki carried coal from **Korba in Chhattisgarh to Rajnandgaon in Nagpur**. It covered the distance of **267 km**. Five goods trains were combined into one rake to create the train.
- The national transporter claimed that this is the **longest and heaviest freight train** that the Railways has ever operated, and that it crosses a station in around four minutes.
- Super Vasuki carries enough coal to operate a 3000 MW power plant for a whole day. This can transport three times as much coal in a single trip as the 90-car, 100-ton rail rakes that are now in use.

## 23. Global pandemic treaty

### Context

A draft international pandemic treaty governing prevention, preparedness and response of future pandemics will be ready for negotiation in 18 months, said Soumya Swaminathan, chief scientist of the World Health Organization (WHO).

### Details:

- The genesis of the treaty was at the second special session of the World Health Assembly (WHA) held in December 2021, which formally launched the process for the development of the historical global accord.
- The document will help address global public health challenges made conspicuous by the ongoing COVID-19 pandemic
- These include equitable distribution of vaccines and health services among and within countries, knowledge and data sharing as well as realising capability-based responsibilities of various economies.
- WHA established an **International Negotiating Body (INB)** to formulate 'WHO convention, agreement or other international instrument' for the world to unitedly respond to and recover from infectious disease crises in the future.

## 24. DoT bats for auction of satellite spectrum

### Context:

- The Department of Telecommunications (DoT) is **batting decisively for the auction of satellite spectrum**. After nearly two years of intense lobbying from satellite players, including Low Earth Orbit (LEO) players such as OneWeb, Telesat and Starlink — who were seeking administrative assignment of satellite spectrum
- As the soon-to-be-announced **new space policy is likely to encourage private entrants into the Satcom space**, satellite players were **eyeing spectrum between 27.5 to 31.5 GHz to provide new services such as satellite broadband**.
- **Telecom operators were also eyeing spectrum between 27.5GHz to 28.5 GHz for 5G**, and the government had decided during deliberations for **5G auctions that this band would be shared between satellite players as well as telcos and be used for mixed-use purposes**.



- As India reckons with a new age of telephony with 5G, new technologies such as **low latency satellite broadband and satellite backhaul** will also make entry into the Indian market.
- Big tech giants such as **Amazon's Kuiper, Elon Musk's Starlink and Sunil Mittal's OneWeb** are eyeing the Indian market, as regulators deliberate on the new wave of regulations for the upcoming technologies.

#### **Satellite Internet and LEO Technology:**

- **Positioning of Satellites:** LEO satellites are **positioned around 500km-2000km from earth, compared to stationary orbit satellites** which are approximately **36,000km** away.
- **Latency:** Latency, or the time needed for data to be sent and received, is contingent on proximity.
  - As LEO satellites orbit closer to the earth, they are able to **provide stronger signals and faster speeds** than traditional fixed-satellite systems.
  - Additionally, because signals travel faster through space than through fibre-optic cables, they also have the potential to rival if not exceed existing ground-based networks.
- **Higher Investment:** LEO satellites **travel at a speed of 27,000 kph** and complete a full circuit of the planet in 90-120 minutes.
  - As a result, individual satellites can only make direct contact with a land transmitter for a short period of time thus requiring massive LEO satellite fleets and consequently, a **significant capital investment**.
  - Due to these costs, of the three mediums of Internet – fibre, spectrum and satellite – the latter is the most expensive.

#### **25. SC to examine convict's plea on validity of child gangrape law**

##### **Context:**

- The Supreme Court on Tuesday agreed to examine the validity of a law which sends a guilty **man either to a lifetime in prison or to the gallows for gangraping a child under 12 years without affording him a chance to atone for his crime or reform.**
- **Section 376DB (gangrape of a child under 12 years of age) of the Indian Penal Code** restricted the trial judge's options to **either a sentence for "the remainder of the person's natural life" or death penalty.** Life imprisonment is the "minimum, mandatory" punishment under the provision.
- The **minimum punishment prescribed under Section 376AB (rape of a child under 12 years of age) was 20 years of imprisonment.**
- The **petition argued that Section 376DB violated Articles 21 (right to life) and 14 (right to equality) of the Constitution.**
- S. Supreme Court had held that **in extreme cases, a disproportionate sentence violated the Eighth Amendment, which prohibits cruel and unusual punishment, of the U.S. Constitution.**

#### **26. Central Pool foodgrain stocks at lowest in 5 years**

##### **Context:**

- **Rice and wheat stock in the Central Pool, managed by the Food Corporation of India (FCI), is at a five-year low,** mainly due to lower procurement of wheat.
- Rice stock, though above 2020 level, may deplete fast in case there is a drop in production during current kharif season as paddy transplanting has dropped 12 per cent until last week.
- According to latest data, the rice and wheat stock as on August 1 **was 545.97 lakh tonnes (lt), whereas the previous low was 499.77 lt in 2017.**

##### **The Food Corporation of India**

- **Food Corporation of India (FCI) is a Public Sector Undertaking, under the Department of Food & Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution.**
- FCI is a **statutory body** set up in 1965 under the **Food Corporations Act 1964.** It was established against the backdrop of major shortage of grains, especially wheat.

- Simultaneously, **Commission for Agricultural Costs and Prices (CACP)** was created in 1965 to recommend remunerative prices to farmers.
- It has primary duty to **undertake purchase, store, move/transport, distribute and sell food grains and other foodstuffs.**

#### **Buffer Norms:**

- Buffer stock refers to a reserve of a commodity that is **used to offset price fluctuations and unforeseen emergencies. It is generally maintained for essential commodities and necessities like food grains, pulses etc.**
- The concept of buffer stock was first introduced **during the 4th Five Year Plan (1969-74)**
- **The Cabinet Committee on Economic Affairs fixes the minimum buffer norms on quarterly basis: i.e. as on 1st April, 1st July, 1st October and 1st January of every financial year**
- Food Stock available in the central governments' pool is the stock held by:
  - **State Government Agencies (SGAs)**
  - **States which are taking part in the Decentralised Procurement Scheme**
  - **Food Corporation of India (FCI)**
- The stock of food grains in the **Central pool is distributed all around the year depending on the off-take and procurement trends. Therefore, the season of production and procurement is a major factor to determine the minimum food grain stocks required in any particular quarter of the year.**
- As of now, the **stocking norms for buffer stock decided by the GoI comprises of:**
  - **Operational Stocks: The stock required to meet the monthly requirements under TDPS and OWS.**
  - **Food Security Stocks: The reserves to meet the procurement shortfall.**
- The food grains for issue **under OWS and TDPS are considered as operational stock, whereas the surplus is considered as buffer stock and operational stock both. The stock which is over the minimum stockpiling norms is treated as excess stock and it is exported from time to time, extra allocations for some states or through open market sales.**



#### **The pesky problem of offshoring pollution**

- Every July, Singapore prepares to see its **greenery vanish beneath a mantle of smoke.** The haze from land-clearing fires drifts from Indonesia and Malaysia each dry season. But a recent study has revealed **another source of air pollution from Singapore's neighbours: heavy metals, such as chromium, from heavy industry.**
- That pollution lasts all year round, posing a chronic risk to human health. It comes from what **experts have described as 'pollution havens': developing Southeast Asian economies such as Indonesia, Malaysia and Thailand** that are rapidly industrialising. They house the industries Singapore and other rich countries can afford to outsource.

#### **What are Pollution havens?**

- The Pollution Haven Hypothesis **argues that firms will seek to avoid the cost of stringent environmental regulations (and high energy prices) by locating production in countries where environmental norms are laxer.** In this context, the studies provide new reassuring evidence on the effect of energy prices on firms' outward Foreign Direct Investment (FDI).

### **27. India at 75 | High points in science & technology and innovation**

#### **Context:**

- The **Council of Scientific and Industrial Research, which had been founded in 1942,** has undertaken its mission effectively since Independence
- The CSIR started five of its own laboratories with support from the government and industry and raising resources through crowd sourcing.
- In collaboration with **the Sir Dorabji Tata Trust and the Government of Bombay, the Government of India (through the CSIR) started the Tata Institute of Fundamental Research,** with the CSIR providing substantial financial support in the initial years.

- Among the first examples of finding science and technology-based solutions was the **harmonisation of existing varied calendar systems. A committee under the Chairmanship of Meghnad Saha** was formed to address this issue. The committee's report was published by the CSIR in **1955, which then led to its acceptance as the national calendar, now one of the national identity elements.**
- Another example in the early years of Independence was to address the challenges in conducting democratic elections — preventing frauds, including double voting by the same person. **The CSIR's National Physical Laboratory developed the indelible ink made up of silver nitrate to address this concern.**
- The CSIR's footprint in leather sector has been transformative. First, when the **CSIR-Central Leather Research Institute (CLRI) was established in 1948**, it developed technologies for finished leather products, such as the first ever indigenous manufacture of leather chemicals, making the **transition from semi-finished to finished leather possible**
- During the Green Revolution, the CSIR's footprint could be seen in the development of **agrochemicals and the mechanisation of agriculture**. The chemicals industry needed the necessary thrust for its maturation although **the Bengal Chemicals and Pharmaceuticals Ltd. had been formed by Acharya Prafulla Chandra Ray long before Independence**
- Two public sector companies were founded, post-Independence, based on technologies developed in the CSIR's laboratories — **the Hindustan Insecticides Ltd. and Hindustan Organic Chemicals Ltd., the former to make agro chemicals.**
- Similarly, production of **anti-HIV drugs by processes developed in CSIR laboratories** provided the necessary impetus to the **growth of generic pharmaceutical companies.**

#### Agriculture

- **Samba Mahsuri Rice Variety – Bacterial Blight Resistant:** CSIR has in collaboration with DRR (ICAR) and DBT part funding developed an improved bacterial blight resistant Samba Mahsuri variety. It is being cultivated in ~ 90,000 hectares in the states of Andhra Pradesh, Telangana, Karnataka and Tamil Nadu.
- **Rice Cultivar (Muktashree) for Arsenic Contaminated Areas:** A rice variety has been developed which restricts assimilation of Arsenic within permissible limit. The variety has been released to farmers of West Bengal.
- **White-fly resistant Cotton variety:** Developed a transgenic cotton line which is resistant to whiteflies. It is expected to render it commercially cultivable in 10 years, after due regulatory clearances.
- The mechanisation of agriculture was achieved through the indigenous development of the **Swaraj tractor at the CSIR-Central Mechanical Engineering Research Institute (CMERI), leading to the formation of Punjab Tractors Ltd. in 1970.**
- For example, in the 1950s, when solving the infant food problem appeared impossible, the CSIR successfully developed technologies **to convert buffalo milk into powder and commercialised it with the help of Amul Industries.**
- **The Aroma Mission of the CSIR in recent times** has been transforming the lives of thousands of farmers across the country. The **cultivation of lavender in the Union Territory of Jammu and Kashmir** has been attracting attention worldwide as India's 'Purple Revolution'.

#### Strategic Sector:

- **Drishti Systems at Main Runway 28-10 of IGI Airport:** Drishti transmissometer, a visibility measuring system provides information to pilots on visibility for safe landing and take-off operations and is suitable for all airport categories. 27 Systems installed in 10 major Indian airports across the country, in collaboration with IMD. Tata Power SED has signed Memorandum of Agreement with Tata Power SED for the supply of 54 Drishti Systems for installation in Indian Air Force Airfields; 22 units have been delivered out of which three have been installed.
- **Head-Up-Display (HUD)** In high-tech areas, CSIR-NAL made significant contribution by developing indigenous Head-Up- display(HUD) for Indian Light Combat Aircraft, Tejas.

HUD aids the pilot in flying the aircraft and in critical flight maneuvers including weapon aiming.

- **Design and Development of Indigenous Gyrotron: Addressing the challenges of technology denial:** Design and development of indigenous gyrotron for nuclear fusion reactor has been accomplished.
- **Energy & Environment:**
  - **Solar Tree:** On July 22<sup>nd</sup> a solar tree designed by CSIR- CMERI lab in Durgapur was launched which occupies minimum space to produce clean power.
  - **Lithium Ion Battery:** India's first lithium ion battery fabrication facility based on indigenous novel materials for making 4.0 V/14 h standard cells has been established. The so developed technology on the Li-ion batteries to be commercialized soon.
- **Healthcare:**
  - **JD Vaccine for Farm Animals:** Vaccine developed and commercialized for Johne's disease affecting Sheep, Goat, Cow and Buffalo so as to immunize them and increase milk and meat production.
  - **Plasma Gelsolin Diagnostic Kit for Premature Births, and Sepsis related Deaths:** A new kit is being developed to diagnose pre-mature birth and sepsis.
  - **Genomics and other omics technologies for Enabling Medical Decision – GOMED:** Genetic diseases, though are individually rare, cumulatively affect a large number of individuals. A programme called GOMED (Genomics and other omics technologies for Enabling Medical Decision) has been developed by the CSIR which provides a platform of disease genomics to solve clinical problems. The present portfolio includes over 80 genes and sequencing of mitochondrial loci for mitochondrial disorders. In a short span of 9 months which encompassed the proof-of-concept stage, GOMED has catered to over 600 patients from across the country.
- **Food & Nutrition:**
  - **Ksheer-scanner:** The Ksheer Scanner, a new technological invention by CSIR- CEERI detects the level of milk adulteration and adulterants in 45 seconds at the cost of 10 paise, thereby putting adulterators in the milk trade in notice.
  - **Double-Fortified Salt:** Salt fortified with iodine and iron having improved properties developed and tested for addressing anaemia in people. To be launched in the market soon.
  - **Anti-obesity DAG Oil:** Oil enriched with Diacylglycerol (DAG) instead of conventional triacylglycerol (TAG) developed. To be launched in the market soon.
- **Water:**
  - **Aquifer Mapping of Water Scarce Areas:** Heliborne transient electromagnetic and surface magnetic technique-based aquifer mapping carried out in six different geological locations in Rajasthan (2), Bihar, Karnataka, Maharashtra and Tamil Nadu.
  - **Understanding the Special Properties of the Ganga Water:** Assessment of Water Quality & Sediment Analysis of Ganga from different parts being done.



## 28. Annual Survey of Industries (ASI)

### Context

The final results of the Annual Survey of Industries (ASI) released by the Ministry of Statistics and Programme Implementation (MoSPI).

### Details:

- The number of factories in the country increased by 1.7 per cent year-on-year to 2.46 lakh in FY20, employing a total of 1.3 crore workers,
- The number of factories stood at 2.42 lakh in 2018-19 and 2.37 lakh in the post-demonetisation year of 2017-18.
- **Sectoral break up:**

- **Employment in the corporate sector**, including public and private government and non-government companies, **rose 5.5 per cent to 97.02 lakh in FY20**,
- Employment in **individual proprietorship declined 3.1 per cent to 11.36 lakh**.
- Employment in the **partnership sector fell by 11.7 per cent to 18.58 lakh in 2019-20**
- Employment in the **limited liability partnership grew 42 per cent to 1.22 lakh**.
- In FY20, **urban areas had 1.43 lakh factories employing 72.79 lakh workers**, while **rural areas had 1.03 lakh factories, employing 57.78 lakh workers**.
- **Tamil Nadu showed the highest number of employment of workers in factories at 22.09 lakh in 2019-20**, followed by Gujarat with 15.89 lakh workers and Maharashtra with 14.54 lakh workers.

#### **About the Annual Survey of Industries (ASI):**

- The Annual Survey of Industries (ASI) was released by the **Ministry of Statistics and Programme Implementation**.
- **It is the principal source of industrial statistics in India, and is the most comprehensive data on organised manufacturing**.
- The ASI data relates to **factories employing 10 or more workers using power and those employing 20 or more workers without using power**.
- **Workers figures** include all persons employed directly or through any agency whether for wages or not and engaged in any manufacturing process or in cleaning any part of the machinery or premises used for manufacturing process or in any other kind of work connected with the manufacturing process.
  - Labour engaged in the repair & maintenance, or production of fixed assets for factory's own use, or employed for generating electricity, or producing coal, gas etc. are also included in the count of workers.
- It provides information about the composition and structure of the organised manufacturing sector comprising activities related to manufacturing processes, repair services, gas and water supply and cold storage.
- The ASI is conducted **annually under the Collection of Statistics Act, since 1959**, to obtain comprehensive and detailed statistics of the industrial sector with the objective of estimating the contribution of registered manufacturing industries as a whole to the national income.

#### **Annual Survey of Industries (ASI) Vs Index of Industrial Production (IIP)**

IIP is a short-term indicator of industrial growth till the results from Annual Survey of Industries (ASI) and National Accounts Statistics (Eg: GDP) are available.

<b>Annual Survey of Industries (ASI)</b>	<b>Index of Industrial Production (IIP)</b>
It provides information about the composition and structure of the organised manufacturing sector comprising activities related to manufacturing processes, repair services, gas and water supply and cold storage.	The Index of Industrial Production (IIP) is an index which shows the growth rates in different industry groups of the economy in a stipulated period of time.
ASI is calculated on an annual basis by the Ministry of Statistics and Programme Implementation.	The IIP index is computed and published by the Central Statistical Organisation (CSO) on a monthly basis.
ASI data is based on the actual book of accounts and other documents maintained by registered factories.	The IIP is compiled on the basis of data sourced from 16 ministries/ administrative departments.
The ASI has been conducted under the Collection of Statistics Act, since 1959.	Data for IIP are collected by various source agencies under different Acts/statutes.

## **29. Merchant Discount Rate**

### **Context**

In a discussion paper released on Wednesday, the Reserve Bank of India (RBI) asked stakeholders if merchant discount rate (MDR) should be brought back for Unified Payments Interface (UPI) transactions.



**Concept:****Merchant Discount Rate:**

- MDR is the cost paid by a **merchant to a bank for accepting payment from their customers via digital means— credit cards, debit cards, net banking and digital wallets.**
- It is the **rate levied on debit and credit card transactions to a merchant for the payment processing services.**
- The merchant discount rate is expressed in **percentage of the transaction amount.**
- The amount that the merchant pays for every transaction gets **distributed among three stakeholders**—the bank (60%) that enables the transaction, the vendor that installs the point of sale (PoS) machine and the card network provider such as Visa, MasterCard, RuPay.
- From 1st January, 2020, businesses with an annual turnover of more than ₹50 crore offer low cost digital payment options to customers and **Merchant Discount Rate (MDR) is not levied on either customers or merchants.**
  - Low cost digital payment modes will include options such as BHIM UPI, UPI QR Code, Aadhaar Pay, Debit Cards, NEFT, RTGS, among others.
- **Present MDR:**
  - Currently, **UPI payments** do not attract merchant discount rates (MDRs),
  - For **debit cards**, MDR is capped at 0.9 per cent for transactions, except for RuPay debit card, which attracts zero MDR.
  - In the case of **credit cards**, there is no cap on MDR.
  - For **wallets and prepaid payment instruments**, the MDR is not regulated and may range from 1.5 to 2.5 per cent, and in some cases, even higher.

**30. Developed country****Context**

The ‘developed country’ goal is the first of the five vows that Prime Minister Narendra Modi exhorted Indians to take during his address to the nation on Independence Day.

**The “Panch Pran” — five vows?**

- Every Indian should focus on developing the country;
- 100 per cent freedom from slavery;
- Taking pride in Indian heritage;
- Ensuring importance is given to unity and integrity and
- Every citizen should be responsible.

**What is a developed country?**

- Different Institutions follow different criteria
- The UN’s **World Economic Situation and Prospects** classifies countries into **three broad categories:**
  - **Developed economies**— There are 31 developed countries according to the UN in all.
  - **Economies in transition**—17 economies are in transition
  - **Developing economies**—remaining countries
- It is done to **reflect basic economic country conditions** and it is **independent of regional classifications.**
  - So, not all European countries are “developed”, and not all Asian ones are “developing”.
- **Criteria**—United Nations uses the World Bank’s categorisation based on Gross National Income (GNI) per capita (in current US dollars)

**Why is the United Nations classification contested?**

- **It lacks accuracy and analytical value:**
  - China’s per capita income is closer to Norway’s than Somalia’s and it is designated as a developing country while Ukraine’s, per capita GNI is \$4,120 (a third of China’s) — is designated as “economies in transition”.

**India’s position:**

- India is currently far **behind both the so-called developed countries, as well as some developing countries even though:**

- India is one of the biggest economies of the world in terms of GDP (**gross domestic product**).
- India has made a secular improvement on Human Development Index **HDI metrics**.
  - **For instance**, the life expectancy at birth (one of the sub-metrics of HDI) in India has gone from around 40 years in 1947 to around 70 years now.
  - **Human Development Index (HDI)**, a composite index where the final value is reached by looking at three factors:
    - the health and longevity of citizens,
    - the quality of education they receive, and
    - their standard of life.
- India is the world's third-largest economy in **purchasing power parity (PPP) terms**.
- **However:**
  - In terms of **per capita income**, India is behind even Bangladesh.
    - **China's per capita income is 5.5 times that of India, and the UK's is almost 33 times.**
  - Ten percent of Indians, at most, have **consumption levels** above the threshold of \$10 (PPP) per day expenditures for the global middle class.
  - India's current **HDI score** (0.64) is much lower than what any of the developed countries had even in 1980

#### How much can India achieve by 2047?

- If India were to grow as fast as China did between 2007 and 2022, then, it will take **India another 15 years to be where China is now**.
- The **World Bank's 2018 report** mentions what India could achieve by 2047.
  - **At least half its citizens could join the ranks of the global middle class** i.e. households have access to better education and health care, clean water, improved sanitation, reliable electricity, a safe environment, affordable housing, and enough income to spend on leisure.
  - It requires fulfilling prerequisites— increasing income well above the extreme poverty line and improved public service delivery.

#### Classification by other institutions:

##### World Bank:

- The World Bank assigns the world's economies to four income groups—**low, lower-middle, upper-middle, and high-income countries**.
- The classifications are updated **each year on 1st July and are based on Gross National Income (GNI) per capita in current USD of the previous year**.
- In its latest classification (2022-23), the World Bank has classified **India as a lower-middle-income country**.

#### How is a 'developing country' decided under WTO?

The WTO has not defined 'developed' and 'developing' countries and therefore member countries are free to announce whether they are 'developed' or 'developing'.

#### What are the benefits of the 'developing country' tag?

- Certain WTO agreements give developing countries special rights through 'special and differential treatment' (S&DT) provisions, which can grant developing countries longer timeframes to implement the agreements and even commitments to raise trading opportunities for such countries.
- WTO pacts are often aimed at reduction in government support to certain industries over time and set more lenient targets for developing nations and grant them more time to achieve these targets compared to developed ones.
- The classification also allows other countries to offer preferential treatment.

#### What are the benefits of LDC classification?

The WTO recognises LDCs relying on a classification by the UN based on criteria that is reviewed every three years.

- LDCs are often exempted from certain provisions of WTO pacts.

- Bangladesh, currently classified as an LDC, receives zero duty, zero quota access for almost all exports to the EU. It is, however, set to graduate from the LDC status in 2026 as its per capita GDP has risen sharply surpassing that of India in FY21.

### 31. Credit Deposit Ratio

#### Context

Banks need to rework their strategies rising from the 'business as usual approach' given the rising cost of borrowing due to hike in the repo rate.

#### Impact of Rising cost of borrowings:

- Emerging resource imbalance:
  - **Declining credit deposit ratio**—Deposit growth is at 9.8 percent while credit growth is at 14.4 percent as of July 1 taking the **credit deposit (CD) ratio to 73 per cent.**
  - Theoretically, when the **CRR is at 4 percent and the SLR is at 18 per cent, the CD ratio can be 78 per cent.**

#### Need:

Increase deposit base by:

- **Depositor friendly ecosystem**
- **Digital penetration-**
  - **Financial inclusion (FI) index** of the RBI is 53.9 in March 2021, still leaving a huge scope for penetration and mobilisation of deposits from hinterland, where people usually do not invest in other financial markets.
- **Protection against cyber breach**
- **Speedy resolution of customer grievances** –Implementation of **internal ombudsman scheme.**
- Building a **binding relationship with customers** to continuously raise deposit resources.
  - The data of December 31, 2020, indicates that **90 million customer accounts are dormant and have not been operated for over 10 years.**
  - There are millions of good customers **maintaining nominal balances, perhaps due to lack of efforts on the part of banks to reconnect with them.**
- **Deposit product reengineering**
  - HDFC Bank started **short term deposit products with differential interest rates.**
- **Better targeting of potential customers** lost during pandemic-Rural customers, housewives, senior citizens, with risk averse and former employees
- **Doorstep banking services**
- **Better data collection and analysis**-Banks should monitor, incremental rise in new deposit accounts, per account balances, its trends, reasons for low balances
- **Skills Development** of existing employees to bridge the Covid has created a void between banks and customers.

#### Concept:

#### Credit Deposit Ratio

- It is the ratio of **how much a bank lends out of the deposits it has mobilised.**
- It indicates how much of a bank's core funds are being used for lending, the main banking activity.
- To **calculate the loan-to-deposit ratio**, divide a bank's total amount of loans by the total amount of deposits for the same period.
- The regulator (RBI) does **not stipulate a minimum or maximum level for the ratio.** But, a very low ratio indicates banks are not making full use of their resources. And if the ratio is above a certain level, it indicates a pressure on resources.
- Typically, the **ideal loan-to-deposit ratio is 80% to 90%.**
- A **loan-to-deposit ratio of 100 percent** means a bank loaned one dollar to customers for every dollar received in deposits it received.
- A **credit-deposit ratio of over 70 percent indicates pressure on resources** as they have to set aside funds to maintain a cash reserve ratio of 4.5 per cent and a statutory liquidity

ratio of 23 per cent. Under such a scenario Banks can lend out of their capital, but it is not considered prudent to do so.

#### WHY IS IT CONSIDERED A KEY PARAMETER?

- The ratio gives the **first indication of the health of a bank.**
  - A very high ratio is considered alarming because, in addition to indicating pressure on resources, it may also hint at capital adequacy issues, forcing banks to raise more capital.
  - Moreover, the balance sheet would also be unhealthy with asset-liability mismatches.
- The loan-to-deposit ratio is used to **assess a bank's liquidity by comparing a bank's total loans to its total deposits for the same period.**
- LDR helps to show how well a **bank is attracting and retaining customers.**
- **The LDR can help investors determine if a bank is managed properly.** If the bank isn't increasing its deposits or its deposits are shrinking, the bank will have less money to lend.

### 32. Electricity Sector

#### Context

The National Load Dispatch Centre (NLDC) has banned discoms of Telangana from participating in the day ahead market with the Indian Energy Exchange (IEX) for procuring energy on the grounds of non-payment of dues to Gencos despite making payments.

#### Concept:

#### National Load Despatch Centre (NLDC)

- It is constituted as per **Ministry of Power (MOP)** notification under **Section 26 of the Electricity Act 2003**
- It is the apex body to ensure **integrated operation of the national power system.**
- **The main functions assigned to NLDC are:**
  - Supervision Over the Regional Load Despatch Centers.
  - Scheduling and dispatch of electricity over the inter-regional links in accordance with grid standards specified by the authority and grid code specified by Central Commission in coordination with Regional Load Despatch Centers.
  - Coordination with Regional Load Despatch Centers for achieving maximum economy and efficiency in the operation of National Grid.
  - Monitoring of operations and grid security of the National Grid.
  - Supervision and control over the inter-regional links as may be required for ensuring stability of the power system under its control.
  - Coordination with Regional Power Committees for regional outage schedule in the national perspective to ensure optimal utilization of power resources.
  - Coordination with Regional Load Despatch Centers for the energy accounting of inter-regional exchange of power.
  - Coordination for restoration of synchronous operation of national grid with Regional Load Despatch Centers.
  - Coordination for trans-national exchange of power.
  - Providing Operational feedback for national grid planning to the Authority and Central Transmission Utility.
  - Levy and collection of such fee and charges from the generating companies or licensees involved in the power system, as may be specified by the Central Commission.
  - Dissemination of information relating to operations of transmission system in accordance with directions or regulations issued by the Central Government from time to time.

#### The Indian Energy Exchange (IEX)

- **Power Exchanges** provide the market participants a platform with multiple avenues for buying-selling of power and hence manage their power portfolios efficiently.

- Indian Energy Exchange is the **first and largest energy exchange in India providing a nationwide, automated trading platform for physical delivery of electricity**, Renewable Energy Certificates and Energy Saving Certificates.
- India Energy Exchange enables participants to purchase electricity for the same day through intra-day contracts, for the next day through day-ahead contingency, on daily basis for rolling seven days through daily contracts, and on weekly basis through weekly contracts to manage their electricity portfolio for different durations.
- It is an Indian electronic system-based power trading exchange **regulated by the Central Electricity Regulatory Commission (CERC)**.
- IEX started its **operations on 27 June 2008**.
- The exchange platform enables **efficient price discovery** and increases the **accessibility and transparency of the power market** in India while also enhancing the **speed and efficiency of trade execution**.
- The Exchange is a **publicly listed company with NSE and BSE**.
- Indian Energy Exchange pioneered the development of power trading in India and **provides an electronic platform to the various participants in the power market**, comprising State Electricity Boards, Power producers, Power Traders and Open Access Consumers (both Industrial & Commercial).
- **IEX is one of the two operational Power Exchanges in India.**
- **Product Segments:**
  - **Day-Ahead Market (DAM)**
    - Launched in June 2008, in this segment, participants transact electricity on a 15-minutes block basis, a day prior to the delivery of electricity.
    - Both buyers and sellers submit their anonymous bids electronically during the market bid session and matching of bids are done on a double-sided auction mechanism with a uniform market clearing price.
  - **Term-Ahead Market (TAM)**
    - Launched in September 2009, contracts under TAM cover a range for buying/selling electricity for a duration up to 11 days.
    - It enables participants to purchase electricity for the same day through intra-day contracts, for the next day through day-ahead contingency, on a daily basis for rolling seven days through daily contracts, and on a weekly basis through weekly contracts to manage their electricity portfolio for different durations.
  - **Renewable Energy Certificates (REC)**
    - Launched in February 2011, the Renewable Energy Certificate market facilitates transactions in environmental attributes.
    - The Renewable Energy (RE) generator can opt to get RECs against the green attributes of their generation.
    - These generators can sell RECs through the exchange. On the other hand, the obligated entities-distribution companies, captive plants and open access consumers may opt to purchase RECs to fulfil their Renewable Purchase Obligation (RPO).
    - The renewable energy generators are able to sell electricity to distribution companies at their average power purchase cost, utilize the same for captive consumption, or sell it to third parties while selling the environmental attribute of the renewable electricity through RECs. The REC Market offers both solar and non-solar RECs
  - **Energy Saving Certificates (ESCCerts)**
    - ESCerts are the tradable certificates under the Perform, Achieve, Trade (PAT) Scheme of Bureau of Energy Efficiency (BEE), a market-based mechanism to incentivise energy efficiency in large energy-intensive industries.
    - IEX became the first and only Power Exchange to commence trading in ESCerts on 26 September 2017.



### Power System Operation Corporation

- Power System Operation Corporation Limited (POSOCO) is a CPSE under the jurisdiction of Ministry of Power, Government of India.
- It is responsible to monitor and ensure round the clock integrated operation of Indian Power System in a reliable, efficient and secure manner thus serving a mission critical activity.
- It consists of 5 Regional Load Despatch Centres (RLDCs) and the National Load Despatch Centre (NLDC).
- Various apps like Vidyut Pravah, Merit, etc. developed by POSOCO are being used for dissemination of real time information about Indian Power System in public domain for bringing transparency in electricity market operation

### 33. ₹ 6250-cr IPO was approved: PharmEasy's parent company withdraws DRHP

#### Context

Fearing volatility in stock markets, API Holdings, the parent company of healthtech unicorn PharmEasy, has withdrawn its **draft red herring prospectus (DRHP)** that it had filed with the **Securities and Exchange Board of India (Sebi)**, the company informed its shareholders in a note.

#### What is DRHP?

- A Draft Red Herring Prospectus (DRHP) is a legal preliminary document. It serves as an important communication link between the IPO-bound company and its investors and stakeholders.
- A company which wants to raise funds from public via public issues is needed to file a draft prospectus with SEBI (Securities and Exchange Board of India).
- This prospectus has most information related to company's operations, its directors, its past record etc. except some key details such as issue price. There is a bold disclaimer which mentions that the information is preliminary and subject to change.

#### What SEBI does with DRHP?

- SEBI reviews and ensures that adequate disclosures are made by the issuer to enable investors to make an informed investment decision in the issue.
- It must be clearly understood that SEBI does not 'vet' and 'approve' the offer. Also, SEBI does not recommend the shares or guarantee the accuracy or adequacy of DRHP.
- SEBI'S observations on the draft offer document are forwarded to the merchant banker, who incorporates the necessary changes and files the final offer document with SEBI, Registrar of Companies (RoC) and stock exchanges.
- After reviewing the DRHP, the market regulator gives its observations which need to be implemented by the company. Once the observations are implemented, it gets final approval & the document then becomes RHP (Red Herring Prospectus).
- When RHP's registration with RoC becomes effective, a final prospectus which contains IPO price and issue size is released.

### 34. Gross State Domestic Product

#### Context

Emerging from the shock of the Covid-19 pandemic, economies of 19 states and Union Territories exceeded their pre-Covid levels according to the Ministry of Statistics and Programme Implementation.

#### Details:

- In 2021-22, India's GDP expanded at 8.7 per cent against a 6.6 per cent contraction in 2020-21.
- The Gross State Domestic Product (GSDP) of the 19 states and UTs had contracted or recorded a negligible growth during 2020-21 while their economies bounced back and exceeded their pre-Covid (2019-20) levels in 2021-22.

- **Kerala and Uttar Pradesh** are the **only exceptions** with their GSDP continuing to remain below the pre-Covid levels.

#### States

Highest growth  
Lowest growth  
Lowest growth among big states  
Double digit growth

#### Growth rate in 2021-22

Andhra Pradesh – 11.43 per cent  
Puducherry – 3.31 percent  
Uttar Pradesh- 4.24 per cent  
Rajasthan (11.04 per cent), Bihar (10.98 per cent), Telangana (10.88), Delhi (10.23 per cent), Odisha (10.19 per cent) and Madhya Pradesh (10.12 per cent) including Andhra Pradesh.

#### Causes of growth:

- **Base effect-**

- It refers to the impact of an increase in the growth rate (i.e. previous year's growth) over the corresponding rise in growth rate in the current year (i.e., current growth).

- **Post pandemic recovery**

#### Concept:

- The **Ministry of Statistics and Programme Implementation** compiles the GSDP figures as reported by the Directorate of Economics & Statistics of respective state governments.
- Compilation of GSDP is **similar to that of compiling GDP** of the entire economy i.e. measuring the volume in monetary terms, the total value of goods and services produced **within the geographical boundary of the state**.
- GSDP is the **sum total of value added by different economic sectors** (Agriculture, Industry & Services) produced within the boundaries of the state calculated without duplication during a year.
- From Gross State Domestic Product (GSDP), the Consumption of Fixed Capitals (CFC) is deducted to arrive at **Net State Domestic Product i.e. NSDP = GSDP – CFC**
  - **Consumption of Fixed Capital (CFC)** is the value of fixed capital which is consumed during the process of production. It is calculated on the basis of life span of the fixed asset.
- **GSDP at Current Price and Constant Price**
  - GSDP estimated for an accounting year is measured at current price is known as **GSDP at current price**.
  - It is necessary to eliminate the effect of price inflation to compare the production over the years. This is done by calculating the value of GSDP at a particular base year price. The GSDP thus obtained is known as **GSDP at constant prices**. This gives a measure of the real growth of the economy.
- **GSDP at Factor Cost**-Sector wise GVA estimates is known as GSDP at Factor Cost. No taxes and subsidies are taken into consideration while calculating individual GVA.
- **GSDP at Basic Price**-GSDP at factor cost + Production Tax – Production Subsidies = GSDP at Basic Price
- **GSDP at Market Price**-GSDP at Basic Price + Product Tax – Product Subsidies = GSDP at Market Price.
  - For calculation of rate of Fiscal Deficit to Total GSDP, The GSDP at Market Price is the denominator factor.

#### Importance of State Domestic Product

- The State Domestic Product (SDP) or State Income is the **most important indicator for measuring the economic growth of a State**.
  - These estimates of the economy, **over a period of time, reveal the extent and direction of the changes in the levels of economic development**.
- The State Domestic Product is **classified under three broad sectors** such as Primary sector, Secondary sector and Tertiary sector and is compiled economic activity wise as per the **methodology prescribed by the Central Statistics Office (CSO)** and furnished to the Ministry of Statistics and Programme Implementation (MOSPI).

- It throws light on the overall **impact of various developmental programmes implemented by the Government and helps in inter-state comparison.**
- The **Finance Department prepares a macroeconomic framework statement and fiscal policy statement**, every year, using the SDP estimates for placing before the Legislature during Budget Sessions as part of Fiscal Responsibility and Budget Management (FRBM) Act, 2005.

#### **Richest and poorest states in India by GDP**

**Maharashtra** has the **highest GSDP** among 33 Indian States and Union Territories. As of the FY 2018-19, Maharashtra contributes **13.88% of India's GDP** at current prices, followed by **Tamil Nadu (8.59%)** and the most populous state **Uttar Pradesh (8.35%)**. Other states in top 5 are **Gujarat (7.92%)** and **Karnataka (7.87%)**.

India's largest state Rajasthan is at number 7, behind West Bengal, poorest state Bihar is at number 14, and capital Delhi is at number 12.

The top 5 states share 46.6% of India's total economy. Five states of South India together account for close to 30%. Eight states of North-East India share 2.8%.

Andaman & Nicobar Islands has the lowest GSDP in the list of 33 states/UTs. Followed by Mizoram, Arunachal Pradesh, Nagaland, and Manipur.

### **35. US jobs-recession paradox**

#### **Context:**

There is no historical precedent for a recessionary economy to produce 528,000 jobs in a month — as the US economy did in July

#### **Details:**

- A **recession generally caused by an increase of interest rates** by the Reserve Bank of a country.
  - Rising rates cause systematic risks in the financial system, apart from declining consumption and demand due to **higher cost of borrowing** which causes decline in the economic activity of the country.
- **Every US recession since World War II has been characterized by:**
  - **Decline in Gross Domestic Product (GDP) and**
  - **Simultaneous rise in unemployment.**
    - **Economic contraction and unemployment typically move in together** because they feed on each other:
    - When there is a downturn, businesses lay off workers. As a result, people spend less money, which, in turn, dampens demand and lowers profits for businesses. So they lay off more workers, which further dents demand, and this ends up becoming cyclical.
- **However, presently.**
  - **Economic output** in the US is **contracting** in line with the Fed's rate-tightening.
  - **Unemployment rate** is 3.5%, which is the **lowest since 1970**.
  - The labour market is also showing record high ratios of new job openings to potential applicants—which points to the fact that **companies are still reporting open job postings**.

#### **Cause?**

- **Massive inventory glut**-given the rush to hoard commodities
- **Surge in stock market** on account of higher corporate earning
- **Supply shortage given the demand**-Excess liquidity, not debt, is the most likely cause for a recession
  - It didn't have the manufacturing capacity to meet the additional demand, but it had triggered the demand by handing over cash to people through a stimulus.
- **Wage-price spiral**
  - People expect future prices to be higher and demand higher wages. But this, in turn, creates its own spiral of inflation as companies try to price goods and services even higher due to rise in the cost of production.

#### **Implication-**

- **Less intense recession to the corporate sector**
- **More headroom for monetary tightening** till employment starts to decrease

- **On developing country like India**
  - When the Fed raises its policy rates, the difference between the interest rates of the two countries narrows, thus making countries such as India less attractive leaving **capital outflows**.
  - A high rate signal by the Fed would also mean a lower impetus to growth in the US, which could be yet **negative news for global growth**
  - Capital outflows follow currency **depreciation and widening current account deficit & imported inflation**.

### 36. Generalized System of Preferences (GSPs)

#### Context:

The Centre may engage with the industry to assess the impact of the European Union's decision to withdraw preferential tariff benefits for certain products from India, including electrical machinery, plastics, articles of stones and articles of leather, from January 2023

#### Details:

- Under the scheme, the EU allows **preferential access to identified products originating in certain developing countries**, in its markets in the form of **reduced or zero rates of customs duties**.
- According to EU rules, GSP beneficiaries can **lose preferences for specific product categories that are deemed to have become sufficiently competitive**
- The EU adopted a new Generalized Scheme of Preferences **in 2012**.
- **It has 3 strands:**
  - **GSP general arrangement:** for all beneficiary countries
  - **GSP+:** A special scheme with entire removal of tariffs on essentially the same product categories as those covered by the general arrangement.
  - **Everything But Arms:** A special arrangement for least developed countries (as recognised and classified by the UN) giving them duty- and quota-free access for all products, except arms and ammunition.

#### About Generalized System of Preferences (GSPs)

- The scheme was first envisaged by the UN to help developing countries integrate with the world economy.
- It was instituted in 1971 under the **aegis of United Nations Conference on Trade and Development (UNCTAD)**
- It is an umbrella that comprises the **bulk of preferential schemes granted by industrialized nations to developing countries**.
  - It involves reduced Most Favoured Nations (MFN) Tariffs or duty-free entry of eligible products exported by beneficiary countries to the markets of donor countries.
- **The 13 countries that provide GSP preferences to emerging and developing countries are:**

Australia, Belarus, Canada, European

Union, Iceland, Japan, Kazakhstan, New

Zealand, Norway, Russia, Switzerland, Turkey, USA

- **The motive** behind granting GSPs is to help developing countries and particularly least developed countries (LDCs) to promote productive capacity development and to encourage trade and investment.

### 37. Chinese companies and associated rules in India

#### Context

Scores of chartered accountants, company secretaries and cost accountants are currently under the regulatory scanner for alleged violations of the company's law with respect to setting up of certain Chinese companies and their subsidiaries in India.

#### Concept:

- **Chinese companies** in the sense that they have **Chinese directors as promoters**.
- The **incorporation process** involves various services such as drafting and certifying the documents and submission of the same to the **Registrar of Companies for their approval**.

#### Steps taken:

- The corporate affairs ministry laid **stricter norms for appointment of individuals from certain countries**, including China, as directors on the boards of Indian companies, by making security clearance mandatory for such individuals.
  - Land border-sharing nations' citizens who are appointed as directors on boards of companies have to obtain a security clearance from the Ministry of Home Affairs along with the consent form.
- FEMA has been made mandatory for entities from such countries involved in amalgamations with Indian companies.
- The April 2020 guidelines required **mandatory government approval for foreign investment coming from countries sharing land borders with the country**. Previously, only investments from Pakistan and Bangladesh faced such restrictions.
  - Aimed primarily at China, the new rule stated that foreign investors from these nations would have to seek regulatory approval before investing in India or increasing their stakes in Indian companies.

### Registrars of Companies (ROC)

**Registrars of Companies (ROC)** appointed under **Section 609 of the Companies Act** covering the various States and Union Territories are vested with the primary duty of **registering companies and LLPs** floated in the respective states and the Union Territories and ensuring that such companies and LLPs comply with statutory requirements under the Act. These offices function as a **registry of records, relating to the companies registered with them**, which are available for inspection by members of the public on payment of the prescribed fee. The Central Government exercises **administrative control over these offices through the respective Regional Directors**.

### 38. Overseas borrowing, a double-edged sword?

#### Context

Allure of cheaper rates may be **deceptive** as foreign currency loans can actually prove to be **expensive**

#### Multiple ways to boost companies' capital

- The first method would be to **infuse excess earnings into the company** through retained earnings.
- The second would be to **dilute the stake of existing shareholders of the company by creating a rights issue to infuse equity capital into the firm**.
- The third, and arguably the quickest method, would be to **borrow money from banks directly, NBFCs or the open market through issuing bonds/debentures**.
- Fourth, **borrowings denominated in foreign currencies**

#### Arguments behind borrowing in foreign currencies

- When there is **interest-rate disparity between the domestic and foreign markets (favouring the latter)**, it becomes cheaper to service such loans.

#### Risks

- It is crucial to note the borrower is still **open to exchange risk, notwithstanding the difference in interest to be paid**.
- If the **domestic currency were to decline compared with the foreign currency**, the **company is liable to pay more than it had bargained for in real terms**.
- Therefore, the **currency risk must be offset by your revenue denominated in the foreign currency or by some other measure**.

#### Example

- **Vedanta**, a mining company with a market capitalisation of ₹93,896 crore (at the time of writing this piece), **had borrowed \$1.2 billion in February 2021** when the U.S. dollar to rupee conversion rate stood at **roughly ₹72.6** but touched a **high of ₹80.03** on July 18 this year. **The dollar, in nominal terms, appreciated by 10.6% in over a year-and-a-half. An increase of 10.6% in the total interest payments amounts to \$1.394 billion.**

#### Challenges

- The problem with **borrowing in the current environment is the impending risk of a recession** due to **increased interest rates to curb inflation**. Central banks worldwide, primarily the **Federal Reserve**, have raised rates unanimously.
- The effect of **rising rates has two facets**,



- the first being the **threat of lower earnings from a shrinking economy**, and
- the second being the **depreciation of the rupee compared with foreign currencies**.
- Although the **borrowing of these companies remains constant**, their revenues decrease due to a recession, increasing the real burden of their debt.

#### NCDs (non-convertible debentures)

- Debentures are **long-term financial instruments that are issued by companies to borrow money**.
- Some debentures have a feature of convertibility into shares after a certain point of time at the discretion of the debenture holder.
- **The debentures which cannot be converted into shares are called non-convertible debentures (or NCDs).**
- **There are two types of NCDs-secured and unsecured.**
- A **secured NCD is backed by the assets of the company. If the company fails to pay the obligation**, the investor holding the debenture **can claim that through liquidation of those assets**.
- Contrary to this, there is **no backing in unsecured NCDs if company defaults**.

### 39. The privatization of public sector banks

#### Context

India's public sector banks have struggled with high levels of non-performing assets (NPAs) leading to restriction of normal functioning and decline in profitability

- Steps taken:
  - RBI has put many Public sector banks under Prompt Corrective Action (or PCA)
  - Recapitalisation of banks
  - Privatisation of PSBs

#### Arguments in favour of privatisation:

- Reduce the **financial burden on the government**
- Banks would be **more efficient and profit-making entities** under private ownership
- Private sector banks have **lower bad asset**
- Higher percentage of contribution in **getting deposits from savers and lending**.
- Better **contribution in employment generation and branch addition**
- **Less prone to banking fraud**
- Higher **market capitalisation than PSB**

#### Arguments against rapid privatization:

- PSBs source of **rural development and financial inclusion**
  - Private banks dominate the metropolitan areas, it is the **public sector banks that operate branches in rural India**.
  - Further PSBs **opened more ATMs in rural areas**
  - Private sector banks accounted for just 1.3 crores of the total of almost 46 crore **beneficiaries under the Pradhan Mantri Jan Dhan Yojana (PMJDY)**.
- As per RBI report contrary to public perception, **PSBs are more efficient than PVB, on the metric of objective fulfillment**.
  - When **profit maximisation is the sole motive**, efficiency of the PVBs has always surpassed that of their public sector but **when the objective function is changed to include financial inclusion**—like total branches, agricultural advances and PSL advances— **PSBs prove to be more efficient than PVBs**.
- Dominant share in **Infrastructure finance**-low profitability and long gestation projects
- PSBs are also more **effective in monetary policy transmission**, aiding the countercyclical monetary policy actions to gain traction.

**Conclusion**-focus should be laid on achieving a mix of public and private banks that best serves the needs of a diverse economy such as India.

**Concept:**

**Scheduled Commercial Banks** ‘are banks included in the **second schedule of the RBI Act**. It comprises Public Sector Banks, Regional Rural Banks, Private Sector Banks, Small Finance Banks (SFBs), Scheduled Payments Banks and Foreign Banks.

Basis	Private sector bank	Public sector bank
Controlling authority	Private individual	Government of India
Shareholding pattern	More than 50% share with private corporations or individuals	Majority shares with central or state government
Governing act	Registered under Companies Act 2013	Special acts passed in Parliament like- State Bank of India(Subsidiary Banks)Act 1959
Regulating body	RBI	RBI
FDI	Cap on 74% no control and management. No single entity has more than 10% stake in a bank.	20%
Selection of management	Own process as per RBI guidelines	Bank Bureau of India
Central Vigilance Commission and RTI Act 2005	private sector banks are not under the ambit of the Central Vigilance Commission and RTI Act 2005	All PSB's come under the purview of the Central Vigilance Commission and RTI Act 2005.

#### 40. Overseas Investment

##### Why in the news?

The finance ministry made it tougher for loan defaulters and those facing probe by investigative agencies to invest in overseas entities.

##### Details:

- They need to secure a **no-objection certificate (NOC)** from their lenders, or the regulators or probe agencies concerned before making overseas investments,
- This NOC will be **mandatory** for any person who has a bank account classified as a **non-performing asset, or is labelled a wilful defaulter** by any bank, or is under **investigation by a financial service regulator, the Enforcement Directorate (ED) or the Central Board of Investigation (CBI).**

##### Concept:

- At present, the **overseas investment by a resident in India is governed by**
  - the Foreign Exchange Management (Transfer or Issue of Any Foreign Security) Regulations, 2004, and
  - the Foreign Exchange Management (Acquisition and Transfer of Immovable Property Outside India) Regulations, 2015.
  - The Overseas Investment Rules and Regulations, notified under the Foreign Exchange Management Act (FEMA), subsumes all existing norms relating to overseas investments as well as the acquisition and transfer of immovable property outside India.
- As per the **Foreign Exchange Management (Overseas Investment) Rules 2022,**
  - An Indian entity can invest up to four times of its net worth in a foreign entity.
  - It is permitted to invest up to 50 per cent of its net worth in overseas portfolio investment.
  - An Indian entity may make Overseas Direct Investment (ODI) by way of buying shares either through subscription, acquisition through bidding or tender procedure by way of rights issue or allotment of bonus, shares, capitalisation, swap of securities and through merger, demerger, amalgamation or any scheme of arrangement.
  - An Indian Financial institution may make ODI in a foreign entity, which is directly or indirectly engaged in financial services activity.

- A resident individual can invest in non-financial companies without any limit, to acquire foreign securities by way of inheritance, gift from a person residing in India and in case the gift giver is in abroad (as per the provisions of the Foreign Contribution (Regulation) Act 2010)
  - Employee or a director of an office in India or branch of an overseas entity or a subsidiary in India of an overseas entity, or of an Indian entity in which the overseas entity has direct or indirect equity holding allowed acquisition of shares or interest under Employee Stock Ownership Plan or Employee Benefits Scheme or sweat equity shares.
  - Indian entities or residents can make ODI in start-ups recognised under the law in the host country, but only from its internal accruals.
  - **No Indian resident will be permitted to make investments in foreign entities** that are engaged in real estate business, gambling in any form and dealing with financial products linked to the Indian rupee without the central bank's specific approval.
  - **Direct investment outside India** means investments, either under the Automatic Route or the Approval Route, by way of contribution to the capital or subscription to the Memorandum of a foreign entity or by way of purchase of existing shares of a foreign entity either by market purchase or private placement or through stock exchange, signifying a long-term interest in the foreign entity.
  - **Overseas Portfolio Investment**-listed Indian companies can invest up to 50% of their net worth as on the date of the last audited Balance Sheet in overseas companies, listed on a recognized stock exchange, or in the rated debt securities issued by such companies.
- Foreign direct investment (FDI)** occurs when a company purchases an interest in a company by a company located outside its own borders. **Overseas direct investment ODI** occurs when a resident company invests in a wholly-owned subsidiary (or joint venture) in a non-resident country, in order to expand the business.

#### 41. Declining State Financial Health

Chief Ministers expressed their concern about dwindling State revenues in a NITI Aayog meeting chaired by the Prime Minister.

##### Causes of worsening financial health of States:

- **Schemes and exigency**-implementation of the Ujwal DISCOM Assurance Yojana, farm loan waivers, the pandemic
- **Revenue- expenditure mismatch-**
  - The Constitution grants the Union government more revenue-raising powers while the States are tasked to undertake most of the development and welfare-related responsibilities.

	Aggregate Revenue raised	Aggregate Expenditure made
<b>Centre</b>	62.7%	37.3%
<b>State</b>	37.6%	62.4%

- **Decline in devolution-**
  - Although the 14th and 15th FC raised the share of States in gross taxes to over 40%, the actual share never reached this mandated level.
  - After reaching a peak of 36.6% in FY19, States' share fell and has since stagnated at around 29%.
- **Rising gap in tax devolution-**
  - The gap between the share recommended by the FC and the actual devolution has widened to the highest in at least two decades.
- **Mismatch in revenue shares**-State's share declining while Centre's share rising
- **The share of cesses and surcharges** in gross tax revenue has risen from 10.4% in FY12 to 20% by FY21 which is not shared with States.
  - In FY19 and FY20, about 40% of the cesses levied were not transferred to the Reserve Funds.

- Between FY10 and FY20, not a single rupee of oil cess was transferred to the Oil Industry Development Board (OIDB).

## 42. Corporate Bond

### Context

In FY22, the amount of money raised through public issuances of corporate bonds was just about **2 percent** of the amount of money raised through private placement as per a deputy governor of the **Reserve Bank of India (RBI)**

### Concept:

#### Corporate Bonds:

- Corporate Bonds are **debt instruments that a private firm or company issues to raise money from the public.**
- People who invest in corporate bonds are called **bondholders** and lend money to the company by buying the issued corporate bonds.
- When the bondholders invest in the corporate bonds of a company, the company makes a legal commitment to provide regular interest payments on the principal amount based on the corporate bond rates. Furthermore, after maturity, the company has to pay back the principal amount to the bondholders. Corporate bond types offer numerous features but have to fulfill the basic legal obligations such as interest payments (not in the case of zero-coupon bonds) and the repayment of principal.

#### Types of Corporate Bonds

- **Zero-coupon Bonds:**
  - These types of bonds do not pay regular interest to the bondholders but are available at a discount.
  - The only payment done is for repaying the principal amount at the time of maturity. However, bondholders have to pay taxes on the accrued interest value.
- **Convertible Bonds:**
  - They are hybrid bonds that have the option to be converted to stocks based on the underlying asset of the bond.
  - Once the bonds are converted to regular shares, the bondholders become shareholders and the issuer is not liable to pay interest in the future.
- **Floating Rate Bonds:**
  - Floating rate bonds have fluctuating interest rates and provide different interest payments to the bondholders every time.
  - The coupon rate is based on the prevailing interest rates in the market and the ability of the company to provide a certain interest to the bondholders.
- **Fixed-Rate Bonds:**
  - Fixed-rate corporate bonds, also called vanilla bonds, pay the bondholders a predetermined amount as interest.
  - The coupon rate is fixed at the time of issuance of such bonds and does not change throughout the tenure of the corporate bonds.
- **Investment Grade Bonds:**
  - Corporate bonds are classified based on their credit ratings. Investment-grade bonds are those corporate bonds that have a credit rating higher than BBB- and go up to the highest possible rating of AAA.
  - Investment-grade bonds are issued by financially strong companies and have a negligible possibility of default on payments.
- **Junk Corporate Bonds:**
  - Junk bonds are a type of bond that carries a higher risk of default.
  - The issuer of such bonds may not have the adequate cash flow to pay regular interest or repay the principal amount to the bondholders at the time of maturity.
  - The bonds issued by financially struggling companies are termed junk bonds and generally have higher yields as it is only through a high yield that junk bonds can offset any risk of default.

#### Issuing of bonds:

- **Public Issue-**
  - When an issue / offer of securities is made to new investors for becoming part of shareholders' family of the issuer, it is called a public issue.
  - Public issues can be **further classified into**
    - **Initial Public Offer (IPO):** When an unlisted company makes either a fresh issue of securities or offers its existing securities for sale or both for the first time to the public, it is called an IPO. This paves way for listing and trading of the issuer's securities in the Stock Exchanges.
    - **Follow on Public Offer (FPO):** When an already listed company makes either a fresh issue of securities to the public or an offer for sale to the public, it is called a Follow on Public Offer (FPO).
- **Private placement:**
  - A private placement is the sale of securities to a relatively small number of select investors as a way of raising capital. Investors involved in private placements are usually large banks, mutual funds, insurance companies and pension funds.
  - A private placement is different from a public issue, in which securities are made available for sale on the open market to any type of investor.
  - Private placement of shares or convertible securities by listed issuer can be **of two types:**
    - **Preferential allotment:** When a listed issuer issues shares or convertible securities, to a selected group of persons as per SEBI guidelines, it is called a preferential allotment. The issuer is required to comply with various provisions which inter-alia include pricing, disclosures in the notice, lock-in etc., in addition to the requirements specified in the Companies Act.
    - **Qualified Institutions Placement (QIP):** When a listed issuer issues equity shares or securities convertible into equity shares to qualified institutions buyers only in terms of provisions as per SEBI guidelines, it is called a QIP.
- **Rights Issue:**
  - When an issue of securities is made by an issuer to its shareholders existing as on a particular date fixed by the issuer (i.e. record date), it is called a rights issue.
  - The rights are offered in a particular ratio to the number of securities held as on the record date.
- **Bonus Issue:**
  - When an issuer makes an issue of securities to its existing shareholders as on a record date, without any consideration from them, it is called a bonus issue.
  - The shares are issued out of the Company's free reserve or share premium account in a particular ratio to the number of securities held on a record date.

#### 43. 135AA of the Customs Act

##### Context:

The Central Board of Indirect Taxes and Customs (CBIC) has announced ₹1 lakh penalty for the first offence under section 135AA of the Customs Act.

##### Details:

Union Budget 2022 inserted section 135AA to protect the import and export data submitted to Customs by importers or exporters in their declarations by making the publishing of such information unless provided by the law, as an offence under Customs Act.

##### Concept:

##### 135AA of the Customs Act:

- **Union budget 2022** inserted section 135AA in the custom Act
- The section **prohibits unauthorized publication of import-export data.**
- Publication involves **information's relating to:**
  - the value or
  - classification or
  - quantity of goods entered for export from India, or import into India, or
  - the details of the exporter or importer of such goods



- An individual can be **punished** with six months' imprisonment or with a fine that can be extended to Rs 50,000 or both for unauthorised publication of export and import data.
- The penalty can be increased by 100% for each subsequent offence.

#### **Central Board of Indirect Taxes & Customs (CBIC)?**

- The Central Board of Indirect Taxes is under the **Department of Revenue, Finance Ministry, Government of India.**
- The CBIC was previously known as the **Central Board of Excise and Customs (CBEC).**
- It engages in policy formulation of matters concerned with the levy and collection of central excise duties, customs, central goods and services tax and IGST, administration of these taxes, prevention of smuggling and also narcotics to the extent prescribed.
- The CBIC is the **administrative authority for its subordinate organisations**, including Central Excise and Central GST Commissionerate's, Custom Houses and the Central Revenues Control Laboratory.
- CBIC is a **statutory body** established under the **Central Boards of Revenue Act, 1963.**
- CBIC was formed in 1964 when the Central Board of Revenue was split into the Central Board of Direct Taxes (CBDT) and the Central Board of Excise and Customs, which was renamed the Central Board of Indirect Taxes and Customs in 2018.
- The Central Board of Revenue was set up under the Central Board of Revenue Act, 1924 as the apex body of the Income Tax Department.
- **The CBIC Chairperson** is the senior-most Indian Revenue Service (IRS – Customs & Indirect Taxes) officer in India.
- **CBIC Functions**
  - CBIC administers indirect taxes in India such as goods and services tax, and customs.
  - Collection of Goods & Services Tax and previously Central Excise Duty and Service Tax.
  - Collection of Customs Duty on Land Customs Stations, Inland Container Depots (ICDs), Special Economic Zones (SEZs) & Container Freight Stations (CFSs).
  - Collection of Customs Duty on International Airports, Seaports, Custom Houses, International Air Cargo Stations & International ICDs.
  - Prevention of Smuggling on International Airports & Sea.
  - Prevention of Smuggling through Land Customs Station & Border Checkpoints.

#### **44. India said to plan sops for rupee use in Russia trade**

##### **Details:**

- India may give incentives to exporters settling **trades using rupees** to boost the **acceptability of the currency** and increase sales of **goods to Russia**, which has fallen because of western sanctions, according to government and industry sources.
- The move is designed to **boost Russian trade** after the **Reserve Bank of India (RBI)** put in place a mechanism for international trade settlements using the rupee last month. Indian companies are already swapping out the dollar and euro for Asian currencies to settle trades to avoid Western sanctions imposed on Russia after their invasion of Ukraine.
- The most likely incentive that will be granted would apply a current programme for trades using fully convertible currencies such as the dollar and the euro to the rupee, which is only partially convertible, according to the three sources. Under the existing programme, Indian exporters receive rebates on a portion of the taxes and customs duties accumulated during the entire process of manufacturing a good. The new incentive would apply those rebates to goods exported using the rupee as a currency, the sources said
- Convertibility of currency means when currency of a country can be freely converted into foreign exchange at market determined rate of exchange that is, exchange rate as determined by demand for and supply of a currency. For example, convertibility of rupee means that those who have foreign exchange (e.g. US dollars, Pound Sterling's etc.) can get them converted into rupees and vice-versa at the market determined rate of exchange. Rupee is both convertible on capital account and current account.

##### **Rupee convertibility and its advantages:**

Current Account Convertibility of rupee	Capital Account Convertibility of Rupee
Current account convertibility means when foreign exchange (e.g. Pound Sterling, U.S. Dollar etc) received for export of merchandise and services can be freely converted into Indian rupees and vice-versa in case of imports.	Capital Account Convertibility (CAC) is the freedom to convert local financial assets into foreign financial assets at market determined exchange rates. Referred to as 'Capital Asset Liberation' in foreign countries, it implies free exchange ability of currency at lower rates and an unrestricted mobility of capital. India, at present has partial capital account convertibility
<b>Encouragement to exports:</b> Market rate remains generally higher than the officially determined exchange rate. This implies that from given exports, exporter can get more rupee against foreign exchange. This will help to increase exports	<b>Unrestricted mobility of Capital:</b> Capital account convertibility allows free mobility of Capital into a country from the foreign investors. It allows converting the foreign exchange brought into as Capital to convert into rupees at market determined rates, which makes the investors encouraging. It allows the foreign investors to easily move in and move out from an economy. This enables the domestic companies to raise funds from abroad.
<b>Encourages import substitution:</b> Imports become expensive due to convertibility of rupee. So it discourages imports and boosts import substitution	<b>Ability to invest in abroad easily:</b> Capital account convertibility allows the individuals of a nation to invest in abroad by easily converting their rupees into foreign exchange at the rates determined by the Market. This enables those potential domestic investors to acquire & own the assets in abroad.
<b>Incentive to remittances from abroad:</b> Earlier, NRIs used to send money illegally to India such as Hawala money and gold etc. But due to removal of restrictions, NRIs can easily remit money to India. It will help to improve Balance of payment	<b>Improved access to global financial markets:</b> One can easily invests in the equity and debt markets of another economies alongside a reduction in the cost of capital
<b>Reduction in Malpractices:</b> The malpractices like under-invoicing of exports may not arise as rupee is fully convertible and they will get full value for their exports	
<b>A self – balancing mechanism:</b> Another important merit of currency convertibility lies in its self-balancing mechanism. When balance of payments is in deficit due to over-valued exchange rate, under currency convertibility, the currency of the country depreciates which gives boost to exports by lowering their prices on the one hand and discourages imports by raising their prices on the other.	

**Tarapore Committee on capital account convertibility:** A committee on capital account convertibility was setup by the Reserve Bank of India (RBI) under the chairmanship of former RBI deputy governor S.S. Tarapore to "lay the road map" to capital account convertibility. In 1997, The Tarapore Committee had indicated the preconditions for Capital Account Convertibility. The three crucial preconditions were fiscal consolidation a mandated inflation target and strengthening of the financial system.

#### 45. Nine new forms

##### Context

The Corporate Affairs Ministry (MCA) on Wednesday announced the next big step in the rollout of Version 3.0 of MCA21, India's first mission mode e-governance project. It has decided to, from September 1, on-board corporates currently on Version 2.0, sources said.

- MCA has identified as many as nine company forms — **DIR3-KYC Web, DIR3-KYC Eform, DPT-3, DPT-4, CHG-1, CHG-4, CHG-6, CHG-8 and CHG-9** — that will go live from September 1 and would be the first set to be launched on the MCA21 V3 portal. "In view of the upcoming launch of 9 company forms in version-3, LLP filings on MCA21 V-3 portal will not be available from August 27 (00.00 AM) to August 28 (23.59 hrs). However, MCA21 V-2 portal for company filings will remain available," MCA said on Wednesday.
- MCA also said that remaining company forms and other modules like e-adjudication, compliance management systems are scheduled to be fully deployed within the calendar year.
- MCA is currently rolling out MCA21 Version 3.0 in phases to ensure minimum disruption in regulatory filings.
- The Version 3.0 module has already been implemented for limited liability partnerships (LLPs). MCA 21 is the online portal of the MCA, which has made all company-related information accessible to stakeholders and the general public. It was initially launched in 2006.
- L&T Infotech has a contract for operating and maintaining MCA21 V3.0.

#### 46. Convertible vs Non-Convertible Debentures

##### Context

On 23 August, Adani Group companies said they had acquired the stake in NDTV indirectly by buying VCPL, which owned convertible debentures (warrants that provide for the conversion of debt to equity) in RRPR, that in turn owns 29.18% of NDTV

##### Convertible vs Non-Convertible Debentures:

**Convertible debentures** are debentures that can be converted into equity of the company and have a low rate of interest. The value of maturity of convertible debentures is dependent on the stock price of the company at that time, which means a high stock price will give higher returns while a low stock price will give low returns.

**Non-convertible debentures** cannot be converted into equity shares of the company and offer a high rate of interest. The value of non-convertible debentures is fixed and hence they will receive fixed returns on maturity.

#### 47. India trend of growth data oriented

##### Context:

Explained Books: An economic history of independent India's book review

##### Details:

Trends in India's growth rate:

Period	Target growth rate	Actual growth rate
<b>British Raj (1900-01 to 1946-7)</b>	—	0.9%
<b>First five-year plan-1951 to 1956</b>	2.1%	3.6%
<b>Second Plan-1956 to 1961</b>	4.5%	4.2%
<b>Third Plan-1961 to 1966</b>	5.6%	2.4%
<b>Fourth Plan- 1969 to 1974</b>	5.7%	3.3%
<b>Fifth Plan-1974 to 1978</b>	4.4%	4.8%
<b>Sixth Plan-1980 to 1985</b>	5.2%	5.7%
<b>Seventh Plan- 1985 to 1990</b>	5%	6.0%
<b>Eighth Plan-1992 to 1997</b>	5.6%	6.8%
<b>Ninth Plan-1997 to 2002</b>	6.5%	5.6%
<b>Tenth Plan-2002 to 2007</b>	8%	7.6%
<b>Eleventh Plan-2007 to 2012</b>	9%	8%
<b>Twelfth Plan -2012 to 2017</b>	8%	7%

**Concept:****India's Planning Strategy- an overview:**

In the context of development planning, strategy refers to a basic long-term policy to realise certain objectives.

- **Harrod Domar Growth Model:**

Drafted by economist K.N. Raj, the first five-year plan was based on the Harrod–Domar model, which suggested that growth was dependent on two things.

- First, a high level of savings since higher savings enabled greater investment and
- Second, a low capital-output ratio that ensured efficient investment and a higher growth rate.

The Five-Year Plans were focused on making India self-sufficient, enabled industrial growth and ensured that development went beyond the urban areas and reached the interior parts of the country. The plan had a target of 2.1 per cent GDP growth for the fiscal year, however, it ended up recording a growth rate of 3.6 per cent that year.

The **first five-year plan based on the Harrod Domar model** suggested that production required capital and that capital can be accumulated through investment; the faster one accumulates, the higher the growth rate will be.

- **Mahalanobis Growth Strategy:**

While the First Five-Year Plan focused on agriculture and energy, the Second Five-Year Plan focused on the development of the public sector and rapid industrialisation. **Drafted by statistician P.C. Mahalanobis, the Second Plan was also called the Mahalanobis Plan.**

**Mahalanobis strategy of development** as it articulated by Jawahar Lal Nehru's vision and P.C. Mahalanobis was its chief architect. It focused on the following:

- **Rapid Industrialisation-** developing basic industries and industries which make machines to make the machines needed for further development.
- **Import substitution.** Protective barriers against foreign competition to enable Indian companies to develop domestically produced alternatives for imported goods and to reduce India's reliance on foreign capital.
- **Mixed economy with a strong bias towards public sector-**A sizable public sector active in vital areas of the economy including atomic energy and rail transport. A vibrant small-scale sector driving consumer goods production for dispersed and equitable growth and producing entrepreneurs.
- **Wage Good Model:**

An alternative model of development was developed by Vakil and Brahmananda. **Professors Vakil and Brahmananda** adapted and modified classical theory of growth of income and employment in the context of today's developing countries characterised by disguised unemployment. In sharp contrast to Mahalanobis model which emphasised the role of fixed capital Vakil and Brahmananda **laid stress on wage goods or what they called liquid capital in determining the growth of employment and income.**

In conformity with their emphasis on wage goods or liquid capital in their model they **propounded a strategy of development which accorded the highest priority to wage goods industries, especially agriculture in allocation of investment resources.**

**The Seventh plan marks a departure from earlier plan strategies and spelt out a new long-term strategy.**

- It reversed the role of the public sector and induced privatisation of industrial activity.
- It gave highest priority to increasing agricultural production through adoption of new technology.
- Liberalisation of the external sector with the aim of increasing efficiency in the manufacturing sector.

The administrative procedures were changed from regulatory to facilitatory procedures. The strategy was a variant of what is now known as **“Agricultural Development led Growth” Strategy or the “Wage Good model”** earlier advocated by Vakil and Brahmananda .

The national income of India registered 5.5% per annum growth rate during the 1980s. However, the strategy which enabled the country to step up the rate of economic growth during the 1980s **pushed the economy towards the economic crisis of 1990-91. Causes:**

- Heavy public expenditure leading to large scale fiscal deficit
- Higher inflation
- Balance Of Payments crisis-Gulf Crisis increased crude oil price and import bills
- **The New Development Strategy:**

The launching of **economic reforms by the government in 1991 is driven by the Rao-Man Mohan model** -Mr. Narasimha Rao, the Prime Minister 1991 and Finance Minister Dr. Man Mohan Singh. Its essence is contained in the New Industrial • Policy 1991 and extends beyond it too. The Model has the following contents

- Dismantle, selectively controls and permits in order to permit private sector to invest liberally- **Liberalisation**
- Open up the economy and create competition for PSEs- for better productivity and profitability-**Privatisation**
- External sector liberalization in order to integrate the Indian economy with the global economy to benefit from the resource inflows and competition-**Globalization ie the “export led growth strategy”**
- Reorient the role of the State in economic management. State should re focus on social and infrastructural development, primarily-**Indicative planning**
- **Inclusive and sustainable development:**

**Eleventh Five Year Plan** for the first time focused on Inclusive growth. It was prepared by **C. Rangarajan**. Its main theme was “rapid and more inclusive growth”.

**The Twelfth Plan** relies on an extensive range of government programmes, which cover a wide variety of sectors, to help **achieve inclusive and sustainable growth**. These include health, education, drinking water and sanitation, provision of critical infrastructure in rural and urban areas, programmes of livelihood support for the weaker sections and disadvantaged sections of our population. The broad vision of the plan is to achieve a ‘**Faster, Sustainable, and More Inclusive Growth**’.

#### 48. Circular economy

**Context:** Metal Sector Needs to be at Forefront of Circular Economy Model: Says Shri Jyotiraditya M. Scindia

**Concept:**

**What is a circular economy?**

- It is an economic system aimed at **eliminating waste; and the continual use of resources**.
- It includes **3 R’s (Reduce, Reuse and Recycle)**, Refurbishment, Recover, and Repairing of materials.
- Consumables in the circular economy are largely made of **biological ingredients** that are non-toxic and possibly even beneficial, and **can safely be returned to the biosphere**, either directly or in a cascade of consecutive uses.
- It is an **alternative to a traditional linear economy**. This linear economy is modeled on the take-make-waste industrial model (make, use, dispose).
- Circular economy aims to **design out waste**.
- **Sustainable Development Goal 12** → **responsible consumption and production** → requires changing the linear production model and shifting towards circular economy.
- The **circular economy has the potential to increase productivity and create jobs, whilst reducing carbon emissions and preserving valuable raw materials**.
- Example: **The ‘For Days’ model**
  - US clothing firm For Days was inspired by the volume of clothing hoarded in consumer wardrobes. ‘For Days’ encourages customers to send their old clothes in the post. It doesn’t matter whether they were made by For Days in the first place, and people receive money-off vouchers for new items in return.

**Circular Economy in India:**



- The Ministry of Electronics and Information Technology (**MeitY**) has formulated a policy paper on “**Circular Economy in Electronics and Electrical Sector**” to deal with e-waste.
- The patent certificate is issued recently to KVIC’s Kumarappa National Handmade Paper Institute (KNHPI) by the Controller of Patent for the **plastic-mixed handmade paper** developed under **Project REPLAN (REducingPLAstic from Nature)**.

#### 49. Need for more frequent labour data by govt flagged, with focus on rural

##### Details:

- The Centre is learnt to have held discussions at the highest level to look **into the delay in frequency of the release of government employment-unemployment data**, with one of the main concerns pertaining to the time lag in the **release of the official Periodic Labour Force Survey (PLFS)** as against **privately-conducted surveys such as the one brought out by Centre for Monitoring Indian Economy (CMIE)**.

##### Periodic Labour Force Survey

- The National Statistical Office (NSO) **under the Ministry of Statistics of Programme and Implementation (MoSPI)** conducts **the PLFS for rural and urban areas**.
- The survey was launched in 2017 and the first annual report was released (July 2017-June 2018), covering both rural and urban areas, in May 2019
- **Labour data for rural areas is published annually**, while that **for urban areas is released every quarter**. There is a **gap of at least a year in the release of the annual PLFS report**.
- PLFS was initially **conducted using the Computer Assisted Personal Interview (CAPI) application developed by the World Bank** with high expectations to improve the time lag to a great extent.

##### Definitions:

- **Labour Force Participation Rate:** It is the percentage of people in the labour force (those who are working or seeking or available for work) in the population.
- **Worker Population Ratio** is the percentage of employed people.
- **Unemployment rate** shows the percentage of people unemployed among the labour force.
- **Unemployed:** A person who is unable to get work for even an hour in the last seven days despite seeking employment is considered unemployed.

#### 50. Fed Monetary Policy

The US central bank will continue aggressive monetary tightening for as long as it takes to bring inflation towards the long-term goal of 2 per cent since the core **PCE index** — used by the Fed to measure inflation — continues to be at a three-decade high of 4.6 per cent.

##### Fed Reserve and the Monetary Policy:

- **Monetary policy in the United States** comprises the Federal Reserve’s actions and communications to **promote maximum employment, stable prices, and moderate long-term interest rates**--the economic goals the Congress has instructed the Federal Reserve to pursue.
- The **Federal Reserve Act of 1913** gave the Federal Reserve responsibility for setting monetary policy.
- The **Federal Open Market Committee FOMC**’s primary means of adjusting the stance of monetary policy is by changing its target for the federal funds rate.
  - **The federal funds rate** is the interest rate at which depository institutions lend balances at the Federal Reserve to other depository institutions overnight.
- The **FOMC has the ability to influence the federal funds rate**--and thus the cost of short-term interbank credit--**by changing the rate of interest** the Fed pays on reserve balances that banks hold at the Fed.
  - A bank is unlikely to lend to another bank (or to any of its customers) at an interest rate lower than the rate that the bank can earn on reserve balances held at the Fed.

##### How changes in the federal funds rate affect the broader economy?

- Federal funds rate changes are rapidly reflected in the **interest rates that banks and other lenders charge on short-term loans** to one another, households, nonfinancial businesses, and government entities.
- The **rates of return on commercial paper and U.S. Treasury bills**--which are short-term debt securities issued by private companies and the federal government, respectively, to raise funds--typically move closely with the federal funds rate.
- The **rates charged on longer-term loans** are related to expectations of how monetary policy and the broader economy will evolve over the duration of the loans, not just to the current level of the federal funds rate.
- Variations in interest rates in the United States also have a bearing on the **attractiveness of U.S. bonds and related U.S. assets** compared with similar investments in other countries
- Changes in the relative attractiveness of U.S. assets will **move exchange rates and affect the dollar value** of corresponding foreign-currency-denominated assets (**appreciation of dollar**)
- Have implications for a wide range of **spending decisions made by households and businesses.**
  - The FOMC eases monetary policy resulting in lower interest rates on consumer loans elicit greater spending on goods and services along with investments, Thus, raises employment.

#### **The PCE price index (PCEPI)**

- It is also referred to as the PCE deflator, PCE price deflator, or the Implicit Price Deflator for Personal Consumption Expenditures (IPD for PCE) by the Bureau of Economic Analysis (BEA) and as the Chain-type Price Index for Personal Consumption Expenditures (CTPIPCE) by the Federal Open Market Committee (FOMC),
- It is a United States-wide indicator of the **average increase in prices for all domestic personal consumption.**
- It is benchmarked to a base of 2012 = 100.
- The less volatile measure of the PCE price index is the **core PCE (CPCE) price index, which excludes the more volatile and seasonal food and energy prices.**
- In comparison to the headline United States Consumer Price Index (CPI), which uses one set of expenditure weights for several years, this index uses a Fisher Price Index, which uses expenditure data from the current period and the preceding period.
- This price index method assumes that the consumer has made allowances for changes in relative prices. That is to say, they have substituted from goods whose prices are rising to goods whose prices are stable or falling

## **51. Banking Frauds**

### **Context:**

With the intent of improving consumer protection amid cases of digital frauds, the Reserve Bank of India (RBI) is in discussions to set up a fraud registry to create a database of fraudulent websites, phones and various methods used by fraudsters.

### **Details:**

About 39 per cent of the complaints received by the RBI during last financial year related to digital transactions.

### **Banking Frauds:**

- The **primary responsibility for preventing frauds** lies with banks themselves.
- The **Reserve Bank of India (RBI)** has been advising banks from time to time about the major fraud prone areas and the safeguards necessary for prevention of frauds.
- Banks must strictly adhere to the time frame fixed for reporting fraud cases to RBI failing which banks would be liable for penal action prescribed under **Section 47(A) of the Banking Regulation Act, 1949.**
- **Fraud Monitoring Cell at Department of Banking Supervision** publishes a directory of officers of banks/Financial Institutions (FI) responsible for reporting of Frauds etc in January every year.

- In order to have uniformity in reporting-**frauds have been classified** mainly on the provisions of the Indian Penal Code:
  - Misappropriation and criminal breach of trust.
  - Fraudulent encashment through forged instruments, manipulation of books of account or through fictitious accounts and conversion of property.
  - Unauthorised credit facilities extended for reward or for illegal gratification.
  - Negligence and cash shortages.
  - Cheating and forgery.
  - Irregularities in foreign exchange transactions.
  - Any other type of fraud not coming under the specific heads as above.

#### **Reporting of Frauds to Reserve Bank of India**

- Fraud reports should be submitted in **all cases of fraud of Rs. 1 lakh and above** perpetrated through misrepresentation, breach of trust, manipulation of books of account, fraudulent encashment of instruments like cheques, drafts and bills of exchange, unauthorised handling of securities charged to the bank, misfeasance, embezzlement, misappropriation of funds, conversion of property, cheating, shortages, irregularities, etc.
- Fraud reports should also be submitted in cases where **central investigating agencies have initiated criminal proceedings** suo motto and/or where the Reserve Bank has directed that they be reported as frauds.
- Banks may also report frauds perpetrated in **their subsidiaries and affiliates/joint ventures**.

#### **Closing of cases:**

#### **52. Abhijit Sen- renowned agriculture economist passed away**

##### **Context:**

Abhijit Sen, renowned agriculture economist and former member of the Planning Commission, chairman of the Commission for Agricultural Costs & Prices (CACP), passed away Monday.

##### **Major contribution:**

- He authored the report of the High Level Committee on Long Term Grain Policy that was submitted in July 2000.
  - **Major recommendations:**
    - CACP be made an empowered statutory body.
    - The fixation of minimum support prices should be **based on the 'C2' cost of production**—to include all paid-out cultivation expenses in cash and in kind, plus the imputed value of unpaid family labour and rent/interest forgone on owned land and fixed capital assets.
- It paved way for the **Swaminathan formula**
- Universal public distribution system with uniform central issue prices for rice and wheat, while doing away with 'below poverty line' and 'above poverty line' categories as
  - This paved the way for the **National Food Security Act of 2013**.

##### **Concept:**

##### **Minimum Support Price (MSP)**

- The MSP is the **minimum price** set by the government for certain agricultural products, at which the products would directly be bought from the farmers if the open market prices are less than the cost incurred.
- It is based on a calculation of at least one-and-a-half times the cost of production incurred by the farmers.
- MSP is a "minimum price" for any crop that the government considers as remunerative for farmers and hence deserving of "support".
- It is announced to protect the farmers against a fall in prices in a year of bumper production.
  - When the market price falls below the declared MSP, the government would purchase the entire quantity from the farmers at MSP.
- The **chief objectives of setting up MSP** are:
  - Support farmers from distress sales
  - To procure food grains for public distribution

**Crops under MSP:**

- As of now, CACP recommends **MSPs of 23 commodities**, which comprise
  - 7 cereals (paddy, wheat, maize, sorghum, pearl millet, barley and ragi),
  - 5 pulses (gram, tur, moong, urad, lentil),
  - 7 oilseeds (groundnut, rapeseed-mustard, soyabean, seasmum, sunflower, safflower, nigerseed), and
  - 4 commercial crops (copra, sugarcane, cotton and raw jute).
- CACP submits its **recommendations to the government in the form of Price Policy Reports every year**, separately for five groups of commodities namely Kharif crops, Rabi crops, Sugarcane, Raw Jute and Copra.

**Factors for Recommending the MSP:**

- The CACP considers various factors while recommending the MSP for a commodity, including cost of cultivation.
- It **takes into account** –
  - the entire structure of the economy of a particular commodity or group of commodities
  - Cost of production
  - Changes in input prices
  - Input-output price parity
  - Trends in market prices
  - Demand and supply
  - Inter-crop price parity
  - Effect on industrial cost structure
  - Effect on the cost of living
  - Effect on the general price level
  - International price situation
  - Parity between prices paid and prices received by the farmers
  - Effect on issue prices and implications for subsidy

**Production Cost:**

- The CACP projects **three kinds of production cost** for every crop, both at state and all-India average levels.
  - **A2**–Covers all paid-out costs directly incurred by the farmer in cash and kind on seeds, fertilisers, pesticides, hired labour, leased-in land, fuel, irrigation, etc.
  - **A2+FL**–Includes A2 plus an imputed value of unpaid family labour.
  - **C2**–It is a more comprehensive cost that factors in rentals and interest forgone on owned land and fixed capital assets, on top of A2+FL.
- CACP considers **both A2+FL and C2 costs while recommending MSP**.
  - CACP reckons only A2+FL cost for return.
  - However, C2 costs are used by CACP primarily as benchmark reference costs (opportunity costs) to see if the MSPs recommended by them at least cover these costs in some of the major producing States.

**Swaminathan formula:**

National commission on farmers headed by M.S Swaminathan recommended the MSPs of crops be at least 50 per cent more than the 'C2' costs.

**The Commission for Agricultural Costs & Prices (CACP)**

- It is an attached office of the **Ministry of Agriculture and Farmers Welfare**, Government of India.
- It came into existence in **January 1965**.
- Currently, the Commission comprises a Chairman, Member Secretary, one Member (Official) and two Members (Non-Official).
- The non-official members are representatives of the farming community and usually have an active association with the farming community.
- MSP for major agricultural products are fixed by the government, each year, **after taking into account the recommendations of the Commission**.

**53. Housing Price Index**

**Context**

During the first quarter of 2022-23, the pricing index for homes in India went up by 3.5 per cent year-on-year, data released by the Reserve Bank of India (RBI) showed.

**Details:**

- Housing prices rose in 42 cities in the first quarter of 2022-23, while the rates of residential units fell in five cities and remained stable in three cities, according to the price index **Residex released by NHB**.
- On an all-India basis, **the house price index** expanded sequentially by 2.2 per cent in the first quarter of 2022-23.
- There was sequential contraction of the index for Delhi, Kolkata and Jaipur. Apart from these three cities, all other cities saw the index expanding.
- The overall increase in **composite HPI at Assessment Price and HPI at Market Price** is an indication of reviving the housing demand and rising cost of production.

**Concept:****Housing Price Index:**

- The **all-India house price index (HPI)** is a quarterly release done by the **Reserve Bank of India Base Year- 2010-11**.
- It is based on transaction-level data obtained from the housing registration authorities in 10 major cities in the country.
- **The cities are:** Ahmedabad, Bengaluru, Chennai, Delhi, Jaipur, Kanpur, Kochi, Kolkata, Lucknow, and Mumbai.

**NHB RESIDEX:**

- By the **National Housing Bank (NHB)** undertaken at the behest of the Ministry of Finance, Government of India.
  - **The National Housing Bank (NHB)** was established under the National Housing Bank Act of 1987 by the Government of India. Previously, NHB was considered a functional unit of RBI.
- The index was formulated under the guidance of a Technical Advisory Committee (TAC) composed of stakeholders from the housing market.
- It is a set of benchmarks that **aims to track housing price indicators across Indian cities**.
- Originally flagged off in July 2007, the index was discontinued in 2015
- It was refurbished and **re-introduced with effect to 2018** with:
  - enhanced city coverage (rising from 26 to 50, to be eventually raised to 100),
  - a new base year (2012-13) and
  - new data sources (with data from banks and home finance companies and market surveys).
- The NHB Residex currently offers **two sets of quarterly Housing Price Indices (HPIs)** across the cities it tracks.
  - List prices of under-construction property, collated through a survey of developers, are captured in– **the Market HPI**.
  - Data reported by banks and finance companies that extend home loans, is collated into – **the Assessment HPI**.

**The above House Price Index must not be confused with NHB Residex**

- The first official housing price index in India, known as NHB Residex, was launched in July 2007 in Mumbai.
- It is a National Housing Bank initiative that was undertaken at the request of the Ministry of Finance.
- On a quarterly basis, the **Housing Price Index (NHB Residex)** measures the price change of residential built-up areas in 26 major cities across India.
- NHB Residex aims to increase transparency in the Indian real estate market and build trust among stakeholders.

**54. Competitiveness Roadmap for India@100****Context**

A **7-7.5 per cent real economic growth** can make India an **upper-middle income (\$10,000 per capita income) country by 2047**, Bibek Debroy, Chairman, Economic Advisory Council to the Prime Minister (EAC-PM), said at the release of 'The Competitiveness Roadmap for India@100'.

**Details:**



- India is now a lower-middle income country with average prosperity levels at \$2,000 (\$7,150 at purchasing power parity).
- A 7-7.5 per cent real economic growth can make India an upper-middle income (\$10,000 per capita income) country by 2047
- The growth rate needs to accelerate to 8-8.5 per cent to make the country a higher income nation (\$12000 per capita income).

#### **Competitiveness Roadmap for India@100.**

- The India@100 document released by the **Economic Advisory Council to the Prime Minister (EAC-PM)**.
- It will serve as a roadmap for India's ascent to its centenary year and will **inform and direct the country's path to higher income status by 2047**.
- It is based on the **Competitiveness framework** which puts forth the idea of productivity as a driver of sustained prosperity.
- It guides the way for India to become a high-income country by 2047 through sector-specific and region-specific policies based on the **'4 S' principles— social progress, to be shared across all regions within India, to be environmentally sustainable, and to be solid in the face of external shocks**

### **55. Import Hedging**

#### **Context**

Worried about India's precarious external accounts and the weakening rupee, domestic importers are hedging a lot more of their currency exposures than they are required to.

#### **Details:**

- **Causes of currency depreciation-** high oil import bill, high domestic inflation and the Federal Reserve's aggressive interest rate rises leading to capital outflows.
- **Impact-** India witnessed a record trade deficit of \$30 billion in July, after exports contracted for the first time in almost one-and-a-half years.
  - Economists expect the current account deficit to widen significantly, with little or no support from investment flows.
- Normal policy is that 50% of the exposure should be hedged. But right now, importers are hedging imports near to 80%

#### **Concept:**

**Currency Hedging** is the act of entering into a financial contract in order to protect against unexpected, expected or anticipated changes in currency exchange rates. Hedging can be likened to an insurance policy that limits the impact of foreign exchange risk.

**An importer or a foreign borrower** has payables in foreign currency. Hence, they will be keen to ensure that the INR remains strong so that they can get more dollars for the same number of rupees when their foreign currency payable is due. An importer or a foreign currency borrower will have to hedge his business against a weakening of the rupee.

**The exporter**, on the other hand, has receivables in foreign currency at a future date. The exporter will have to ensure that the rupee stays weak as that will mean that he gets more INR for each dollar received. The exporter will be happy if the INR weakens but will need to protect himself against a strengthening of the rupee.

#### **How does currency hedging work?**

There are two main ways portfolio managers manage foreign currency risk :

- **Forward contracts** – The portfolio manager can enter into an agreement to exchange a fixed amount of currency at a future date and specified rate. The value of this contract will fluctuate and essentially offset the currency exposure in the underlying assets. Keep in mind that the investment will not benefit if currency fluctuations work in its favour.
- **Options** – For a fee, options give the holder the right, but not the obligation, to exchange one currency for another at a set rate for a certain period of time. This reduces the potential that a change in exchange rates will affect the return on the investment.

A **call spread** involves buying an option with the right to buy dollars, and offsetting its cost by selling another option. A **seagull option** reduces the cost further with the company making another option sale, alongside a call spread.

The risk can be hedged either using futures or using options. Let's take the example of the US-Rupee pair:

#### How can an importer use currency derivatives to hedge his currency risk?

An importer or a foreign currency borrower will have a dollar payable at a future date. Therefore, they need to **ensure that the INR does not depreciate too much** as it will mean that they will require more rupees to get the equivalent amount of dollars. The importer or the foreign currency borrower can **hedge their risk by buying the USD-INR futures**. When the rupee depreciates, the dollar will appreciate and therefore the value of the USD-INR futures will go up. **Any loss on his dollar payable due to weaker INR will be compensated by the long futures on the USD-INR.**

### 56. Foreign Exchange Management (Overseas Investment) Rules 2022

#### Context

Indian corporate entities can make overseas investments beyond the prescribed limit in strategic sectors such as energy and natural resources after obtaining necessary permissions.

#### Concept:

#### Foreign Exchange Management (Overseas Investment) Rules 2022:

- It has been notified under the **Foreign Exchange Management Act**, will be **administered by the Reserve Bank of India (RBI)**, and shall subsume all existing norms pertaining to overseas investments as well as the acquisition and transfer of immovable property outside India.
- It demarcates **Overseas Direct Investment and Overseas Portfolio Investment**.
- An Indian entity can invest up to four times of its net worth in a foreign entity.
- It is permitted to invest up to 50 per cent of its net worth in **overseas portfolio investment**.
  - A person resident in India can contribute to an investment in the equity or OPI as per the limit under the **liberalized Remittance Scheme of RBI**.
- Overseas Investment in excess of the limits is allowed in the **strategic sectors**-include energy, natural resources and such other sectors as may be decided by the Government
- An Indian entity may make **Overseas Direct Investment (ODI)** by way of buying shares either through subscription, acquisition through bidding or tender procedure by way of rights issue or allotment of bonus, shares, capitalisation, swap of securities and through merger, demerger, amalgamation or any scheme of arrangement.
- An **Indian Financial institution** may make ODI in a foreign entity, which is directly or indirectly engaged in financial services activity.
  - Earlier Overseas Direct Investment by a non-financial sector Indian entity cant invest into a foreign firm engaged in financial services activity.
- **Non-financial sector entities** can make a direct investment under the automatic route into a foreign entity engaged in financial services activity (except banking and insurance).
- A **resident individual** can invest in non-financial companies without any limit, to acquire foreign securities by way of inheritance, gift from a person residing in India and in case the gift giver is in abroad (as per th provisions of the Foreign Contribution (Regulation) Act 2010)
- Employee or a director of an office in India or branch of an overseas entity or a subsidiary in India of an overseas entity, or of an Indian entity in which the overseas entity has direct or indirect equity holding allowed acquisition of shares or interest **under Employee Stock Ownership Plan or Employee Benefits Scheme or sweat equity shares**.
- Indian entities or residents can make **ODI in startups recognised** under the law in the host country, but only from its internal accruals.
- **No Indian resident will be permitted to make investments** in foreign entities that are engaged in real estate business, gambling in any form and dealing with financial products linked to the Indian rupee without the central bank's specific approval.

- **The new regime has proposed that the approval route items would now be allowed under the automatic route:**
  - issuance of corporate guarantees to or on behalf of second or subsequent level step-down subsidiary (SDS) of an Indian entity earlier required the Reserve Bank's approval.
  - Any disinvestment involving write-off beyond the specified limits earlier required prior approval from the Reserve Bank.
  - The acquisition of equity capital in a foreign entity on a deferred payment basis has been permitted under the automatic route that was earlier under the approval route.
- An Indian entity that is not engaged in financial services activity in India, may make Overseas Direct Investment (ODI) in a foreign entity in **International Financial Services Centre (IFSC)**, which is directly or indirectly engaged in financial services activity, except banking or insurance.
  - A person resident in India can contribute to an investment fund or vehicle setup in **IFSC as Overseas Portfolio Investment**.
- It has also introduced the facility of **late submission fee for filing various overseas investment**-related returns / documents on lines similar to that for Foreign Investment and External Commercial Borrowings related transactions.
- The separate reporting requirements for setting up/winding up of step-down subsidiaries or alteration in the shareholding pattern of the foreign entity have now been dispensed

## 57. Labour Codes

### Context:

Prime Minister Narendra Modi will inaugurate the two-day conference at Tirupati on Thursday which will deliberate on various issues:

### Details of deliberations

- Reforms and social security for informal workers,
- Vision-2047 for workforce
- Proposed implementation of the four labour codes.
  - Central government is aiming for consensus with states in all respects as well as publishing draft rules by all states and Union Territories.
- Integrating e-Shram portal for social security schemes run by the Central and state governments to universalise social protection for workers and improve employment opportunities for all.
- Improving medical care and services through ESI (employee state insurance) hospitals run by state governments and integration with Pradhan Mantri Jan Arogya Yojna (PMJAY).

### Concept:

### Major Highlights of the New Labour Code

#### Code of Wages 2019:

- It regulates the wages and bonus payments in all employment areas where any industry, trade, business, or manufacturing is being carried out.
- **It subsumes the following four labour laws:**
  - The Payment of Wages Act, 1936
  - The Minimum Wages Act, 1948
  - The Payment of Bonus Act, 1965
  - The Equal Remuneration Act, 1976
- It **universalizes the provisions of minimum wages and timely payment of wages** to all employees irrespective of the sector and wage ceiling and seeks to ensure "Right to Sustenance" for every worker and intends to increase the legislative protection of minimum wage.
- It has been ensured that employees getting monthly salary shall get the salary by 7th of next month, those working on a weekly basis shall get the salary on the last day of the week and daily wagers should get it on the same day.
- The Central Government is empowered to fix the **floor wages** by considering the living standards of workers. It may set different floor wages for different geographical areas.

- **The minimum wages decided by the central or state governments must be higher than the floor wage.**

#### **Industrial Relations Code 2020**

- Industrial Employment (Standing Orders) Act, 1946 makes it obligatory for employers of an industrial establishment where 100 or more workers are employed to clearly define the conditions of employment and rules of conduct for workmen, by way of standing orders/services rules and to make them known to the workmen employed.
  - The new provision for standing order will be applicable for every industrial establishment wherein **300 or more than 300 workers are employed** or were employed on any day of the preceding twelve months.
- It proposes that workers in factories will have to give a notice at **least 14 days in advance to employers if they want to go on strike.**
  - No person employed in any industrial establishment shall go on strike without a 60-day notice and during the pendency of proceedings before a Tribunal or a **National Industrial Tribunal** and sixty days after the conclusion of such proceedings.
- **It also introduces new conditions for carrying out a legal strike.** The time period for arbitration proceedings has been included in the conditions for workers before going on a legal strike as against only the time for conciliation at present.
- Besides, every industrial establishment employing 20 or more workers will have one or more **Grievance Redressal Committees** for resolution of disputes arising out of employees' grievances.
- The code also proposes setting up of a **reskilling fund** to help skill retrenched workers.

#### **Occupational Safety, Health and Working Conditions Code 2020**

- It spells out duties of employers and employees, and envisages safety standards for different sectors, focusing on the health and working condition of workers, hours of work, leaves, etc.
- The code also **recognises the right of contractual workers.**
- The code provides employers the **flexibility to employ workers on a fixed-term basis, on the basis of requirement and without restriction in any sector.**
- More importantly, it also provides for **statutory benefits like social security and wages to fixed-term employees at par with their permanent counterparts.**
- It also mandates that no worker will be allowed to work in any establishment for more than 8 hours a day or more than 6 days in a week.
- In case of overtime, an employee should be paid twice the rate of his/her wage. It will be applicable to even small establishments, which have upto 10 workers.
- The code also brings in gender equality and empowers the women workforce. **Women** will be entitled to be employed in all establishments for all types of work and, with consent, can work before 6 am and beyond 7 pm subject to such conditions relating to safety, holidays and working hours.
- For the first time, the labour code also recognises the **rights of transgenders.** It makes it mandatory for industrial establishments to provide washrooms, bathing places and locker rooms for male, female and transgender employees.

#### **Code on Social Security 2020**

- This will **replace nine social security laws**, including Maternity Benefit Act, Employees' Provident Fund Act, Employees' Pension Scheme, Employees' Compensation Act, among others.
- The code **universalizes social security coverage** to those working in the unorganised sector, such as migrant workers, gig workers and platform workers.
- For the first time, provisions of social security will also be **extended to agricultural workers also.**
- The code also reduces the time limit for receiving gratuity payment from the continuous service of five years to one year for all kinds of employees, including fixed-term employees, contract labour, daily and monthly wage workers.

- It proposes a **National Social Security Board** which shall recommend to the central government for formulating suitable schemes for different sections of unorganized workers, gig workers and platform workers.
- Also, **aggregators employing gig workers** will have to contribute **1-2% of their annual turnover for social security**, with the total contribution not exceeding **5% of the amount payable** by the aggregator to gig and platform workers.

## **ENVIRONMENT**

### 1. Principles of International Environmental Law

#### **Sovereignty and Responsibility Principle ( Rio ,1992)**

- International environmental law has developed between two contradicting principles.
- First principle is that states' have sovereign rights over their natural resources.
- Second, states should not damage to the environment.
- However, the concept of sovereignty is not absolute, and state's general duty is not to cause environmental damage to the environment of other states.

#### **The Precautionary Principle**

- The precautionary principle requires that, if there is a strong suspicion that a certain activity may have environmentally harmful consequences, it is better to control that activity now rather than to wait for incontrovertible scientific evidence
- This principle is expressed in the **Rio Declaration**, which stipulates in principle **15 Rio Declaration**.

#### **The Prevention Principle**

- Under this rule, **a state is under the obligation to prevent damage within its own jurisdiction**. Preventing environmental harm is cheaper, easier, and less environmentally dangerous than reacting to environmental harm that already has taken place.

#### **The "Polluter Pays" Principle**

- The "polluter pays" principle has been a dominant concept in environmental law. A state responsible for a violation of international law has to stop the injurious conduct which may be a cause for damage environment and revised the condition that existed prior to the wrongful conduct.
- According to this principle **if the state cannot to re-establish the condition due to its impossibility, the state should pay compensation**.

#### **Sustainable Development Principle**

- The principle of sustainable development has been defined by the **1987 Brundtland Report** as a **development that meets the needs of the present without compromising the ability of future generations to meet their own needs**.
- Sustainable development, as reflected in international agreements, encompasses at least three elements: **(i) intergenerational equity (ii) sustainable use of natural resources (iii) integration of environment and development**.

### 2. Is India's biodiversity getting exploited without benefits to communities?

- Data on the website of the National Biodiversity Authority (NBA) shows that as much as 56.1 per cent of applications **approved by the Authority under the access and benefit sharing regime since 2006 were between financial years 2020-2021 and 2021-2022**.

#### **Access and Benefit Sharing Clearing House (ABSCH)**

- The Access and Benefit-sharing Clearing-House (ABS Clearing-House, ABSCH) is a **platform for exchanging information on access and benefit-sharing established by Article 14 of the**



**Nagoya Protocol**, as part of clearing-house mechanism under Article 18, paragraph 3 of the Convention.

- The ABS Clearing-House is a **key tool for facilitating the implementation of the Nagoya Protocol by enhancing legal certainty, clarity and transparency** on procedures for access and for monitoring the utilization of genetic resources along the value chain.
- By making relevant information regarding ABS available, **the ABS Clearing-House helps users access genetic resources and associated traditional knowledge, and providers fairly and equitably share in the benefits arising from their utilization.**

#### **Biological Diversity Act 2002**

- The act was enacted in 2002, it aims at the **conservation of biological resources, managing its sustainable use and enabling fair and equitable sharing benefits** arising out of the use and knowledge of biological resources with the local communities.
- **India is also one of the early signatories to the Convention on Biological Diversity 1992** which recognizes the sovereign rights of states to use their own Biological Resources.

#### **Salient Features of the Act**

- The Act **prohibits the following activities without the prior approval** from the **National Biodiversity Authority**:
- Any person or organisation (either based in India or not) **obtaining any biological resource occurring in India for its research or commercial utilisation.**
- The **transfer of the results of any research relating to any biological resources occurring in, or obtained from, India.**
- The **claim of any intellectual property rights on any invention based on the research made on the biological resources obtained from India.**
- **Any offence under this Act is non-bailable and cognizable**
- The act envisaged a three-tier structure to regulate the access to biological resources:
  - **The National Biodiversity Authority (NBA)**
  - **The State Biodiversity Boards (SBBs)**
  - **The Biodiversity Management Committees (BMCs)** (at local level)
- The Act provides these authorities **with special funds and a separate budget** in order to carry out any research project dealing with the biological natural resources of the country.
- It shall **supervise any use of biological resources** and the **sustainable use** of them and shall take control over the financial investments and their return and dispose of those capitals as correct.
- Under this act, the **Central Government in consultation with the NBA**:
  - **Shall notify threatened species and prohibit or regulate their collection, rehabilitation and conservation**
  - **Designate institutions as repositories for different categories of biological resources**
- **Any grievances related to the determination of benefit sharing** or order of the National Biodiversity Authority or a State Biodiversity Board under this Act, shall be **taken to the National Green Tribunal (NGT).**

#### **National Biodiversity Authority**

- In order to carry out the provisions of the act, the **National Biodiversity Authority (NBA) had been set up under the Ministry of Environments and Forest** by the Government of India in 2003 to implement India's Biological Diversity Act (2002).
- The NBA is a **statutory, autonomous body headquartered in Chennai.**
- **State Biodiversity Boards (SBB) were also created in the 29 states along with Biological management committees for each local body.**

#### **The functions of the National Biodiversity Authority are as follows**

- **Monitoring and prevention** of actions prohibited under the Act.
- **Providing advice to the government** on how best to conserve biodiversity in India.
- **Prepare a report on** how the government can select biological heritage sites.
- **Make concrete steps to prevent** the grant of intellectual property rights regarding locally used biological resources or allied traditional knowledge.

#### **State Biodiversity Boards (SBBs)**

- The SBBs are established by the State Governments in accordance **with Section 22 of the Act. Biodiversity Management Committees (BMCs)**
- According to **Section 41 of the Act**, every local body shall constitute the BMC within its area for the purpose of promoting conservation, sustainable use and documentation of biological diversity including:
  - Preservation of habitats
  - **Conservation of Landraces**
  - Folk varieties and cultivars
  - **Domesticated stocks And breeds of animals**
  - Microorganisms And Chronicling Of Knowledge Relating To Biological Diversity

#### **Functions**

- The main function of the BMC is to **prepare People's Biodiversity Register in consultation with the local people.**
- The register shall contain **comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other.**

#### **Biodiversity Heritage Sites (BHS)**

- **Under Section 37 of Biological Diversity Act, 2002** the State Government in consultation with local bodies may notify the areas of biodiversity importance as Biodiversity Heritage Sites.
- The Biodiversity Heritage Sites are the well-defined areas **that are unique, ecologically fragile ecosystems – terrestrial, coastal and inland waters and, marine having rich biodiversity**

#### **The Nagoya Protocol (covered in DPN APRIL )**

### **3. Peace parks as a transboundary approach to conservation**

- **Conflicts over disputed borders, increasingly exacerbated by climate change**, are putting some of the **world's key biodiversity hotspots at risk.**
- Even in countries **that have avoided border wars**, a **global campaign of fence building** — aimed at **keeping out human migrants whose numbers are rising in** an era of climate change and socio-political unrest — is **causing widespread damage to vulnerable natural landscapes and migratory animal species.**
- In potential conflict zones like **the Himalayas, Eastern Europe, the Caucasus, and the South China Sea**, **this surging human march** across national frontiers has already led to violence, and in some cases to open warfare.
- **Border-straddling conservation zones known as peace parks offer a more sustainable way of managing border disputes than militarization and fence building.** Peace parks on the U.S.-Canada border and in the Himalayas offer successful examples.
- Today, **four international peace parks sit astride that border: Peace Arch Park (Washington/British Columbia); Waterton-Glacier International Peace Park (Montana/Alberta); International Peace Garden (North Dakota/Manitoba); and Roosevelt Campobello International Park (Maine/New Brunswick).**

#### **Peace Parks**

- A "Park for Peace" is a **special designation that may be applied to any of the three types of Transboundary Conservation Areas**, and is dedicated to **the promotion, celebration and/or commemoration of peace and cooperation (IUCN, 2015).**
- These protected areas may **include some different land uses within their boundaries.** The three primary goals of transboundary protected areas are usually the **conservation of biodiversity, socio-economic development and the promotion of a culture of peace and cooperation.**
- The identification and designation of Peace Parks by **cooperating jurisdictions should include only those areas where the agreed management objectives explicitly recognize both a protected area and a no conflict zone.**

### **4. Eucalyptus, acacia and teak, not Sal: Why CAG is critical of Odisha's afforestation efforts**

- There was an ‘acute shortfall’ in achieving plantation targets in Odisha due to **lack of coordination, working plan, improper selection of plantation sites and plant species**
- Odisha’s forest cover was estimated to be 51,619 square kilometres, **15 per cent of the state’s geographical area, according to the India State of Forest Report 2019.**
- Out of total 1,187 plantation journals selected for audit; 491 journals were scrutinised under the **Compensatory Afforestation Fund Act (CAMPA), 2016**
- The report added that **while Sal is the principal indigenous species of Odisha, teak, acacia and eucalyptus were planted as major species, affecting the native vegetation and biodiversity in the state.**

#### **India State of Forest Report 2021**

- The **Ministry of Environment, Forests and Climate Change (MoEFCC)** has released the **India State of Forest Report (ISFR) 2021.**
- The **biennial report** by the Forest Survey of India (FSI) is an assessment of the country’s forest resources.

#### **Highlights of the Report:**

- India’s forest and tree cover has risen by 2,261 square kilometers in the last two years with **Andhra Pradesh growing the maximum forest cover of 647 square kilometers.**
- The **total tree-and-forest cover in the country** includes an increase of 1,540 square kilometres of forest cover and 721 sq km of tree cover compared to the 2019 report.
- India’s total forest and tree cover is now spread across 80.9 million hectares, which is **24.62 per cent of the geographical area of the country.**
- **The top five states in terms of increase in forest cover** are Andhra Pradesh (647 sq km), Telangana (632 sq km), Odisha (537 sq km), Karnataka (155 sq km) and Jharkhand (110 sq km).
- **The gain in forest cover or improvement in forest canopy density may be attributed** to better conservation measures, protection, afforestation activities, tree plantation drives and agroforestry.
- **Among the mega cities in the country,** Ahmedabad has been the biggest loser when it comes to forest cover.

#### **States with maximum forest cover:**

- **Area-wise, Madhya Pradesh has the largest forest cover in the country followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.**
- 17 states/UTs have above 33 per cent of the geographical area under forest cover.
- Out of these states and UTs, Lakshadweep, Mizoram, Andaman & Nicobar Islands, Arunachal Pradesh and Meghalaya have more than 75 per cent forest cover.
- **Forest cover as a percentage of total geographical area: Mizoram, Arunachal Pradesh, Meghalaya, Manipur, and Nagaland.**

#### **Mangrove cover in the country:**

- There is an increase of 17 sq km in mangrove cover in the country as compared to the previous assessment of 2019.
- Total mangrove cover in the country is 4,992 sq km.
- **Top three states showing mangrove cover increase** are Odisha (8 sq km) followed by Maharashtra (4 sq km) and Karnataka (3 sq km).

#### **Carbon stock:**

- The total carbon stock in the country’s forest is estimated to be 7,204 million tonnes and **there is an increase of 79.4 million tonnes in the carbon stock** of the country as compared to the last assessment of 2019.
- **The annual increase in the carbon stock** is 39.7 million tonnes.

#### **Forest Prone to Fires:**

- **46% of the forest cover is prone to forest fires.**
- 81% are extremely prone, 7.85% are very highly prone and 11.51% are highly prone.
- By 2030, 45-64% of forests in India will experience the effects of climate change and rising temperatures.
- **Forests in all states (except Assam, Meghalaya, Tripura, and Nagaland) will be highly vulnerable climate hot spots.**

- Ladakh (forest cover 0.1-0.2%) is likely to be the most affected.

#### **Bamboo Forests:**

- Bamboo forests **have grown from** 13,882 million culms (stems) in 2019 to 53,336 million culms in 2021.

#### **Concerns:**

- **The north-east did not show positive results as the current assessment** showed a decrease of forest cover to the extent of 1,020 sq km in the region.
- **Arunachal Pradesh lost the maximum forest cover of 257 sq km**, followed by Manipur which lost 249 sq km, Nagaland 235 sq km, Mizoram 186 sq km and Meghalaya 73 sq km.
- **In total 140 hill districts of the country**, the forest cover reduced by 902 sq km in the last two years. In the 2019 report, the forest cover in the hill regions had increased by 544 sq km.

#### **Compensatory Afforestation Fund**

- The CAF Act was **passed by the centre in 2016** and the related rules were notified in 2018.
- The CAF Act was enacted to manage the funds collected for compensatory afforestation which till then was managed by **ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.
  - **Compensatory afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.**
- **As per the rules, 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.**
- The funds can be used **for treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices and allied activities.**

### **5. India's updated climate pledge to Paris Agreement**

#### **Context**

India's updated climate pledge to the Paris Agreement received the Union Cabinet's nod August 3, 2022.

#### **Concept:**

#### **Paris Agreement**

- The Paris Agreement is a global treaty wherein some **200 countries** agreed to cooperate to reduce GHG emissions and rein in climate change.
- The agreement seeks to limit global warming to well **below 2°C**, preferably to **1.5°C**, compared to pre-industry levels.
- Thirty days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated **55 %** of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary.
- On 5 October 2016, the threshold for entry into force of the Paris Agreement was achieved. The agreement, which came into force on **November 4, 2016**, currently it has **188 parties**.
- The national pledges by countries to cut emissions are voluntary called **Nationally Determined Contributions (NDC)**, of which all Parties are required to report regularly on their emissions and on their implementation efforts.
- There will also be a **global stock take every 5 years** to assess the collective progress towards achieving the purpose of the Agreement and to inform further individual actions by Parties.
- As per the Paris Agreement's provisions, countries must **'update' their pledges every five years** to make higher commitments to greenhouse gas (GHG) emissions reductions.

#### **India's INDC**

- India's first pledge, also known as India's **Intended** Nationally Determined Contribution (INDC), submitted **in 2015**, had three primary targets.

- It states that India will improve the emissions intensity of its GDP by **33–35% by 2030 over 2005 levels**; increase share of non-fossil fuels-based electricity to **40% by 2030**, and enhance its forest cover, thereby absorbing **2.5 to 3 billion tonnes** of carbon dioxide.

#### India's Progress:

- As of June 2022, cumulative installed power capacity from non-fossil sources is **7 per cent** (when including large hydropower projects).
- Installed capacity from fossil fuels like coal and gas will **fall to 36 per cent by 2030**
- India had **achieved 25 per cent of emission intensity** reduction of GDP between 2005 - 2016 and is on a path to achieve more than **40 per cent** by

#### Updated INDC:

These two targets would be submitted to the UNFCCC as India's updated NDC in writing.

- India now stands committed to reducing emissions intensity of its GDP by **45 per cent by 2030** from its 2005 levels, as per the updated NDC.
- The country will also target about **50 per cent of cumulative electric power installed** capacity from **non-fossil fuel-based energy resources** by 2030 (which include large hydropower and not just from renewable energy (RE) sources like solar and wind)

#### PRIME MINISTER'S PANCHAMRIT ANNOUNCED IN GLASGOW

Promise that India made	Whether included in new NDC
Non-fossil fuel electricity installed capacity to reach 500 GW	Not included
At least 50 per cent of total installed electricity generation capacity to come from non-fossil fuel sources	Included
Reduction of one billion tonnes of carbon dioxide equivalent from cumulative projected emissions between now and 2030	Not included
At least 45 per cent reduction in emission intensity of GDP by 2030	Included
Net zero status by 2030	Never intended to be part of NDC

#### 6. Power Ministry introduces Bill to establish Carbon market in India

- Power Minister RK Singh on Wednesday introduced **the Energy Conservation (Amendment) Bill, 2022** in Parliament, which provides for setting up Carbon markets.
- Besides, the Bill also seeks to mandate the **use of non-fossil sources, including green hydrogen, green ammonia, biomass and ethanol**, for energy and feedstock.
- Other amendments in the Bill include **bringing large residential buildings within the fold of the energy conservation regime, enhancing the scope of Energy Conservation Building Code, and strengthening the governing council of Bureau of Energy Efficiency.**
- The Energy Conservation (Amendment) Bill **aims to make it mandatory for buildings with a minimum connected load of 100 kW to meet their energy requirements from renewable sources By adopting energy efficiency measures**

#### Bureau of Energy Efficiency

- The BEE is a **statutory body** established through the **Energy Conservation Act, 2001** under the **Union Ministry of Power.**
- It **assists in developing policies and strategies** with the primary objective of reducing the energy intensity of the Indian economy.
- BEE **coordinates** with designated consumers, designated agencies, and other organizations to **identify and utilize the existing resources and infrastructure, in performing its functions.**
- It functions **under Ministry of Power.**

#### Energy Conservation Building Code (ECBC) 2017:

- Developed by **Ministry of Power and Bureau of Energy Efficiency (BEE)**, **ECBC 2017** prescribes **the energy performance standards for new commercial buildings to be constructed across India.**



- It sets **minimum energy standards for new commercial buildings** having a connected load of 100kW (kilowatt) or contract demand of 120 KVA (kilovolt-ampere) and above.
- The **EC Act of 2001 gives the Central Government Government authority**, but the **state governments are free to adapt the code to meet unique local or regional requirements** and to notify the Central Government of any changes.
- ECBC 2017 was **developed by BEE with technical support from United States Agency for International Development (USAID)** under the **U.S.-India bilateral Partnership to Advance Clean Energy – Deployment Technical Assistance (PACE-DTA) Program**.

#### **Eco Niwas Samhita 2021:**

- It is an **Energy Conservation Building Code for Residential Buildings (ECBC-R)** to give a further fillip to India's energy conservation efforts.
- It specifies code compliance approaches and minimum energy performance requirements for building services, and verification framework with **Eco Niwas Samhita 2021**.

### **7. Increasing the forest cover**

#### **Concept:**

#### **Status of forest cover:**

- The India State of Forest Reports published by the Ministry shows that overall at the national level forest cover has **increased by 21,762 square kilometre in the last one decade**. There is **no decreasing trend** in forest cover of the country.
- As per the latest ISFR 2021, the total forest cover of the country has **increased by 12,294 square kilometres in the last seven years (ISFR 2015 to ISFR 2021)**.

#### **Steps taken for afforestation purpose by MOEF&CC:**

- **Green India Mission (GIM)** is a Centrally Sponsored Scheme, is one of the eight Missions outlined under the National Action Plan on Climate Change. It aims at protecting, restoring and enhancing India's forest cover and responding to Climate Change by undertaking plantation activities in the forest and non-forest areas.
- **Nagar Van Yojana (NVY)**
- It is being implemented since the year 2020 which envisages developing 400 Nagar Vans and **200 Nagar Vatika** in the country during the period of 2020-21 to 2024-25
- It works with an objective to significantly enhance the tree outside forests and green cover, enhancement of biodiversity and ecological benefits to the urban and peri-urban areas apart from improving quality of life of city dwellers with the funds under the National Fund of the **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.
- **'School Nursery Yojana' (SNY)** is implemented since the year 2020 for a period of five years where students of class Sixth, Seventh and Eighth from all public and private schools organized by State Boards/ Central Government Boards all over the country will be actively involved in developing nursery, raising and planting seedlings as part of school curriculum.
- **Others:** Afforestation activities are also taken up under various programmes/funding sources such as **Mahatma Gandhi National Rural Employment Guarantee Scheme, Compensatory Afforestation Funds under Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.

### **8. Energy conservation law to get a new look**

#### **Context:**

- The Energy Conservation (Amendment) Bill, 2022, **seeks to mandate use of non-fossil sources, including biomass and ethanol for energy and feedstock along with the use of green hydrogen and green ammonia**.
- It also proposes **to enhance the scope of Energy Conservation Building Code and bring large residential buildings within the ambit of energy conservation regime**.
- **The Energy Conservation Act, 2001** was last amended in the year **2010** to address various new factors which emerged with the **development of the energy market** over a period of time and to provide **for more efficient and effective use of energy and its conservation**.

- India has had a scheme to incentivise energy efficiency for over a decade now. The scheme, run by the **Bureau of Energy Efficiency (BEE)**, is called **PAT (perform, achieve, and trade)**, and it **allows units to earn efficiency certificates if they outperform prescribed efficiency standards. The laggards can buy these certificates to continue operating.**
- Domestic or regional carbon markets, though, are functioning in several places — most notably in **Europe, where an emission trading scheme (ETS)** works on a similar

National Hydrogen Energy Mission (NHM)

**About the National Hydrogen Energy Mission:**

- Focus on **generation of hydrogen from green power resources.**
- To **link India's growing renewable capacity with the hydrogen economy.**
  - India's ambitious goal of 175 GW by 2022 got an impetus in the 2021-22 budget which allocated Rs. 1500 crore for renewable energy development and NHM.
  - The usage of hydrogen will not only help India in achieving its emission goals under the **Paris Agreement**, but will also **reduce import dependency on fossil fuels.**

**Hydrogen:**

- Hydrogen is the **lightest and first element** on the **periodic table**. Since the **weight of hydrogen is less than air**, it rises in the atmosphere and is therefore **rarely found in its pure form, H<sub>2</sub>.**
- At standard temperature and pressure, hydrogen is a nontoxic, non-metallic, odourless, tasteless, colourless, and **highly combustible diatomic gas.**
- Hydrogen fuel is a zero-emission fuel burned with oxygen. It can be **used in fuel cells or internal combustion engines.** It is also used as a **fuel for spacecraft propulsion.**
- **Type of Hydrogen:**
  - **Grey Hydrogen:**
    - Constitutes India's bulk Production.
    - Extracted from **hydrocarbons (fossil fuels, natural gas).**
    - By product: **CO<sub>2</sub>**
  - **Blue Hydrogen:**
    - Sourced from **fossil fuels.**
    - By product: **CO, CO<sub>2</sub>**
    - **By products are Captured and Stored**, so better than grey hydrogen.
  - **Green Hydrogen:**
    - Generated from **renewable energy (like Solar, Wind).**
    - Electricity splits **water into hydrogen and oxygen.**
    - By Products: **Water, Water Vapor**

## 9. Record coral cover doesn't necessarily mean the Great Barrier Reef is in good health

**Context**

The highest levels of coral cover, within the past 36 years, has been recorded in the northern and central parts of **Australia's Great Barrier Reef (GBR).**

**Recent Findings-**

- **Coral cover in parts of the Great Barrier Reef is at a record high**, according to new data from the **Australian Institute of Marine Science.**
- In the north of the reef, coral cover usually **fluctuates between 20 percent and 30 percent. Currently, it's at 36 percent, the highest level recorded** since monitoring began more than **three decades ago.**
- But this doesn't necessarily mean that the reef is in good health.
- High coral cover **findings can be deceptive** because they can **result from only a few dominant species** that grow rapidly after disturbance (such as mass bleaching).
- These same corals, however, are extremely susceptible to disturbance and are likely to die out within a few years.

- Without more information at the level of individual species, it is impossible to understand how much of the Great Barrier Reef has been lost, or recovered, since the last mass bleaching event.
- This **level of coral recovery**, after a **disturbing decade** that saw the reef endure **six mass coral bleaching events**, **four severe tropical cyclones**, **active outbreaks of crown-of-thorns starfish**, and **water quality impacts following floods**, raises the question- **what's going on?**

#### What is a coral reef-

- **Corals are invertebrate animals** belonging to a large group of colourful and fascinating animals called **Cnidaria**. They are the largest living structures on the planet
- Each coral is called a **polyp** and thousands of such polyps live together to form a colony, which grow when polyps multiply to make copies of themselves.
- These polyps have microscopic algae called **zooxanthellae** living within their tissues. **The corals and algae have a mutualistic relationship. The coral provides the zooxanthellae with the compounds necessary for photosynthesis.**
- In return, **the zooxanthellae supply the coral with organic products of photosynthesis**, like carbohydrates, which are utilized by the coral polyps for the synthesis of their calcium carbonate skeletons.
- In addition to providing corals with essential nutrients, **zooxanthellae are responsible for the unique and beautiful colors of corals.**
- **Coral reefs are created by millions of tiny polyps forming large carbonate structures.** Coral reefs are the largest living structure on the planet, and the only living structure to be visible from space.

Corals are of two types — **hard corals** and **soft corals**.

Hard corals extract calcium carbonate from seawater to build hard, white coral exoskeletons. **Hard corals** are in a way the engineers of reef ecosystems and measuring the extent of hard coral is a widely-accepted metric for measuring the condition of coral reefs.

**Soft corals** attach themselves to such skeletons and older skeletons built by their ancestors. Soft corals also add their own skeletons to the hard structure over the years. These growing multiplying structures gradually form coral reef

#### What are Great barrier reefs-

- **The Great Barrier Reef spans 2,300 kilometres along the eastern coast of Australia**, comprising more than 3,000 individual reefs.
- It is an **exceptionally diverse ecosystem** that features more than 12,000 animal species, plus many thousand more **species of plankton and marine flora**.

#### Significance of Coral reefs:

- Coral reefs support over **25% of marine biodiversity** even as they take up only 1% of the seafloor.
- The marine life supported by reefs further fuels global fishing industries. Besides, coral reef systems generate **\$2.7 trillion** in annual economic value through goods and service trade and tourism.
- In Australia, the Barrier Reef, in pre-COVID times, generated \$4.6 billion annually through tourism and employed over 60,000 people including divers and guides

#### Coral bleaching:

- Corals share a **sympiotic relationship** with single-celled algae called **zooxanthellae**. The algae prepare food for corals through photosynthesis and also gives them their vibrant colouration.
- When exposed to conditions like heat stress, pollution, or high levels of ocean acidity, the zooxanthellae start producing **reactive oxygen species** not beneficial to the corals. So, the corals kick out the colour-giving algae from their polyps, exposing their pale white exoskeleton and leading to coral starvation as corals cannot produce their own food. Bleached corals can survive depending on the levels of bleaching and the recovery of sea temperatures to normal levels.
- Severe bleaching and prolonged stress in the external environment can lead to coral death

### Mass Bleaching

The concern is that in the past decade, mass bleaching events have become more closely spaced in time.

Mass bleaching	Year	Details
First Mass bleaching	1998	El Nino
Second Mass bleaching	2002.	Longest and most damaging
Third Mass bleaching	2020	
Fourth Mass bleaching	2022	

According to the Australian government's scientists, 91% of the reefs it had surveyed in March were affected by bleaching

#### Threat to Great barrier reef-

- The reef has been teetering on the edge of receiving an **“in-danger”** listing from the **World Heritage Committee**. And it was recently described in the **State of the Environment Report** as **being in a poor and deteriorating state**.
- To protect the Great Barrier Reef, we need to routinely monitor and report on its condition. **The Australian Institute of Marine Science's long-term monitoring program** has been collating and delivering this information **since 1985**.
- The **latest report** provides a robust and valuable synopsis of **how coral cover has changed at 87 reefs across three sectors (north, central, and south) over the past 36 years**.

#### The findings of the report-

- Overall, the **long-term monitoring team** found **coral cover has increased** on most reefs.
- The level of coral cover on reefs near **Cape Grenville** and **Princess Charlotte Bay** in the northern sector has recovered from bleaching, with **two reefs having more than 75 percent cover**.
- In the **central sector**, where the **coral cover has historically been lower than in the north and south**, coral cover is now at a **region-wide high, at 33 percent**.
- The **southern sector** has a **dynamic coral cover record**. In the **late 1980s** coral cover **surpassed 40 percent**, before dropping to a **region-wide low of 12 percent in 2011 after Cyclone Hamish**.
- The **region is currently experiencing outbreaks of crown-of-thorns starfish**. And yet, **coral cover in this area is still relatively high at 34 percent**.

#### Findings vs. Reality-

- In the **Australian Institute of Marine Science's report**, reef recovery relates solely to **an increase in coral cover**, so let's unpack this term.
  - **Coral cover** is a broad proxy metric that **indicates habitat conditions**. It's relatively easy data to collect and report on and is the most widely used monitoring metric on coral reefs.
  - The **finding of high coral cover** may **signify a reef in good condition** and an **increase in coral cover** after disturbance may signify a recovering reef.
  - But in this instance, it's more likely **the reef is being dominated by only a few species**, as the **report states that branching and plating Acropora species have driven the recovery of coral cover**.
- **Acropora coral** is renowned for its **“boom and bust” life cycle**.
- **After disturbances such as a cyclone, Acropora species function as pioneers**. They **quickly recruit and colonize bare space**, and the laterally growing plate-like species can rapidly cover large areas.
- **Fast-growing Acropora corals** tend to **dominate during the early phase of recovery** after disturbances such as the recent series of mass bleaching events.

- However, **these same corals are often susceptible to wave damage, disease, or coral bleaching** and tend to go bust within a few years.

#### The loopholes in the study-

- Inferring that a reef has been recovered by a person being towed behind a boat to obtain a rapid visual estimate of coral cover is like **flying in a helicopter and saying a bushfire-hit forest has recovered because the canopy has grown back.**
- It provides **no information about diversity**, or the **abundance and health of other animals and plants** that live in and among the **trees, or coral.**
- While **there's no data to prove or disprove it**, it's also probable that **extinctions or local declines of coral-affiliated marine life, such as coral-eating fishes, crustaceans, and molluscs have also occurred.**
- Without more information at the level of individual species, it is **impossible to understand how much of the Great Barrier Reef has been lost, or recovered**, since the last mass bleaching event.

#### Prospects of the report-

- The study, published last year, examined **44 years of coral distribution records** around **Jiigurru, Lizard Island, at the northern end of the Great Barrier Reef.**
- It suggested that **28 of 368 species of hard coral** recorded at that location haven't been seen for at least a decade, and are at risk of local extinction.
- **Lizard Island is one location where the coral cover has rapidly increased since the devastating 2016-17 bleaching event.** Yet, there is still a real risk of local extinctions of coral species have occurred.
- Based on the coral cover data, it's tempting to be optimistic. But given more **frequent and severe heatwaves and cyclones** are predicted in the future, it's **wise to be cautious** about the reef's perceived recovery or resilience.

### 10. World Lion Day: Asiatic lions used to inhabit most of southwest Asia & India

#### Context

#### World Lion da

#### Concept

- The only **free-roaming population** of Asiatic lions in the world **has been in Gujarat, India**, for the last 130 years. But before that, the **lion subspecies inhabited most of southwest Asia and were present across India.**
- The big cat **subspecies Panthera leo**, earlier called *Panthera leo persica*, are found in the **Gir National Park** and outside the protected areas in Gujarat. According to the latest survey, there are 674 lions in the state, 300 inside the protected area of about 1,200 square kilometres, while the rest are spread out over 30,000 sq km.
- **African and Asiatic lions were separated about 55,000 years ago and then evolved into two different subspecies.** The Asiatic lion was found in north Africa thousands of years ago along the Mediterranean, Asia Minor, India and perhaps a part of Europe
- **While tigers prefer dense jungles** whenever they can find them, **lions are more grassland creatures.** Even if lions and tigers occupied the same landscapes, the chances of interactions between the two were less, but they did co-exist
- **Lions live and have lived across a wide variety of habitats ranging from deserts, coasts, grasslands, savannah woodlands, scrub, dry and wet forests, including rainforest and mountains**
- The Union Ministry of Environment, Forest and Climate Change had identified sites in 2020 for possible lion relocation, namely,
  - **Madhav National Park and Gandhi Sagar Wildlife Sanctuary in Madhya Pradesh (MP),**
  - **Sitamata Wildlife Sanctuary, Mukundra Hills Tiger Reserve and Kumbhalgarh Wildlife Sanctuary in Rajasthan and**
  - **Jessore-BalaramAmbaji WLS and adjoining landscape in Gujarat.**
- The **"Asiatic Lion Conservation Project"** has been launched by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).



### Bombay Natural History Society

- The Bombay Natural History Society, founded on 15 September 1883, is one of the **largest non-governmental organisations in India engaged in conservation and biodiversity research.**
- BNHS is **the partner of BirdLife International in India.** It has been designated as a **‘Scientific and Industrial Research Organisation’** by the Department of Science and Technology.
- The BNHS logo is **the great hornbill, inspired by a great hornbill** named William, who lived on the premises of the Society from 1894 until 1920

### African and Asiatic lions

- **Asiatic lions are slightly smaller than** African lions.
- The most striking morphological character, which is always seen in Asiatic lions, and rarely in African lions, is **a longitudinal fold of skin running along its belly.**
- **Asiatic Lion IUCN Red List: Endangered, African Lion IUCN Red List: Vulnerable**

## 11. Agasthiyamalai Elephant reserve

### Context

The proposal to designate 1,197.48 sq.km in Kanyakumari and Tirunelveli as the **Agasthiyarmalai Elephant Reserve** was approved by the Union Environment Ministry.

### Concept:

- India has **31 Elephant Reserves.**
- In the last 3 years, **Dandeli** Elephant Reserve of Karnataka, **Singphan** Elephant Reserve by Nagaland and **Lemru** Elephant Reserve in Chhattisgarh.
- This has brought the total area under Elephant Reserves in India to about **76,508 sqkm** across **14 states** of the country.
- The current population estimates indicate that there are about **50,000 – 60000** Asian elephants in the world. More **than 60% of the population** is held in India.
- Indian Elephant has also been listed in the **Appendix I of the Convention of the Migratory species** in the recently concluded Conference of Parties of CMS 13 at Gandhi Nagar, Gujarat in February 2020.
- **World Elephant Day** is being celebrated to bring attention of various stakeholders to support various conservation policies to help elephants, including improving enforcement policies to prevent the illegal poaching and trade of ivory, conserving elephant habitats, providing better treatment for captive elephants and reintroducing some captive elephants into sanctuaries.
- Elephant is the **Natural Heritage Animal of India** and India also celebrates this day to spread awareness towards conservation of the species.
- World Elephant Day **celebrated on August 12** is an international annual event, dedicated to the preservation and protection of the world’s elephants.
- As Elephant is the **Natural Heritage Animal of India**, India also celebrates this day to spread awareness towards conservation of the species.
- **Asian elephants are listed as “Endangered”** and African elephants as ‘vulnerable’ on the IUCN Red List of threatened species.
- Indian Elephant has also been listed in the **Appendix I of the Convention of the Migratory species and Schedule 1 of WPA, 1972.**
- **Project Elephant:** It is a centrally sponsored scheme which was launched in 1992 for their protection. The population of these animals was about 15000 when the project was started and has increased since then. It also led to setting up of different programs and agencies such as **MIKE- Monitoring of Illegal Killing of Elephants and the Elephant Task Force (2003)**

### Agasthiyamalai Elephant reserve

- The Agasthiyamalai in Tamil Nadu, adding **1197 sqkm** of Protected Area dedicated for protection and conservation of elephants in India.
- Asian elephant numbers in the Periyar-Agasthiyamalai landscape are estimated to be **1,800 (Census 2010).**
- About **300** of them are found alone on the southern side in the **Agasthiyarmalai Elephant Reserve and Mahendragiri hill ranges in the Neyyar, Shendurney, and Peppara Wildlife**

**Sanctuaries and Kalakkad-Mundanthurai Tiger Reserve**, all located in Thiruvananthapuram Forest Division.

- The Periyar-Agasthyamalai region, which spans 5,600 sq km and 16 forest divisions in Tamil Nadu and Kerala, is home to the elephant population to the south of this.
- The southern portion of the Periyar Plateau and its eastern spur, the Varushnad and Meghamalai hill ranges, the Achankoil valley, and the **Agasthiyarmalai Elephant Reserve** and Mahendragiri hill ranges on the southern side make up the elephant habitat in the landscape.
- It can connect the populations to other areas in the SrivilliputhurMeghamalai tiger reserve and with the Periyar landscapes.

## 12. Ramsar sites

### Context

India adds 11 more wetlands to the list of Ramsar sites to make total 75 Ramsar sites covering an area of 13,26,677 ha in the country in the 75<sup>th</sup> year of Independence.

### Concept:

- India is one of the Contracting Parties to Ramsar Convention, signed in Ramsar, Iran, in 1971. India signed it on 1<sup>st</sup> Feb 1982.
- During 1982 to 2013, a total of 26 sites were added to the list of Ramsar sites, however, during 2014 to 2022, the country has added 49 new wetlands to the list of Ramsar sites.
- **Tamil Nadu** has maximum no. of Ramsar sites (14 nos), followed by **UP** which has 10 nos. of Ramsar sites.

Wetland	Geographical location	Species found	Economic and ecological significance
<b>Tampara Lake</b>	<ul style="list-style-type: none"> <li>• The most prominent freshwater lakes in the State of <b>Odisha situated in Ganjam district</b>.</li> <li>• The <b>depression on the ground</b> gradually filled with rainwater from catchment flow and was called "<b>Tamp</b>" by the British and subsequently termed "<b>Tampira</b>" by the locals.</li> </ul>	The wetland supports at least 60 species of birds, 46 species of fishes, at least 48 species of phytoplanktons, and more than seven species of terrestrial plants and macrophytes. The wetland is an important habitat for vulnerable species such as Cyprinus carpio, common pochard (Aythya ferina), and river tern (Sterna aurantia).	With an estimated average <b>fish yield of 12 tonnes per year</b> , the wetland is an important source of livelihood for the local communities. Along with fishes the wetland also provides provisioning services like water for agriculture, and domestic use and is a well-known tourism and recreation site.
<b>Hirakud Reservoir</b>	The <b>largest earthen dam</b> in Odisha started operating in 1957.	54 species of fish from the reservoir, one has been classed as being endangered, six near threatened and 21 fish species. Over 130 bird species have been recorded at this	<ul style="list-style-type: none"> <li>• The reservoir is a source of water for producing around <b>300 MW</b> of hydropower and irrigating <b>43 6,000 ha</b> of</li> </ul>

		site, out of which 20 species are of high conservation significance	<p><b>cultural command area.</b></p> <ul style="list-style-type: none"> <li>The wetland also provides important hydrological services by moderating floods in the <b>Mahana di delta</b>, the ecological and socio-economic hub of the east coast of India.</li> <li>Hirakud reservoir <b>high</b> <b>touristic value</b> with over 30,000 tourists annually visiting the site.</li> </ul>
<b>Ansupa Lake</b>	<p>The <b>largest freshwater lake</b> of Odisha situated in Banki sub-division of Cuttack district. The wetland is an <b>oxbow lake</b> formed by River Mahanadi and is spread over an area of 231 ha</p>	<p>The wetland is home to at least <b>194 species of birds</b>, <b>61 species</b> of fishes and 26 species of mammals in addition to 244 species of macrophytes. The wetland provides a safe habitat to at least three threatened bird species- Rynchopsalbicollis (EN), Sterna acuticauda (EN) and Sterna aurantia (VU) and three threatened fish species- Clariasmagur (Clariidae) (EN), Cyprinus carpio (Cyprinidae) (VU)</p>	<p>Ansupa lake sustains the freshwater demands of the surrounding areas and also supports the livelihood of the local communities through fisheries and agriculture. The wetland has immense <b>recreational and tourism</b> potential as it is a major wintering ground for migratory birds and is also known for its scenic beauty.</p>

		and Wallago attu (VU).	
<b>Yashwant Sagar</b>	An Important Bird Areas (IBA) in the <b>Indore</b> region as well as one of the most important birding sites in Malwa region of Madhya Pradesh. Yashwant Sagar reservoir comes under the jurisdiction of <b>Indore City Municipal Corporation</b>	A stronghold of the <b>vulnerable Sarus Crane</b> in central India. The lake backwaters have plenty of shallow areas, conducive for waders and other waterfowl	As the water level recedes, many islands serve as roosting sites for waterfowl. Due to its vast shallow reed beds, the wetland is considered heaven to a large number of winter migratory birds. Presently it is mainly used for water supply to the city of Indore.
<b>Chitrangudi Bird Sanctuary, locally known as "Chitrangudi Kan moli"</b>	It is located in <b>Ramanathapuram district in Tamil Nadu</b> . The wetland is a <b>protected area since 1989</b> and declared as Bird Sanctuary, coming under the jurisdiction of Tamil Nadu Forest Department, Ramanathapuram division.	Around 50 birds belonging to 30 families have been reported from the site. Notable waterbirds spotted from the site area spot-billed pelican, little egret, grey heron, large egret, open billed stork, purple, and pond herons.	Chitrangudi is surrounded by agricultural fields, where different crops are grown throughout the year. The wetland also supports a number of fishes, amphibians, molluscs, aquatic insects, and their larvae forming good food sources for arriving waterbirds. Chitrangudi Bird Sanctuary is an ideal habitat for winter migratory birds
<b>Suchindrum Theroor Wetland complex</b>	Its part of the <b>Suchindrum-Theroor Manakudi Conservation Reserve, Tamilnadu</b>	It was formed for birds' nesting purposes and it attracts thousands of birds every year. Around 250 species of birds have been recorded in the area, of which 53 are migratory, 12 endemic, and 4 threatened.	This is a man-made, inland Tank and is perennial. <b>Copper plate inscriptions from the 9th century</b> mention Pasumkulam, Venchikulam, Nedumarthukulam, Perumkulam, Elemchikulam and Konadunkulam. It is declared an <b>Important Bird Area</b> . It lies at the <b>southern tip of the Central Asian flyway</b> of migratory birds.

<b>Vaduvur bird sanctuary</b>	It spreads over an area of <b>112.638 ha</b> , is a <b>large human-made irrigation tank</b> and shelter for migratory birds in <b>Tamil nadu</b>	Indian Pond Heron <i>Ardeolagrayii</i> occurred in most of the surveyed tanks. Large concentrations of wintering waterfowl such as Eurasian Wigeon <i>Anas penelope</i> , Northern Pintail <i>Anas acuta</i> , Garganey <i>Anas querquedula</i> were recorded in tanks	Vaduvur Bird Sanctuary has a diverse habitat including a number of inlets and surrounding irrigated agricultural fields which provides good nesting and foraging habitats for birds. Thus, the site provides support to the species listed above <b>during critical stages of their life-cycle.</b>
<b>Kanjirankulam Bird Sanctuary</b>	It is a Protected area near <b>Mudukulathur Ramanathapuram District, Tamil Nadu</b> . India, declared in <b>1989</b> .	The breeding population of migratory waterbirds arrive here between October and February and include: painted stork, white ibis, black ibis, little egret, great egret. The site qualifies as an <b>IBA</b> as the <b>threatened Spot-billed Pelican <i>Pelecanus philippensis</i></b> breeds here. The wetland exhibits rich biodiversity including many globally <b>near-threatened species</b> like Spot-billed Pelican, Oriental Darter, Oriental white Ibis and Painted Stork and also commonly occurring shore and water birds like greenshank, plovers, stilts and forest birds like bee-eaters, bulbuls, cuckoos,	They act as breeding, nesting, roosting, foraging, and stopover sites for the birds. The wetland supports IUCN RedList vulnerable avian species like <i>Sterna aurantia</i> (River Tern). It is notable as a <b>nesting site</b> for several migratory heron species that roost in the <b>prominent growth of babul trees</b> there. The site qualifies as an <b>IBA</b> .



		starlings, barbets, etc.	
<b>Thane Creek</b>	It is located in <b>Maharashtra, India</b> . There are several sources of fresh water to the creek, of which <b>Ulhas River</b> is the largest, followed by many drainage channels from various <b>suburban areas of Mumbai, Navi Mumbai &amp; Thane</b> .	Over 202 avifaunal species, the creek also houses 18 species of fishes, crustaceans & molluscs, 59 species of butterflies, 67 species of Insects, and 35 species of phytoplankton, and 24 species of zooplankton & 23 species of Benthos.	It has been declared as <b>Thane Creek Flamingo Sanctuary</b> . Thane creek is <b>fringed by mangroves on both banks &amp; comprises around 20% of the total Indian mangrove species</b> . The area is an important part of the wetland complex of the <b>Central Asian Flyway of the birds</b> and has been categorized as an <b>Important Bird Area (IBA)</b> .
<b>Hygam Wetland falls</b>	The River <b>Jhelum basin</b> and plays a significant role as a flood absorption basin, biodiversity conservation site, eco-tourism site, and livelihood security for the local communities. The wetland is located in the <b>Baramulla district</b>		It is also recognized as an <b>Important Bird Area (IBA)</b> . Consequent to the high rate of siltation, Hygam Wetland has <b>lost its wetland characteristics</b> to a large extent and in many places changed its profile into a landmass. Hygam Wetland provides a plethora of ecosystem services, these include fish and fiber, water supply, water purification, climate regulation, flood regulation, and recreational opportunities
<b>Shallabug Wetland Conservation Reserve</b>	It is located in the <b>District Srinagar, UT of J&amp;K</b> . Large areas of the wetland dry up between September and March.	The area has extensive reedbeds of <i>Phragmites communis</i> and <i>Typha angustata</i> , and rich growth of <i>Nymphaea candida</i> and <i>N.</i>	It is also important for seasonal water retention for wetlands or other areas of conservation importance downstream.

		stellata on open water. It serves as an abode to more than <b>four lakh resident and migratory birds of at least 21 species.</b>	The wetland is important for the recharge of aquifers. A major natural floodplain system. The wetland serves as an important breeding ground for many species of waterbirds
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### 13. NASA Studies Find Previously Unknown Loss of Antarctic Ice

#### Context:

- New research on **Antarctica**, including the first map of **iceberg calving**, doubles the previous estimates of loss from ice shelves and details how the continent is changing.
- One study, published in the journal Nature, maps how **iceberg calving – the breaking off of ice from a glacier front – has changed the Antarctic coastline over the last 25 years.** The researchers found that the **edge of the ice sheet has been shedding icebergs faster than the ice can be replaced.** This surprise finding **doubles previous estimates of ice loss from Antarctic’s floating ice shelves since 1997, from 6 trillion to 12 trillion metric tons.** Ice loss from calving has weakened the ice shelves and allowed Antarctic glaciers to flow more rapidly to the ocean, accelerating the rate of global sea level rise.

#### Iceberg Calving

- “Antarctica is crumbling at its edges,” says JPL scientist Chad Greene, lead author of the calving study. “**And when ice shelves dwindle and weaken, the continent’s massive glaciers tend to speed up and increase the rate of global sea level rise.**”
- Ice shelves **act like buttresses to glaciers**, keeping **the ice from simply sliding into the ocean.** When ice shelves are stable, they have a natural cycle of calving and replenishment that keeps their size fairly constant over the long term.
- But in recent decades, **the warming ocean has been destabilizing Antarctica’s ice shelves by melting them from below, making them thinner and weaker.** Satellite altimeters measure the thinning process by recording the changing height of the ice, but until this study, there hasn’t been a comprehensive assessment of how climate change might be affecting calving around the continent.

#### Data used from Satellite Missions

- **ICESat1(2003), ICESat2– (short for Ice, Cloud and land Elevation Satellite), launched Sept. 15, 2018, part of NASA’s Earth Observing System,** is a satellite mission for measuring ice sheet elevation and sea ice thickness, as well as land topography, vegetation characteristics, and clouds
- **Cryosat-2 – European Space Agency Earth Explorer Mission that launched on April 8th 2010.**
- **Envisat– Envisat is a large inactive Earth-observing satellite which is still in orbit and now considered space debris.** Operated by the European Space Agency, it was the world’s largest civilian Earth observation satellite
- **ERS – European Remote Sensing satellite (ERS) was the European Space Agency’s first Earth-observing satellite programme using a polar orbit. The ERS programme was composed of two missions, ERS-1 and ERS-2, which were launched into the same orbit in 1991 and 1995 respectively. The two spacecraft were designed as identical twins with one important difference – ERS-2 included an extra instrument (GOME) designed to monitor ozone levels in the atmosphere.**

Changes in elevation of the Antarctic ice sheet from 1985 to 2021 are shown. **Ice height diminishes (red) as the ice sheet melts by contact with ocean water; it rises (blue) where accumulation**

exceeds melting. Ice shelves are shown in gray. The missions that supplied data are listed at bottom. Credits: NASA/JPL-Caltech

#### 14. Have coastal ecosystem norms been violated?

- This week, the **Comptroller and Auditor General (CAG)** of India **tabled a report in Parliament** on whether steps taken by the Union Environment Ministry to conserve India's coastal ecosystems have been successful.
- The CAG frequently **undertakes 'performance audits' of government programmes and ministries**. This latest report contains the observations from an audit of **Conservation of Coastal Ecosystems from 2015-20**.

##### **What are the Centre's obligations on conserving the coastline?**

- The government has issued notifications under the **Environment Protection Act, 1986**, to **regulate activities along India's coasts particularly regarding construction**.
- The **Coastal Regulation Zone Notification (CRZ) 2019**, implemented by the Ministry, **classifies the coastal area into different zones to manage infrastructure activities and regulate them**.
- The three institutions responsible for the implementation of the CRZ are **the National Coastal Zone Management Authority (NCZMA) at the Centre, the State/Union Territory Coastal Zone Management Authorities (SCZMAs/UTCZMAs) in every coastal State and Union Territory and the District Level Committees (DLCs) in every district that has a coastal stretch and where the CRZ notification is applicable**.
- These bodies examine if CRZ clearances granted by the government are as per procedure, if project developers once given the go-ahead are complying with conditions, and if the project development **objectives under the Integrated Coastal Zone Management Programme (ICZMP)** are successful.
- They also evaluate the measures taken up by the government towards achieving the targets under Sustainable Development Goals, a set of United Nations-prescribed targets for countries towards eradicating poverty and becoming sustainable societies.

##### **Why did the CAG undertake this audit?**

- The CAG has a **constitutional mandate to investigate and report on publicly funded programmes**. The CAG conducted **"pre-audit studies"** and found that there **were large-scale CRZ violations** in the coastal stretches.
- Incidences of **illegal construction activities (reducing coastal space) and effluent discharges from local bodies**, industries and aquaculture farms had been reported by the media and this prompted it to undertake a detailed investigation.

##### **What did the audit find?**

- The audit pointed out various categories of violations. For one, **the Environment Ministry hadn't notified NCZMA as a permanent body and it was being reconstituted every few years**.
- In the absence of defined membership, it was functioning as an ad-hoc body. There were instances of the **Expert Appraisal Committees** — a committee of scientific experts and senior bureaucrats who evaluate the feasibility of an infrastructure project and its environmental consequences — **not being present during project deliberations**. There were also **instances of the members of the EAC being fewer than half of the total strength during the deliberations**.
- The **SCZMA had not been reconstituted in Karnataka and there was delayed reconstitution in the States of Goa, Odisha and West Bengal**. The DLCs of Tamil Nadu lacked participation from local traditional communities. In Andhra Pradesh, DLCs were not even established.
- There were instances of **projects being approved despite inadequacies in the Environment Impact Assessment (EIA) reports**. These included non-accredited consultants preparing the EIA, using outdated data, not evaluating environmental impacts of the project, not appraising the disasters which the project area was prone to and so forth.

**What problems did the CAG find in the States?**

- Tamil Nadu didn't have a strategy in place to conserve the Gulf of Mannar Islands. In Goa, there was no system for monitoring coral reefs and no management plans to conserve turtle nesting sites. In Gujarat, instruments procured to study the physiochemical parameters of soil and water of the inertial area of the Gulf of Kutch weren't used. **Sea patrolling in Gahirmatha Sanctuary, in Kendrapara, Odisha did not happen.** A research laboratory at Dangmal, Kendrapara District, Odisha constructed in 2016 has not been made functional till date. There was no website to disseminate the information related to the NCZMA, the CAG found, which is a clear violation of the mandated requirements of the Authority.

**What lies ahead?**

- These reports are **placed before the Standing Committees of Parliament**, which select those findings and recommendations that they judge to be the most critical to public interest and arrange hearings on them. In this case, the **Environment Ministry is expected to explain omissions pointed out by the CAG and make amends.**

**Integrated Coastal Zone Management (ICZM):**

- ICZM aims to **improve livelihood of coastal communities and conserve the coastal ecosystem.**
- The ICZM plan involves **identification of infrastructure requirements and livelihood improvement means in coastal districts.** Conservation of mangroves is among the components.
- The national component of the project includes **mapping of the country's coastline and demarcation of the hazard line.**
- It is a **World Bank assisted project.**
- It is being **implemented by the Department of Forests and Environment with assistance from the Union Ministry of Environment, Forests and Climate Change (MoEFCC).**
- The **National Centre for Sustainable Coastal Management (NCSCM), Chennai, will provide scientific and technical inputs.**

**Society of Integrated Coastal Management (SICOM)**

- SICOM has been established under the aegis of the Ministry of Environment, Forests and Climate change, Government of India with a vision for vibrant, healthy and resilient Coastal and Marine Environment for continuous and enhanced outflow of benefits to the Country and the Coastal Community.

**Main Roles, Responsibilities and Objectives: –**

- Nodal agency for strategic planning, management, execution, monitoring and successful **implementation of Integrated Coastal Zone Management (ICZM)** practices in across the country and National Project Management Unit (NPMU) for the ICZM Project and **ENCORE project in all the 13 Coastal States/UTs.**
- To act as a **technical Secretariat to the National Coastal Zone Management Authority (NCZMA)** related to **regulatory provisions and CRZ classification** of coastal stretches of the country.
- Coordinating agency and an interface for various ministries of Govt. Of India and the Govts and various line departments of the 13 Coastal State/UTs., Funding Institutions (World Bank) for **Enhancing Coastal and Ocean Resource Efficiency Project (ENCORE)**
- To support to **check violations to CRZ through improved technology-enabled** enforcement strengthened institutions and regulatory and legal reforms.
- SICOM has also embarked upon **the Pilot Blue Flag Programme**, a first in India under **Beach Environment & Aesthetic Management Services (BEAMS)** for development of world class Beaches in India
- **Capacity building of Coastal State Units** in planning, implementation and management of Integrated Coastal Zone Management programs and other national and State organization / agencies associated with the projects
- **Serving as an interface among coastal communities, experts, and governments**, including providing with and disseminating examples of best practices and guidelines for coastal and marine ecological security and livelihood security of coastal and island communities

- To undertake any additional work or function as may be assigned by MOEF&CC from time to time in the areas of coastal management and other related activities

#### 15. UN meet begins over treaty to govern use of high seas

- United Nations member states have gathered in New York to **create a new, legally-binding global treaty to govern the use of the high seas**. This could be the last round of negotiations for the conservation and sustainable use of marine biological diversity.
- The treaty will help **conserve biodiversity in areas beyond national jurisdiction (BBNJ)** that **lie outside countries' 322-kilometre exclusive economic zones**.
- This is the fifth round of negotiations on the international instrument **under the UN Convention on the Law of the Sea (UNCLOS)**.

##### BBNJ Treaty

- It is also known as **"Treaty of the High Seas"**.
- It is an international agreement on conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.
- It is currently under negotiation at the United Nations. The new treaty is being developed within the framework of United Convention on the Law of the Sea (UNCLOS), which is an important international agreement governing human activities at sea.
- Launched at the **One Ocean Summit** in February 2022, the **High Ambition Coalition on Biodiversity Beyond National Jurisdiction** brings together many delegations engaged in the BBNJ negotiations on a common and ambitious outcome at the highest political level.
- BBNJ Treaty provides an opportunity to fill gaps and address weaknesses in ocean governance. It also provides opportunity to take meaningful action for addressing and managing transboundary pollution on high seas. This declaration by High Ambition Coalition (HAC) is a welcomed step for protecting biodiversity on high seas, with increasing pressure on ocean.
- Five Regional Seas Conventions currently include Areas Beyond National Jurisdiction (ABNJ) under their geographical coverages: **OSPAR Convention, Noumea Convention, CCAMLR Convention, Barcelona Convention, and Lima Convention**.
- **Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)**
- **Convention on the Protection of the Natural Resources and Environment in the South Pacific Region (Noumea Convention)**
- **Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR Convention)**
- **Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention)**
- **Convenio para la Protección del Medio Marino y la Zona Costera del Pacífico Sudeste (Lima Convention)**

Parties and member countries of the following two Regional Seas programmes also started studying the issues related to biodiversity in areas beyond national jurisdiction:

- **Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean**
- **Abidjan Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region**

##### UNCLOS

- UNCLOS was adopted in **1982 and laid the foundation of ocean governance**, with the first single set of rules for oceans and seas. On April 29 2022, the UN Convention on the Law of the Sea (UNCLOS) completed 40 years.
- There are **two more instruments** under the **Convention**:
  - The 1994 agreement on the implementation of **Part XI of UNCLOS** and
  - the **1995 UN Fish Stocks Agreement**.
- The **treaty on BBNJ will be the third legal instrument** under the convention.



- It is also known as **Law of the Sea**. It divides marine areas into five main zones namely- **Internal Waters, Territorial Sea, Contiguous Zone, Exclusive Economic Zone (EEZ) and the High Seas**.
- It not only zones coastal states' offshore areas but also provides specific guidance for states' rights and responsibilities in the five concentric zones.

## 16. How to destroy a 'forever chemical' PFAS

### Context

Scientists discovering ways to **eliminate perfluoroalkyl and polyfluoroalkyl substances**, but this growing global health problem isn't going away soon

### What are PFAS chemicals?

- PFAS chemicals seemed like a good idea at first. As **Teflon**, they made pots easier to clean starting in the **1940s**. They made jackets **waterproof** and carpets **stain-resistant**.
- **Food wrappers, firefighting foam, even make-up** seemed better with perfluoroalkyl and polyfluoroalkyl substances.

### Bad Effects

- Then tests started detecting **PFAS in people's blood**.
- Today, PFAS are **pervasive in soil, dust and drinking water** around the world. Studies suggest they're in 98 per cent of Americans' bodies, where they've been associated with health problems including **thyroid disease, liver damage and kidney and testicular cancer**. There are now over 9,000 types of PFAS.
- They're often referred to as "**forever chemicals**" because the same properties that make them so useful also ensure they **don't break down in nature**.

### Solution

- The latest breakthrough, published August 18, 2022, in the journal Science, shows how one class of PFAS can be broken down into mostly harmless components **using sodium hydroxide, or lye, an inexpensive compound used in soap**. It isn't an immediate solution to this vast problem, but it offers new insight.

### How do PFAS get from everyday products into water, soil and eventually humans?

- There are two **main exposure pathways** for PFAS to get into humans — **drinking water and food consumption**.
- PFAS can get into soil through **land application of biosolids**, that is, **sludge from wastewater treatment**, and can they **leach out from landfills**. If contaminated biosolids are applied to **farm fields as fertilizer**, PFAS can get **into water and into crops and vegetables**.
- For example, **livestock can consume PFAS** through the **crops** they eat and **water** they drink.
- The problem is that these chemicals are everywhere, and **there is no natural process in water or soil that breaks them down**. Many consumer products are loaded with PFAS, including **makeup, dental floss, guitar strings and ski wax**.

### How are remediation projects removing PFAS contamination now?

- Methods exist for **filtering them out of water**. The chemicals will **stick to activated carbon**, for example. But these methods are **expensive for large-scale projects**, and you still have to get rid of the chemicals.

### What are the most promising methods scientists have found for breaking down PFAS?

- The most common method of destroying PFAS is **incineration**, but most PFAS are remarkably **resistant to being burned**. That's why they're in **firefighting foams**.
- PFAS have **multiple fluorine atoms attached to a carbon atom**, and the **bond between carbon and fluorine is one of the strongest**. Normally to burn something, you have to break the bond, but fluorine resists breaking off from carbon.
- Most PFAS will **break down completely at incineration temperatures around 1,500 degrees Celsius (2,730 degrees Fahrenheit)**, but it's **energy intensive and suitable incinerators are scarce**.

- A group at Battelle has developed **supercritical water oxidation to destroy PFAS. High temperatures and pressures change the state of water, accelerating chemistry** in a way that can destroy hazardous substances. However, scaling up remains a challenge.

#### 17. Kerala did virtually nothing for Endosulfan victims for 5 years: SC

##### Context

The Supreme Court has slammed the Kerala government for doing “virtually nothing” for Endosulfan pesticide exposure victims. The court said the State’s inaction was “appalling” and amounted to a breach of the apex court’s 2017 judgment, which had ordered the State to pay ₹5 lakh each to the victims in three months.

##### Concept:

- Endosulfan is an off-patent organochlorine insecticide and acaricide that is being phased out globally.
- It became a highly controversial agrichemical due to its acute toxicity, potential for bioaccumulation, and role as an endocrine disruptor.
- Because of its threats to human health and the environment, a global ban on the manufacture and use of endosulfan was negotiated under the Stockholm Convention in April 2011.
  - The ban has taken effect in mid-2012, with certain uses exempted for five additional years.
  - More than 80 countries, including the European Union, Australia, New Zealand, several West African nations, the United States, Brazil, and Canada had already banned it or announced phase-outs by the time the Stockholm Convention ban was agreed upon.
  - It is still used extensively in India, China despite laws banning it, and few other countries.
    - In India, a 2011 Supreme Court order has banned its production and sale until further notice.

##### Uses

- Endosulfan has been used in agriculture around the world to control insect pests including whiteflies, aphids, leafhoppers, Colorado potato beetles and cabbage worms.
- Due to its unique mode of action, it is useful in resistance management; however, as it is not specific, it can negatively impact populations of beneficial insects.
- It is, however, considered to be moderately toxic to honey bees, and it is less toxic to bees than organophosphate insecticides.

##### Hazardous Effects of Endosulfan

- It is highly toxic & has a large potential for bioaccumulation (substance does not leave the body).
- It has hazardous effects on human genetic & endocrine systems.
- Endocrine disruptor: enhances the effect of estrogens causing reproductive & developmental damage in both animals & humans.
  - Delayed reproductive development
  - Late sexual maturity
  - Autism
- Neurotoxic: endosulfan destroys the integrity of the nerve cells.

##### Endosulfan in India –

- India was one of the biggest producers & consumers of endosulfan.
- After the toxicity of the pesticide came into limelight in 2001 in Kasargod District, Kerala banned it.
- In 2011, SC banned the production, distribution & use of endosulfan in India.
- SC also directed the Kerala government to pay Rs 500 crores as compensation to over 5,000 victims.
- Globally, the use of endosulfan is banned under the Stockholm Convention on Persistent Organic Pollutants.

- Endosulfan is listed under both Rotterdam Convention on the Prior Informed Consent and the Stockholm Convention on Persistent Organic Pollutants.
- Under pressure from pesticide firms, India sought remission on the ban for 10 years.
- India had agreed to phase out the use of endosulfan by 2017.

### **Bioaccumulation**

It is typically associated with the build-up of damaging or harmful chemicals in a living thing. These chemicals will not break down in the body or are not able to be excreted. This will cause the chemical to accumulate over time

### **What is the Rotterdam convention 1998?**

- The convention aims to promote cooperation and responsibility sharing measures amongst different countries dealing with trade in **hazardous chemicals and pesticides**.
- **PIC, Prior Informed Consent** is the main feature of the convention and is legally binding on the party members.
- PIC facilitates information exchange about nature and trade-related information amongst the party members.
- The Convention creates obligations for the implementation of the Prior Informed Consent (PIC) procedure.

### **What is Stockholm convention 2001?**

- The convention aims to reduce the concentration of **persistent organic pollutants (POPs)** which are chemical substances that not only remain in the atmosphere for longer periods but also possess the **ability to bio-accumulate**.
- The convention listed 12 POPs as 'dirty dozen'.

## **18. Cheetahs from Namibia set to reach in Sept: Union Minister Bhupender Yadav**

### **Context**

Union Environment Minister Bhupender Yadav has confirmed that the translocation of African cheetahs to Kuno National Park in Madhya Pradesh is expected to culminate in September.

### **Details:**

Eight cheetahs are expected from Namibia and Indian government is trying for another 12 from South Africa.

### **Why South Africa?**

The cheetah population in South African had started dwindling two decades ago, before the conservation programme was launched that increased their number to 500. Now, South Africa is running out of space for cheetahs. Thus the translocation project is useful for both Indian and South Africa

## **19. Climate Bonds Initiative**

### **Context**

Climate Bonds Initiative is an **international organisation working to mobilise global capital for climate action**.

- It achieves this through the development of the **Climate Bonds Standard and Certification Scheme, Policy Engagement** and Market Intelligence work.
- It empowers our Partner organisations with **the tools and knowledge needed to navigate, influence and instigate change**.
- Climate Bonds Initiative is an **investor-focused not-for-profit**.

### **Climate Bonds Taxonomy**

- The Climate Bonds Taxonomy is a guide to **climate aligned assets and projects**. It is a **tool for issuers, investors, governments and municipalities** to help them understand what the key investments are that will **deliver a low carbon economy**.
- The Taxonomy is grounded in the latest climate science and has been developed through an extensive multi-stakeholder approach, leveraging the work of our Technical and Industry Working Groups.
- The Taxonomy aims to encourage and be **an important resource for common green definitions across global markets**, in a way that supports the growth of a cohesive thematic bond market that delivers a low carbon economy.

- Climate Bonds has been a **major contributor to the development of the EU Sustainable Finance Taxonomy.**
- The Climate Bonds Taxonomy identifies **the assets, activities and projects needed to deliver a low carbon economy** consistent with the goals of the Paris Agreement. It has been developed based on the latest climate science including **research from the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA), and has benefited from the input of hundreds** of technical experts from around the world.

## 20. Sequence for a just future: Can safeguards for digital genomic data from biodiversity be ensured

### Context

Negotiations on how to regulate the **use of digital sequence information (DSI) of genetic resources** could further delay the finalisation of the Post-2020 Global Biodiversity Framework under the UN Convention on Biological Diversity (CBD).

### Digital sequence information (DSI)

- This data is **essentially electronic information on the sequences of the genetic material that make each biological resource unique.**

### Potential of DSI

- The vast potential of DSI was underscored during the pandemic when **open access to the digital copy of the SARS-CoV-2 genome, uploaded by China, enabled researchers worldwide to develop vaccines against COVID-19 in record time.**

### Concerns

- **Developing countries which are rich in biodiversity feel DSI provides a loophole through which developed countries can circumvent CBD.**
- **The CBD was established three decades ago to ensure that communities receive the benefits arising from the use of biodiversity.**
- According to CBD, each country has **sovereign rights over its genetic resources. Anyone who wants to access the material needs to first inform the country and set down mutually acceptable terms.**

### Open-ended Working Group on the Post-2020 Global Biodiversity Framework in Nairobi, Kenya

- Parties from Africa clearly said a decision **on benefit-sharing from DSIs is important.**
- A failure to come to a consensus could postpone the adoption of the framework
- They suggested **setting up a fund under a multilateral benefit-sharing mechanism, which collects one per cent of the retail price of all commercial income resulting from the utilisation of genetic resources, from traditional knowledge associated with genetic resources, or from DSIs.**
- This fund, **operated by the Global Environment Facility, could then be used to support conservation and sustainable use of biodiversity and be made available to communities and countries in a competitive, project-based manner to support conservation of biological diversity and its sustainable use.**

### Convention on Biological Diversity (CBD)

- The **Convention on Biological Diversity (CBD), a legally binding treaty** to conserve biodiversity has been in force since 1993. It has **3 main objectives:**
  - The conservation of biological diversity.
  - The sustainable use of the components of biological diversity.
  - The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.
- Nearly all countries have ratified it (notably, the **US has signed but not ratified**).
- The **CBD Secretariat is based in Montreal, Canada** and it **operates under the United Nations Environment Programme.**
- The Parties (Countries) under Convention of Biodiversity (CBD), meet at regular intervals and these meetings are called **Conference of Parties (COP).**

- In 2000, a supplementary agreement to the Convention known as the **Cartagena Protocol on Biosafety** was adopted. It came into force on 11<sup>th</sup> September 2003.
  - The Protocol seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology.
- The **Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS)** was adopted in 2010 in Nagoya, Japan at COP10. It entered into force on 12<sup>th</sup> October 2014.
  - It not only applies to genetic resources that are covered by the CBD, and to the benefits arising from their utilization but also covers traditional knowledge (TK) associated with genetic resources that are covered by the CBD and the benefits arising from its utilization.
- Along with the Nagoya Protocol on Genetic Resources, the COP-10 also adopted a ten-year framework for action by all countries to save biodiversity.
- Officially known as “**Strategic Plan for Biodiversity 2011-2020**”, it provided a set of 20 ambitious yet achievable targets collectively known as the **Aichi Targets for biodiversity**.
- India **enacted Biological Diversity Act in 2002** for giving effect to the provisions of the CBD.

#### Global Environment Facility

- It is an independently operating **financial organization**
- GEF is multilateral financial mechanism that provides grants to developing countries for projects that benefit global environment and promote sustainable livelihoods in local communities.
- It was setup as a **fund under World Bank in 1991**
- In 1992, at the Rio Earth Summit, the GEF was restructured and **moved out of the World Bank** system to become a permanent, separate institution.
- Since 1994, however, the World Bank has served as the Trustee of the GEF Trust Fund and provided administrative services.
- It is based in **Washington DC**, United States.
- It addresses six designated focal areas:
  - biodiversity,
  - climate change,
  - international waters,
  - ozone depletion,
  - land degradation and
  - Persistent Organic Pollutants.
- The program supports an active portfolio of over 200 investments globally.
- GEF serves **as financial mechanism for** :
  - Convention on Biological Diversity (**CBD**)
  - United Nations Framework Convention on Climate Change (**UNFCCC**)
  - UN Convention to Combat Desertification (**UNCCD**)
  - **Stockholm** Convention on Persistent Organic Pollutants (**POPs**)
  - **Minamata** Convention on **Mercury**
- India is both **donor and recipient** of GEF.

#### 21. Anang Tal lake declared monument of national importance

##### Context

Recently, Delhi Lieutenant Governor Vinai Kumar Saxena had visited **the Anang Tal Baoli inside Sanjay Van**, and directed officials to restore the heritage stepwell within the next two months.

- The Anang Tal lake **in South Delhi, believed** to have been built a thousand years ago, has been declared **a monument of national importance** through a gazette notification by the **Ministry of Culture** earlier this week.
- The notification, issued on August 22, stated: “The central government is of the opinion that the ancient mound including Anang Tal, **Tehsil Mehrauli, district South Delhi, National Capital Territory Delhi...** is **an ancient site and remains of national importance**; Now, therefore, in exercise of the powers conferred by **sub-section (1) of**



section 4 of the Ancient Monuments and Archaeological Sites and Remains Act, 1958 (24 of 1958), the central government hereby gives notice of its intention to declare the said ancient site and remains to be of national importance...”

#### Anang Tal

- The lake is situated in Mehrauli, Delhi and is claimed to be created by **Tomar King, Anangpal II**, in 1,060 AD.
  - He is known to have established and populated Delhi in the 11<sup>th</sup> century.
- The millennium old Anang Tal signifies the beginning of Delhi.
- Anang Tal has a strong Rajasthan connection as **Maharaja Anangpal is known as nana (maternal grandfather) of Prithviraj Chauhan** whose fort Rai Pithora is on the list of the ASI.

#### Who was Anangpal II?

- Anangpal II, popularly known as **AnangpalTomar**, belonged to the **Tomar dynasty**.
- He was the founder of **Dhillika Puri**, which eventually became Delhi.
  - Evidence about the early history of Delhi is inscribed on the **iron pillar of Masjid Quwaatul Islam, adjacent to Qutub Minar**.
- Multiple inscriptions and coins suggest **AnangpalTomar was the ruler of present-day Delhi and Haryana** in between the 8<sup>th</sup>-12<sup>th</sup> centuries.
  - He had built the city from ruins and under his supervision, Anang Tal Baoli and Lal Kot were constructed.
- AnangpalTomar II was **succeeded by his grandson Prithviraj Chauhan**.
  - Delhi Sultanate was established in 1192 after Prithviraj Chauhan's defeat in the Battle of Tarain (present-day Haryana) by the Ghurid forces.

#### What are the Key Points About the Tomar Dynasty?

- Tomara dynasty is **one of the minor early medieval ruling houses** of northern India.
- Puranic evidence (writings of the Puranas) gives its early location in the Himalayan region. According to bardic tradition, **the dynasty was one of the 36 Rajput tribes**.
- The history of the family spans the **period between the reign of Anangpal, who founded the city of Delhi in the 11<sup>th</sup> century CE**, and the incorporation of Delhi within the Chauhan (Chahamana) kingdom in 1164.
- Although Delhi subsequently became decisively a part of the Chauhan kingdom, numismatic and comparatively late literary evidence indicates that **Tomara kings such as Anangapal and Madanapal continued to rule as feudatories**, presumably until the final conquest of Delhi by the Muslims in 1192–93.

#### National Mission on Monuments and Antiquities

- The National Mission on Monuments and Antiquities (NMMA) is an Indian government agency responsible for **maintaining cultural heritage database under the Ministry of Culture of the government of India**.
- It was launched in 2007 aimed at studying, researching and preserving the cultural heritage of India.
- The main goal of the agency is to **make information available online to the general public, explicitly for scholars and students** interested or associated with the subject.
- Responsible to **maintain two national registers such as national registers on antiquities and national register on Built Heritage & Sites (BH&S)**, it is referred to one of the important databases of the country in architectural and historical perspectives alongside the Archaeological Survey of India, a nodal agency of the NMMA.

#### 22. Gangetic river dolphins in Assam decline in the wake of anthropogenic pressures

- Assam's **Brahmaputra and the tributaries Kulsi and Subansiri** are strongholds of the **endangered Gangetic river dolphin**. However, local communities and researchers note decline in populations.
- Dolphins in the **Kulsi river are affected by relentless mechanised sand mining** on the banks.

- The construction of dams in several regions in Assam and Arunachal Pradesh cut through dolphin habitats and limit the access to prey.
- Dolphins are **more or less extinct in the Barak river system, with a handful found in tributaries such as Kushiya and Sooma.**

#### **Gangetic river dolphin**

- It was recognised as the **National Aquatic Animal in 2009**, by the Government of India.
- They live in the **Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India, and Bangladesh.**
- The Ganges river dolphin **can only live in freshwater** and is essentially blind.
- Nearly **80% of total Gangetic river dolphin found in the Indian subcontinent.**
- It is **a reliable indicator of the health** of the entire river ecosystem.

#### **Conservation Status**

- **Indian Wildlife (Protection), Act 1972:** Schedule I.
- **International Union for the Conservation of Nature (IUCN):** Endangered.
- **Convention on International Trade in Endangered Species (CITES):** Appendix I (most endangered).
- **Convention on Migratory Species (CMS):** Appendix II (migratory species that need conservation and management or would significantly benefit from international co-operation).

#### **Government initiative:**

- **Project Dolphin:** The Prime Minister announced the government's plan to launch a Project Dolphin in his Independence Day Speech 2020. It is on the lines of **Project Tiger**, which has helped increase the tiger population.
- **Dolphin Sanctuary: Vikramshila Ganges Dolphin Sanctuary** has been established in Bihar.
- **National Ganga River Dolphin Day:** The **National Mission for Clean Ganga** celebrates 5<sup>th</sup> October as National Ganga River Dolphin Day.

#### **Ranganadi River**

- The Ranganadi River (also known as Paniyor River) is a **sub-tributary of the Brahmaputra River in the Indian state of Assam.**
- The river originates from Nilam, **Marta and Tapo mountain ranges of Himalayan foothills of Arunachal Pradesh.**
- The Ranganadi river then **enters Assam at Johing of Lakhimpur** district and flows 60 km through Lakhimpur district before **its confluence with the Subansiri River** at Pokoniaghat of Lakhimpur district.

### **23. Battery Waste Management Rules 2022**

#### **Context**

Ministry of Environment, Forest and Climate Change, Government of India published the Battery Waste Management Rules, 2022 on 24th August, 2022 to ensure environmentally sound management of waste batteries.

#### **Concept:**

To promote Circular Economy in full earnest, the new rules will replace Batteries (Management and Handling) Rules, 2001.

#### **Battery Waste Management Rules, 2022**

- The rules cover all types of batteries, viz. **Electric Vehicle batteries, portable batteries, automotive batteries and industrial batteries.**
- The rules function based on the concept of **Extended Producer Responsibility (EPR)** where the producers (including importers) of batteries are responsible for collection and recycling/refurbishment of waste batteries and use of recovered materials from wastes into new batteries.
- EPR mandates that **all waste batteries to be collected and sent for recycling/refurbishment**, and it **prohibits disposal in landfills and incineration.**
- To meet the EPR obligations, producers may engage themselves or authorise any other entity for collection, recycling or refurbishment of waste batteries.

- The rules will enable setting up a mechanism and **centralized online portal** for exchange of EPR certificates between producers and recyclers / refurbishers to fulfil the obligations of producers.
- The rules promote **setting up of new industries and entrepreneurship** in collection and recycling / refurbishment of waste batteries.
- Mandating the **minimum percentage of recovery of materials from waste batteries** under the rules will bring new technologies and investment in recycling and refurbishment industry and create new business opportunities.
- Prescribing the use of certain amount of recycled materials in making of new batteries will reduce the dependency on new raw materials and save natural resources.
- Online registration & reporting, auditing, and committee for monitoring the implementation of rules and to take measures required for removal of difficulties are salient features of rules for ensuring effective implementation and compliance.
- On the principle of **Polluter Pays Principle**, **environmental compensation** will be imposed for non-fulfilment of Extended Producer Responsibility targets, responsibilities and obligations set out in the rules. The funds collected under environmental compensation shall be utilised in collection and refurbishing or recycling of uncollected and non-recycled waste batteries.

#### 24. Explained: Chhattisgarh's Forest 'by mistake'

- The Union Ministry of Environment, Forest and Climate Change has **objected to the transfer of thousands of hectares of land without following due process by Chhattisgarh from its Forest to the Revenue Department** for setting up industries and for building road, rail, and other infrastructure.

##### Forests in law

- Broadly, state Forest Departments have jurisdiction over two types of forests notified under the Indian Forest (IF) Act, 1927:
  - Reserve Forests (RF), where **no rights are allowed unless specified**; and
  - Protected Forests (PF), where **no rights are barred unless specified**.
  - Certain forests, such as village or nagarpalika forests, are managed by state Revenue Departments.
- The FC Act, 1980, applies to all kinds of forests, whether under the control of the Forest or the Revenue Department, and it requires statutory clearance before forests can be used for any non-forest purpose such as industry, mining, or construction.

##### T.N. Godavarman Thirumulkpad vs the Union of India judgment

- In the judgement, the Supreme Court interpreted that the word “forest” must be understood according to its “dictionary meaning”.
- This description covers all statutorily recognised forests, whether designated as reserved, protected or otherwise.
- According to India State of Forest Report, 2019(a biennial publication of Forest Survey of India (FSI)), tree and forest cover together made up 24.56% (8,07,276 sq km) of India's area.
- The country is pursuing a long-term goal of having 33 percent of its land under forest cover.

##### Constitutional Provisions:

- Forests are included in the **Concurrent List** in the (Seventh Schedule) of the Constitution of India.
- Through the **42nd Amendment Act, 1976** Forests and Protection of Wild Animals and Birds were transferred from State to Concurrent List.
- **Article 51 A (g)** of the Constitution states that it shall be the **fundamental duty** of every citizen to protect and improve the natural environment including forests and Wildlife.

- **Article 48 A** in the **Directive Principles of State policy**, mandates that the State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country.

#### **Chhattisgarh case**

- The recorded forest area in **Chhattisgarh covers 44.21% of its geography.**
- **Largest forest cover in India: Madhya Pradesh > Arunachal Pradesh > Chhattisgarh > Odisha > Maharashtra (India State of Forest Report (ISFR) 2021)**
- Therefore, in May 2021, the state Revenue Department sought a field survey to identify **non-forest land** — parcels **smaller than 10 hectares with less than 200 trees per hectare** — “that had been included by mistake” in “**Orange Areas**” under the Forest Department.

#### **Orange, a grey area**

- Under the zamindari system, villagers used **local malguzari (livelihood concessions)** forests for **firewood, grazing, etc.** When zamindari was abolished in 1951, **malguzari forests came under the Revenue Department.**
- In 1958, the government of undivided Madhya Pradesh **notified all these areas as PFs under the Forest Department.**
- Madhya Pradesh amended the IF Act, 1927, in 1965 — when forests figured in the State List — **to allow denotification of PFs. The areas yet to be surveyed — undemarcated PFs — were marked in orange on the map.**
- Since 2003, a case has been pending in the Supreme Court on rationalising these orange areas that have remained a bone of contention between the two Departments.

#### **25. To achieve net-zero emissions target by 2070 India needs \$10-tn investment from now: report**

- According to the ‘**Getting India to Net Zero**’ report, the **investment required will be \$13.5 trillion if the target is to be met by 2050.**
- The report also says achieving net-zero by 2070 would **boost annual GDP by up to 4.7% by 2036 and create as many as 15 million new jobs by 2047.**
- The report was released by Rudd, also the president of **Asia Society Policy Institute**, former UN Secretary-General and Global Green Growth Institute President & Chair Ban Ki-moon, International Finance Corporation’s Head and Director of Climate Business, Vivek Pathak and former Indian foreign secretary Shyam Saran.

#### **International Finance Corporation (IFC)**

- The International Finance Corporation (IFC) is an **international financial institution that offers investment, advisory, and asset management services to encourage private sector development in developing countries.**
- IFC is the largest global development institution **focused exclusively on the private sector in developing countries.** The Bank Group has set two goals for the world to achieve by 2030: **end extreme poverty and promote shared prosperity in every country.**
- **It is a member of the World Bank Group** and is headquartered in Washington, D.C., United States.
- **It was established in 1956 as the private sector arm of the World Bank Group to advance economic development by investing in strictly for-profit and commercial projects** that purport to reduce poverty and promote development.
- **The IFC is owned and governed by its member countries**, but has its own executive leadership and staff that conduct its normal business operations.
- **It is a corporation whose shareholders are member governments** that provide paid-in capital and which have the right to vote on its matters.

#### **26. Millets**

##### **Context**

Union Finance and Agriculture Ministers and Karnataka CM address the Millets Conclave at Raichur

### Concept

Millets are often referred to as Superfood and its production can be seen as an approach for sustainable agriculture and a healthy world.

- These are essential climate resilient staple food crops grown in dryland agriculture that has occupied **68 per cent** of the area under cultivation and produced 44 per cent of food requirements.
- Cultivating millets requires less water than rice, sugarcane and wheat, and will be suitable for small farmers.
- India is the largest consumer and accounts for 38 per cent of global demand.
- The three major millet crops currently grown in India are jowar (sorghum), bajra (pearl millet) and ragi (finger millet).
- Along with that, India grows a rich array of bio-genetically diverse and indigenous varieties of “small millets” like **kodo, kutki, chenna** and
- Major producers include Rajasthan, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Maharashtra, Gujarat and Haryana.

### Government Initiatives to promote consumption of Millets

- The government included the cereals in the **(Targeted) Public Distribution System under the sub-mission ‘Nutri-cereals’** in
- Millets are also covered in the Price Support Scheme and the MSP of pearl and small millets range between ₹2,000 and ₹3,150 a quintal.
- The Union Agriculture Ministry, in April 2018, declared millets as “**Nutri-Cereals**”, considering their “**high nutritive value**” and also “**anti-diabetic properties**”.
- 2018 was also observed as ‘**National Year of Millets**’.

## 27. Spartech waste post-demolition

### Context

### Spartech waste post-demolition

#### Details:

- The Spartech Twin towers in Sector 93A of Noida, Uttar Pradesh were demolished by controlled implosion at 2.30 pm August 28, 2022. Their being located in a residential neighbourhood of Noida makes it even more **essential to introduce interventions to mitigate pollution and waste, post-demolition**.
- This demolition has also produced large amounts of dust. **Heavier dust particles will settle down soon but the light particulate matter (PM) will probably remain in the air for weeks.**
- The Air Quality Index (AQI) bulletin issued by the Central Pollution Control Board at **4 pm August 28 mentioned Noida’s AQI to be at 120.** This is considered to be ‘moderate’.
- There are **various health effects** that can befall people in the vicinity **like respiratory issues, skin ailments, as well as allergic disorders. There is an increase in lead, silica and asbestos** in the atmosphere and a tremendous amount of **PM10 and PM2.5 particles.**
- **Increased lead exposure** may lead to **headache, tiredness, irritability and constipation, silicosis, etc.**
- **Silt accumulation in drainage systems** can lead to problems like **water-borne and parasite diseases.**

### National Air Quality Index (AQI)

- Launched in **2014** with outline ‘**One Number – One Color -One Description**’ for the common man to judge the air quality within his vicinity.
- **The measurement of air quality is based on eight pollutants**, namely: Particulate Matter (PM10), Particulate Matter (PM2.5), Nitrogen Dioxide (NO2), Sulphur Dioxide (SO2), Carbon Monoxide (CO), Ozone (O3), Ammonia (NH3), and Lead (Pb).
- **AQI has six categories of air quality.** These are: Good, Satisfactory, Moderately Polluted, Poor, Very Poor and Severe.
- It has been developed by **the CPCB in consultation with IIT-Kanpur** and an expert group comprising medical and air-quality professionals.



### The Construction and Demolition Waste Management Rules, 2016

- The Construction & Demolition Waste Management Rules, 2016, were published on **March 29, 2016, by the Ministry of Environment, Forestry, and Climate Change.**
- The Rules applies to **anybody who produces rubbish from building and destruction.**
- The basis of these Rules is to **recover, recycle and reuse** the waste generated through construction and demolition.
- **Segregating construction and demolition waste** and depositing it to the **collection centres for processing** will now be the responsibility of every waste generator.
- **The local bodies will have to utilize 10-20% material** from construction and demolition waste in municipal and government contracts.
- Cities with a **population of more than one million will commission processing and disposal facility within 18 months** from the date of final notification of these rules, while cities with a population of 0.5 to 1 million and those with a population of less than 0.5 million will have to provide these facilities within two years and three years respectively.
- **Permission for construction will be given only when the complete construction and demolition waste management plan is presented**
- **Large generators of waste will have to pay relevant charges for collection, transportation, processing and disposal, as notified by the concerned authorities.**
- The Central Pollution Control Board shall prepare operational guidelines related to environmental management of construction and demolition waste.
- **SPCB shall grant authorization to construction and demolition waste processing facility**
- The Bureau of Indian Standards need to prepare code of practices and standards for products of construction and demolition waste
- **Indian Roads Congress needs to prepare standards and practices** pertaining to products of construction and demolition waste in roads construction.

### 28. Delegates come close but fail again to clinch high seas protection treaty

#### Context:

Treaty failed to be concluded at **the Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction.**

#### 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 had decided to rectify this while setting 2022 as the deadline.
- The pandemic resulted in many delays, and later, a **High Ambition Coalition**, which now has more than 100 countries including India, the US, and the UK, came about and put the focus on '30×30' goals – **protecting 30% of the ocean by 2030.**
- **Four areas key to a sustainable biodiversity conservation agreement were discussed in New York: sharing marine genetic resources (MGRs) fairly; implementing area-based management tools like marine protected areas (MPAs); setting standards for environmental impact assessments for activities on the high seas; and ensuring less-industrialized countries can meet treaty objectives through a mechanism for sharing marine technology and knowledge.**

#### 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 **United Nations Convention on the Law of the Sea (UNCLOS)** is an international treaty which was adopted and signed in **1982.**

- UNCLOS is the **only international convention** which stipulates a framework for state jurisdiction in maritime spaces. It provides a different legal status to different maritime zones.
- It replaced the four Geneva Conventions of April, 1958, which respectively concerned the territorial sea and the contiguous zone, the continental shelf, the high seas, fishing and conservation of living resources on the high seas.
- The Convention has created three new institutions on the international scene:
  - **the International Tribunal for the Law of the Sea**
  - **the International Seabed Authority**
  - **the Commission on the Limits of the Continental Shelf**
- UNCLOS as the currently prevailing law of the sea is **binding completely**.
- There are 17 parts, 320 articles and nine annexes to UNCLOS
- The law of the sea provides for **full rights to nations for a 200-mile zone** from their shoreline. The sea and oceanic bed extending this area is regarded to be Exclusive Economic Zone (EEZ) and any country can use these waters for their economic utilization.

#### **Pacific Small Islands Developing States (PSIDS)**

- The PSIDS comprises of the **14 Pacific Island countries viz. The Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.**

#### **About Small Island developing states (SIDS)**

- SIDS is a **group of small island countries that tend to share similar sustainable development challenges.**
- The challenges include small but growing populations, **limited resources, remoteness, susceptibility to natural disasters, vulnerability to external shocks, excessive dependence on international trade, and fragile environments.**
- Their growth and development is also held back by high communication, energy and transportation costs and little to no opportunity to create economies of scale.

#### **Location**

- These countries are across the **globe in the Caribbean, the Pacific, Atlantic and Indian Oceans, and the Mediterranean and South China Sea.**

#### **Groupings**

- These are broken down into following **three geographic regions, with each region having it's own regional cooperation body.**
- Caribbean: The **Caribbean Community**
- Pacific: The **Pacific Islands Forum**
- **Africa, Indian Ocean, Mediterranean and South China Sea (AIMS)**

## **SCIENCE AND TECHNOLOGY**

### 1. The technology powering hybrid electric vehicles

#### **Context**

In recent months, automakers Maruti Suzuki, Toyota and Honda have launched hybrid electric vehicles in India, offering car buyers more choices in the nascent electric vehicle market

#### **What is a hybrid electric vehicle?**

- A hybrid electric vehicle (HEV) **uses an internal combustion engine (a petrol/diesel engine) and one or more electric motors to run.**
- It is powered by the electric motor alone, which uses energy stored in batteries, by the ICE, or both.
- The powertrain of the HEV is more complex than a regular ICE-powered car as it has EV components and a conventional ICE.

#### **How do HEV powertrains work?**

- HEV powertrains are designed to power cars in a series, parallel or series-parallel (power split) methods
- A **series HEV uses only the electric motor to drive the wheels**, while the ICE powers the generator, which in turn recharges the battery.
- A **parallel HEV, based on the driving condition, uses the best power source to power the vehicle.** It will alternate between the electric motor and the ICE to keep the car moving.
- A **series-parallel HEV offers a combination of both models and allows to split power**, wherein power is routed from the ICE alone or from the battery to the electric motor to drive the vehicle.
- In all above three designs, the battery is charged through regenerative braking technology.

#### **What is Regenerative Braking Technology (RBT)?**

- Regenerative braking is an **energy recovery mechanism that slows down a moving vehicle or object by converting its kinetic energy into a form that can either be used immediately or stored until needed.**

#### **How does regenerative braking work?**

- A regenerative braking system (RBS) used in **automotive applications has several advantages like better braking efficiency in stop-and-go traffic which enhances fuel economy** and also helps in reducing carbon emissions
- RBS also helps in **energy optimisation resulting in minimum energy wastage.**
- A **kinetic system can recover the energy lost during braking and then use this energy to recharge the high-voltage battery of the vehicle.** An electric system generates electricity through a motor during sudden braking. Lastly, a hydraulic system uses pressurised tanks to store the vehicle's kinetic energy and can offer a high energy recovery rate which is ideal for heavy vehicles.
- The **efficiency of HEVs and EVs will in large part be determined by their ability to recover as much energy as possible** while braking, with a higher degree of energy recovery lowering fuel consumption
- The amount of recoverable energy depends upon **factors like vehicle speed and stopping pattern.**

#### **What are the different types of HEVs?**

- The HEVs can be categorized into micro, mild and full hybrid vehicles, based on the degree of hybridization.
- A **full HEV will have a larger battery and a more powerful electric motor compared with a mild HEV.** As a result, a full HEV can power the vehicle for longer distances using just electric mode, whereas a **mild HEV cannot drive using only the electric motor and uses the battery at traffic lights or in stop-and-go traffic to support the ICE.**
- **Micro hybrids do not offer electric torque assistance as they lack an electric motor,** but they have an idle stop-start system and energy management functions
- There are plug-in hybrid electric vehicles (PHEVs) that are just like full HEVs, but they can be charged using a wall outlet, as they have an onboard charger and a charging port

- PHEVs generally use the electric motor until the battery is almost drained, and then automatically switch to the ICE.

#### Advantages of hybrid technology:

- Most vehicles with hybrid technology offer **better fuel efficiency, more power, and minimum emissions**
- The design of hybrid vehicles for **reduced engine size and car weight as compared to ICE vehicles**, translates into increased mileage to favour the demand for these vehicles
- With the increase in total power and torque, **HEVs can deliver instant torque and provide high torque even at low speeds.**

#### Challenges of hybrid technology:

- A major challenge for HEVs is the **high vehicle cost.**
- Battery, a vital component of an HEV, increases the cost of the vehicle, making it pricier than vehicles powered only by an ICE. The RBS also adds to the higher cost of an HEV

## 2. As Chinese rocket debris plunges into ocean, the risks of space junk and its uncontrolled descent

- Ending over a week of global anxiety and alarm, the **debris from a large Chinese rocket – the Long March 5B — crashed to earth over the Pacific and the Indian oceans.**

#### What is an uncontrolled re-entry?

- Generally, the **core or first stage of a rocket is made up of heavy pieces** that usually don't reach **orbit after lift-off, and fall back safely along a near-precise projected trajectory.**
- If they do enter an orbit, then a **costly de-orbit manoeuvre is required for a steered, controlled return using engine burn.** Without a de-orbit manoeuvre, the orbital core stage makes an uncontrolled fall.
- Gigantic remnants from China's **Long March 5B rockets' core stage are known to make such fiery, out-of-control descents back to earth.** The reason is a **difference in the mission sequence where the core stage reaches orbit, and then crashes back.**
- Most nations' rockets separate the **launcher from the payload before leaving the atmosphere.** An extra engine then gives the payload a final boost. But China's 5B series does not use a second engine and pushes right into orbit.

#### Why is it difficult to track uncontrolled descents?

- The **variables involved make it difficult to precisely track the re-entry time and drop zone of rocket debris in uncontrolled descents.** The factors that make this prediction extremely challenging include **atmospheric drag, variations in solar activity, angle and rotational variation of the object among others.**
- A miscalculation of **even a minute in re-entry time could result in the final resting place of the debris changing by hundreds of kilometres.**

#### Are there laws regulating space junk?

- The **Space Liability Convention of 1972** defines responsibility in case a **space object causes harm.** The treaty says that **"a launching State shall be absolutely liable to pay compensation for damage caused by its space objects on the surface of the earth or to aircraft, and liable for damage due to its faults in space.** The Convention also provides for procedures for the settlement of claims for damages."
- However, there is **no law against space junk crashing back to earth.** In April this year, suspected debris from a Chinese rocket was found in two Maharashtra villages.

#### What is Space Junk?

- Space junk or debris consist of **spent rocket stages, dead satellites, fragments of space objects and debris resulting from Anti-satellite (ASAT) System (ASAT).**
- Hurtling at an average speed of 27,000 kmph in **Low Earth Orbit (LEO)**, these objects pose a very real **threat as collisions involving even centimetre-sized fragments can be lethal to satellites.**

- This free-floating space debris is a potential hazard for operational satellites and colliding with them **can leave the satellites dysfunctional**.
- This is referred to as **Kessler Syndrome, named after National Aeronautics and Space Administration (NASA) scientist Donald Kessler in 1978**.
- It says if there is **too much space junk in orbit, it could result in a chain reaction where more and more objects will collide and create** new space junk in the process, to the point where Earth's orbit becomes unusable – a Domino Effect.

#### What is the NETRA Project?

- **'Project NETRA' is an early warning system in space to detect debris and other hazards to Indian satellites.**
- Once operational, it will give India **its own capability in Space Situational Awareness (SSA) like the other space powers**
- It is implemented by **ISRO**

### 3. Alpha Fold: A tour de force in science

- **DeepMind, a company owned by Google**, announced this week that it had predicted the three-dimensional structures of more than 200 million proteins using AlphaFold.

#### What is Alpha Fold?

- Alpha Fold is an **AI-based protein structure prediction tool**. It is based on a computer system **called deep neural network**. Inspired by the human brain, **neural networks use a large amount of input data and provides the desired output exactly like how a human brain would**.
- The real work is done by **the black box between the input and the output layers, called the hidden networks**.
- Alpha Fold is **fed with protein sequences as input**. When protein sequences enter **through one end, the predicted three-dimensional structures come out through the other**. It is like a magician pulling a rabbit out of a hat.

#### How does Alpha Fold work?

- Alpha Fold is an AI-based protein structure prediction tool. It used **processes based on "training, learning, retraining and relearning"** to predict the structures of the entire **214 million unique protein sequences deposited in the Universal Protein Resource (UniProt) database**.

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

- Proteins are **the business ends of biology, meaning proteins carry out all the functions inside a living cell**.
- Therefore, **knowing protein structure and function is essential to understanding human diseases**.
- Scientists **predict protein structures using x-ray crystallography, nuclear magnetic resonance spectroscopy, or cryogenic electron microscopy**.
- These techniques are **not just time-consuming, they often take years and are based mainly on trial-and-error methods**. The development of alpha Fold changes all of that. It is a watershed movement in science and structural biology in particular.

#### What does this development mean for India?

- The **Indian community of structural biology needs to take advantage of the alpha Fold database and learn how to use the structures to design better vaccines and drugs**.

#### Is alpha Fold one-of-a-kind tool in predicting protein structures?

- Although a tour-de-force in structural biology, like any other method, Alpha Fold is **neither flawless nor the only AI-based protein structure prediction tool**.
- **RoseTTaFold, developed by David Baker** at the University of Washington in Seattle, U.S., is another tool. Although less accurate than alpha Fold, it can predict the structure of protein complexes.

### 4. Baba Ramdev says targeted medicine a crime against humanity



**Concept:**

Targeted therapy is a type of cancer treatment that targets proteins that control how cancer cells grow, divide, and spread. It is the foundation of precision medicine. As researchers learn more about the DNA changes and proteins that drive cancer, they are better able to design treatments that target these proteins.

Targeted therapies are classified as either small or large molecule drugs.

- **Small molecule drugs** are tiny enough to enter a cancer cell once they find it. They work by targeting a specific substance inside the cell and blocking it.
- **Large molecule drugs** usually can't fit into a cell. They work by attacking then weakening or destroying proteins or enzymes on the surface of the cell. They are often described as a "lock and key" because the molecule is like a key that opens the enzyme or protein on the surface of the cell like a lock. The key fits into the lock, allowing the drug to work.

**5. Newly developed biopolymer Nano composite****Context**

A biodegradable, biopolymer nanocomposite is newly developed by the scientists from the Institute of Advanced Study in Science and Technology (IASST)

**Concept:**

- Biopolymers are **polymers that are produced by or derived from living organisms**, such as plants and microbes, rather than from petroleum, the traditional source of polymers. The primary sources of biopolymers are renewable.
- A biodegradable, biopolymer nanocomposite is newly developed by the scientists from the **Institute of Advanced Study in Science and Technology (IASST)**, have developed a smart biodegradable biopolymer nanocomposite which can detect **relative humidity**.
- In this, two biopolymers, **Guar Gum** (a variety of **beans** obtained from plant) and **Alginate** (obtained **from brown algae**), were blended with carbon dots (nanomaterial) to make a nanocomposite film that was successfully used to detect relative humidity.
- The fabricated nanocomposite film was an excellent smart sensor based on the fluorescence '**on-off**' mechanisms against humidity.
- The nanocomposite film shows **change in fluorescence** in presence of **high** Hence, the fabricated nanocomposite film can **monitor the packed food** freshness using just a UV light source.

**Application:**

- A Smart and active packaging can help consumers **select a fresh product** without breaking the pack. Such innovative packaging boosts sales and reduces consumers' time to identify fresh food products.
- It can detect relative humidity can find application as **smart packaging** materials, especially for the food industry as perishable packed foods are easily damaged by the change in relative humidity.
- It is non-toxic, biodegradable material for use as packaging material to replace petroleum-based material like plastics.

**6. Why strengthening genomic surveillance is an imperative****Context:**

A recent study revealed that the **rate of genetic changes in the monkeypox virus was higher than expected**

- Ever since it was first reported **in humans in 1970, monkeypox virus infections have been largely restricted to countries in Central and Eastern Africa** until recently.
- Following a rapid rise in cases, the World Health Organization (WHO) **on July 23, 2022 declared the 2022 monkeypox outbreak as a Public Health Emergency of International Concern (PHEIC)**.

**Genome sequences**

- The accelerated **use of genomics as a tool to understand outbreaks in the last half decade has left an indelible mark during the ongoing COVID-19 pandemic** and has seen a wider deployment of sequencing infrastructure across the world. **Genomic surveillance of pathogens could provide unique insights to understand the outbreak**

better, track the spread of pathogens and provide immense opportunities for public health decision-making as well as for epidemiology.

- Researchers from across the world have made available over **650 complete genome sequences of monkeypox isolates to date in public domain databases including GISAID and GenBank**. This includes over 600 genomes which were sequenced this year alone from over 35 countries, including genomes of two isolates from India, collected from Kerala.

#### Accelerated evolution

- The monkeypox virus has a **DNA genome of around 2,00,000 base pairs, roughly six times larger than that of SARS-CoV-2**.
- Being a DNA virus, the monkeypox virus like other poxviruses **was believed to have a small rate of accumulating genetic changes compared to viruses with an RNA genome like SARS-CoV-2, which have a much larger rate of mutations**. For poxviruses, this rate is estimated to be as low as a couple of genetic changes every year. A **recent study, however, revealed that the observed rate of genetic changes in the virus was higher than expected — average of around 50 genetic changes**.

#### APOBEC3 protein

- The study also suggests that several **mutations** that have been identified in the new sequences of the monkeypox virus may **have emerged due to interaction between the virus genome and an important family of proteins coded by the human genome known as the Apolipoprotein B Editing Complex (or APOBEC3)**. These proteins offer protection against certain viral infections by editing the genome sequence of the virus while it replicates in the cell.
- Monkeypox virus can **infect a range of hosts, including non-human primates and rodents which could act as a natural reservoir**. Infections in the reservoir could also **enable continued transmission and accumulation of mutations** before spilling over to cause human infections. Other studies have also suggested a continued evolution of the virus, including deletions involving genes as seen in a few genomes from the present outbreak, which could suggest newer ways in which the virus **continues to evolve with sustained human-to-human transmission**.

#### Monkeypox lineages

- Clusters of genomes having common and **shared mutations and a common origin are referred to as a lineage or clade**. In the early 2000s, two different clades of monkeypox virus were defined in Africa where several cases of the disease have been seen — **the Central African (Congo Basin) clade and the West African clade**, of which the Congo Basin clade has been shown to be more transmissible and cause more severe disease.

### 7. ISRO's First Flight of SSLV Rocket Dashes Hopes; A Look at Space Body's Some of the Failed Missions

#### Context:

- In its maiden SSLV mission, the launch vehicle carried **The Earth Observation Satellite EOS-02 and the co-passenger student satellite AzaadiSAT**
- In yet another setback for India's space agency on its launch missions, the Indian Space Research Organisation (ISRO) on Sunday said **the satellites onboard its maiden Small Satellite Launch Vehicle "are no longer usable" after the SSLV-D1 placed them in an elliptical orbit instead of a circular one in Earth's low orbits**.

#### Other Failed Mission of ISRO

- The first major satellite failure for the ISRO came on August 10, 1979, when the country's first **experimental flight of SLV-3 carrying Rohini Technology Payload** could not place the satellite into its intended orbit.
- **SROSS-1**, a 150 kg satellite carrying scientific instruments, was launched **onboard the first ASLV (Augmented Satellite Launch Vehicle) developmental flight on March 24, 1987. However, it failed to reach Earth's orbit**
- Dubbed as one of trusted ISRO's workhorses, the **PSLV did not get success in its first flight. However, after the successful launch next year, it emerged as a reliable and versatile launch vehicle for the space agency**.

- Launch vehicle **GSLV-F02**, which was the country's first attempt at a heavy communication satellite, also failed.
- The **PSLV-C39**, which was supposed to launch **IRNSS-1H**, failed in its 41st flight. Despite having normal lift-off, satellites were separated within the heat shield, resulting in the failure of the mission.
- ISRO's second mission to the moon **Chandrayaan-2 orbiter** was launched in 2019. However, this mission also failed when the lander crashed on the lunar surface instead of gently landing. Lander and rover both were destroyed.
- The launch of an earth observations satellite onboard **GSLV Mk 2 rocket GISAT-1** had failed barely 350 seconds after its launch from India's spaceport. ISRO's initial analysis identified "a technical anomaly in the cryogenic stage" as a reason behind the failure.

#### **Small Satellite Launch Vehicle**

- The **SSLV** (Small Satellite Launch Vehicle) aims to **cater to the market for the launch of small satellites into Earth's low orbits** that has emerged in recent years to cater to the needs of developing countries, universities for small satellites, and private corporations.
- It is the **smallest vehicle weighing only 110-tonne**. It will take only 72 hours to integrate, unlike the 70 days taken now for a launch vehicle.
- It can **carry satellites weighing up to 500 kg** to a low earth orbit while the tried and tested **Polar Satellite Launch Vehicle (PSLV)** can launch satellites weighing in the range of 1000 kg.
- **SSLV** has a capability to launch up to **500 kg satellite mass into 500 km Low Earth Orbit (LEO) and 300 kg to Sun Synchronous Orbit (SSO)**.
- It is a **3 stage Launch Vehicle configured with three Solid Propulsion Stages and liquid propulsion-based Velocity Trimming Module (VTM) as a terminal stage**.
- It is **perfectly suited for launching multiple microsattellites** at a time and supports multiple orbital drop-offs.
- The key features of **SSLV** are **low cost, with low turn-around time, flexibility in accommodating multiple satellites, launch on demand feasibility, minimal launch infrastructure requirements, etc.**
- One of the mandates of the newly-created ISRO commercial arm, **New Space India Limited (NSIL)** is to **mass-produce and manufacture the SSLV and the more powerful PSLV in partnership with the private sector** in India through technology transfers.

#### **8. Researchers zero in on a special type of RNA to combat cancer**

- Among the several types of RNAs, **the micro-RNA, or miRNA**, influences **how genes make proteins**. In other words, **miRNA can kill a cell or help it proliferate**. (miRNA is different from mRNA, or messenger RNA, which has been in the news recently as a coronavirus vaccine.)
- There is ongoing research to **find out which miRNA works best for which type of cancer, how to make it** and how to deliver it into the body. This approach to cancer therapy **gains even more importance when compared with conventional cancer therapies** such as chemo, radiation and surgery, which end up killing the good cells of the body, too.
- Chennai researchers identify a **micro-RNA that kills breast cancer cells by weakening their defence against debilitating oxidation**
- In this cancer, especially among Indian women, a **protein called SLC7A11 gets over-produced in the cancer cells**.
- The traditional way of treating this is to **use drugs such as sulfasalazine to inhibit the production of this protein**.
- In the latest development, the researchers have **identified an miRNA, called miR-5096, as the one that is effective against breast cancer**.
- **miR-5096 was found to induce cell death by suppressing the SLC7A11 protein**. The cell death occurs by a process known as **ferroptosis**
- **Ferroptosis is a way of killing cells (programmed cell death)** that was discovered a decade ago, where cells die when iron accumulates inside them. Now, **iron means rust, and the**

**anti-oxidants in the body fight this rust.** This way, the accumulated iron uses up all the anti-oxidants in the cell, leaving the cell membrane defenceless against the oxidation that happens naturally. Cell membranes are made up of lipids and proteins. The **lipids get oxidised (called lipid peroxidation) and the cell membrane collapses, killing the cell.**

- Researchers used **bio-informatic target prediction tools like TargetScan, miR-WALK, and got an indication that miR-5096 might target the protein SLC7A11.**

#### **States holding up results of Economic Census: Centre**

- The Centre has blamed the States for a prolonged delay in releasing the findings of the **Seventh Economic Census, a critical compendium of formal and informal non-farm enterprises operating across the country, in a submission to the Parliament's Standing Committee on Finance.**
- **Conducted every five years, the EC, which also captures the employment creation by each firm, their ownership pattern and sources of finance at a granular level, was last carried out in 2013-14.**
- It is being carried out by **the Ministry of Statistics and Program Implementation (MoSPI) in collaboration with Common Service Centre (CSC), a Special Purpose Vehicle (SPV) under Ministry of Electronics and IT.**
- It was held in **1978 for the first time**
- For the first time, **an IT-based digital platform is being used for data capture, validation, report generation and dissemination will be used.**
- The government had planned to use the 7 th EC data to create a **Statistical Business Register or SBR that can be tapped to obtain critical inputs on business demography for policy interventions** by government agencies at the Central and State levels.
- The EC database may also provide **insights into evolving nature of entrepreneurship; corresponding skilling requirement and employment potential, etc. Future economic censuses are expected to update the SBR.**

#### **9. What is an IMEI number, how can police use it in cases of mobile phone theft?**

##### **Context**

- With rising cases of mobile phone snatching in the national capital, the Delhi Police is now planning to close ranks with internet service providers and the department of telecommunications to block stolen or robbed phones.
- **This will be done by using the device's International Mobile Equipment Identity (IMEI) number.**

##### **What is IMEI number?**

- The International Mobile Equipment Identity or **IMEI is a unique number that is used to identify a device on a mobile network. It has 15 digits**, and is like your phone's unique identity. When you **use the internet or place a call through your cellular service provider, then this number is used to verify the identity of your device.** If you have a dual SIM phone, then you will have two IMEI numbers, one for each slot.

##### **How can you check your IMEI number?**

- Device manufacturers print it on **stickers and paste them on the device and its box.** It is usually found on the back of your phone, under the battery pack.
- However, the easiest way to find it is to **dial \*#06# on your mobile**, and your screen will immediately display the IMEI number of your current device.

##### **How is it useful?**

- Its operational use aside, the IMEI number **can help network providers track down a device in case it gets stolen or is lost.** Once such loss or theft is reported, **the carrier/s can deny the device access to the cellular network even with a new SIM card.** This will **practically render the device useless** as it won't be able to make or receive calls.

##### **How are the police using this to check thefts?**

- The plan works by immediately registering **"data of all stolen phones and uploading it on our servers and the Crime and Criminal Tracking Network and Systems (CCTNS)".**
- Police are also helping victims **register on the Central Equipment Identity Register (CEIR) to block their stolen phones.**

### Are there any challenges?

- According to the police, few gangs have started formatting stolen phones.
- “Mobile phones which **don’t have a flexible operating system can be broken into**. There is software that **can change IMEI numbers of the phones as well**. This might cause trouble for law enforcement agencies in blocking stolen devices,” a police official revealed.

### Central Equipment Identity Register

**Department of Telecommunications (DoT)** under the **Ministry of Communications** has initiated a **Central Equipment Identity Register (CEIR)** for mobile service providers.

- **The National Telecom Policy of 2012** calls for the establishment of a **National Mobile Property Registry** to address the issue of **security, theft**, and other concerns including **reprogramming** of mobile handsets.

### Central Equipment Identity Register

- It will be a **central depository** or database of all mobile phones connected to networks across India.
  - Every mobile network provider in India has an **Equipment Identity Register (EIR)**, or a database of the phones connected to its network.
  - These EIRs will now share information with a single central database, i.e CEIR.
- CEIR will have information on the Device’s:
  - **International Mobile Equipment Identity (IMEI) number.**
  - **Model**
  - **Version**

## 10. What is Langya, the new zoonotic virus that has infected 35 people in China?

### Context:

- Almost three years after the novel coronavirus was detected in China, a new zoonotic virus has been discovered in the country’s two eastern provinces with 35 infections identified so far. This new type of **Henipavirus is also being called Langya Henipavirus or the LayV**.
- Henipaviruses are classified as **biosafety level 4 (BSL4) pathogens**. They can cause **severe illness in animals and humans**, and as of now there are **no licensed drugs or vaccines meant for humans**.

### What is Langya virus?

- The newly discovered virus is a “**phylogenetically distinct Henipavirus**”, according to a recent study — **A Zoonotic Henipavirus in Febrile Patients in China** — published in **The New England Journal of Medicine**.
- The types of Henipaviruses that had **been identified prior to this included Hendra, Nipah, Cedar, Mojiang and the Ghanaian bat virus**. According to the US CDC, the **Cedar virus, Ghanaian bat virus, and Mojiang virus are not known to cause human disease**. But **Hendra and Nipah infect humans and can cause fatal illness**.
- Langya, meanwhile, **is known to cause fever**, with the NEJM study calling for a deeper investigation of associated human illness.
- The study adds that **Langya’s genome organization is “identical to that of other Henipaviruses”**, and that it is closely related to the “**Mojiang Henipavirus**, which was discovered in southern China”.

### What are the symptoms of Langya virus?

- The study looked at the 26 patients with only LayV infection to identify the associated symptoms. While all 26 had **fever**, 54% reported **fatigue**, 50% had **cough**, 38% complained of **nausea**. Also, 35% of the total 26, complained of **headache** and **vomiting**. The study found that 35% had **impaired liver function**, while 8% had their **kidney function impacted**. The patients were accompanied by **abnormalities of “thrombocytopenia (35%), leukopenia (54%), impaired liver (35%) and kidney (8%) function”**, the study noted.
- **Thrombocytopenia is low platelet count**, while **leukopenia means a fall in the white blood cell count**, in turn reducing the body’s disease-fighting capability.

### Where has Langya virus come from?

- **In all likelihood, the new virus has jumped from an animal to humans**. The LayV virusRNA has been predominantly found in **shrews**, which may be **its natural hosts**. The



study zeroed in on shrews after conducting a serosurvey of domestic and wild animals. Among domestic animals, **seropositivity was detected in goats and dogs.**

**What about human-to-human transmission?**

- There are **no clear answers yet.** The authors of the study have underlined that the sample size of their investigation is too small to determine human-to-human transmission. However, they point out that **among the 35 patients infected by LayV, there was “no close contact or common exposure history”**, which suggests that the **“infection in the human population may be sporadic”**.

**11. What went wrong with the ISRO launch of SSLV?**

**Context**

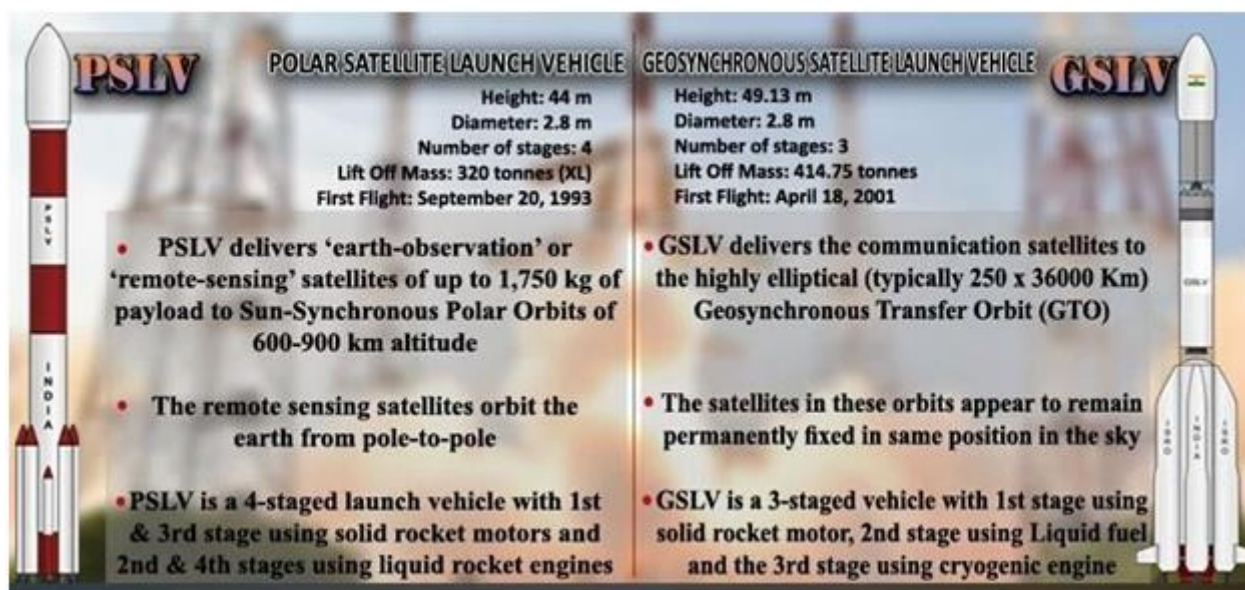
On August 7, ISRO got ready for the first developmental **flight of the SSLV-D1/EOS-2 mission.** The launch took place from the Satish Dhawan Space Centre at Sriharikota. The Small Satellite Launch Vehicle (SSLV) D1/EOS-2 mission, was **carrying two satellites — the Earth Observation Satellite-2 (EOS-2) which weighed about 135 kg and AzadiSAT which weighed about eight kg.** The mission aimed to place the EOS-2 in a **circular low-Earth orbit at a height of about 350 km above the Equator** and inclined at an angle of 37 degrees. The initial part of the story was successful with the launch vehicle operating smoothly. However, the mission **failed to place the satellites in their required orbits, and the satellites, as they were already detached from the launch vehicle, were lost.**

**Why do we need to develop an SSLV when we have successfully used PSLV and GSLV?**

- The PSLV (Polar Satellite Launch Vehicle) and GSLV (Geosynchronous Satellite Launch Vehicle) are quite powerful and can carry huge loads.
- To place an Earth Orbiting Satellite in a low Earth orbit, one does not need such power horses.
- The SSLV can easily carry small-to-medium loads from 10 kg to 500 kg. It is less expensive.
- The three stages being powered by solid fuel is another advantage. Solid fuel is easier to handle, whereas handling the liquid propellants used in the PSLV and GSLV is more complex.

**What is the difference between circular and elliptical orbits?**

- Mostly objects such as satellites and spacecrafts are put in elliptical orbits only temporarily. They are then either pushed **up to circular orbits at a greater height** or the **acceleration is increased until the trajectory changes from an ellipse to a hyperbola** and the spacecraft escapes the gravity of the Earth in order to move further into space — for example, to the Moon or Mars or further away.
- Satellites that orbit the Earth are mostly placed in circular orbits. One reason is that if the satellite is used for imaging the Earth, it is easier if it has a **fixed distance from the Earth.** If the distance keeps changing as in an elliptical orbit, keeping the cameras focused can become complicated.



## 12. COVID-19 has become endemic in India

- **Endemic** – describes a disease that is present permanently in a region or population
- **Epidemic** – is an outbreak that affects many people at one time and can spread through one or several communities
- **Pandemic** – is the term used to describe an epidemic when the spread is global.

## 13. Vaccine Lumpi-ProVacInd

### Context

Union Minister for Agriculture and Farmers Welfare launched the indigenous vaccine **Lumpi-ProVacInd** to protect livestock from Lumpy Skin disease.

### Concept:

- The Ministry for Agriculture and Farmers Welfare launched the indigenous vaccine **Lumpi-ProVacInd** to protect livestock from Lumpy Skin disease.
- The vaccine has been developed by the National Equine Research Center, Hisar (Haryana) in collaboration with the Indian Veterinary Research Institute, Izzat nagar (Bareilly).

Lumpy Skin disease.

## 14. Common charger for all devices: What govt wants, what it means for industry

### Context

The Union **Ministry of Consumer Affairs** has written to stakeholders, inviting them to brainstorm a plan for having one cable for charging all your devices.

### What is the reason behind the ministry's push?

- The ministry's move comes in the backdrop of **the concept of LiFE — Lifestyle for the Environment — announced by the Prime Minister at the UN Climate Change Conference (CoP 26) held in Glasgow in November last year**. Besides, the Union Cabinet has also approved **India's updated Nationally Determined Contribution (NDC)**. According to the **NDC, India has committed to reducing the emission intensity of the GDP by 45% by 2030**. In view of the country's commitment to fight climate change, the ministry has taken a step in the direction to reduce electronic waste.

### Which players would be impacted if there is a rule for common chargers?

- If there was a directive for a **common charger for all phones, laptops, earbuds, etc.**, as is being considered, then Apple would be the biggest player impacted, especially in the phones segment. The reason: **Apple's iPhone is still using the Lightning port for charging**, and this requires a different cable compared to most other Android phones in the market.
- Apple's Lightning port is in **stark contrast to devices from players like Samsung, Xiaomi, Oppo, Vivo, and Realme — the top five brands in the Indian smartphone market**. All five have switched to phones with Type-C charging ports. Now, while the charging speeds

supported on each device might be different, given that most have a **Type-C port** at the bottom, the chargers can be used interchangeably.

**Have other countries tried to pass similar laws or rules around chargers?**

- This idea of ‘one charger for all devices’ is not new. It was also proposed by the European Union in June.

#### 15. Fighting in Ukraine endangers big nuclear plant

**Context**

The **Zaporizhzhia plant** is in southern Ukraine, near the town of Enerhodar on the banks of the **Dnieper River**. It is one of the **10 biggest nuclear plants in the world**. Built during the Soviet era, it has six reactors with a total capacity of **5,700 megawatts**. **Three of the reactors are in operation**.

- Russia and Ukraine have accused each other of **shelling Europe’s largest nuclear power plant, stoking international fears of a catastrophe on the continent**.
- Before the war, the plant accounted for about half of the electricity generated by nuclear power in Ukraine. **The country has 15 reactors at four active plants, and also is home to the decommissioned Chernobyl plant, the site of the 1986 nuclear disaster**.
- Rafael Mariano Grossi, **director-general of the United Nations’ nuclear watchdog, the International Atomic Energy Agency**, told The Associated Press last week that the situation surrounding the Zaporizhzhia plant “is completely out of control,” and he issued an urgent plea to Russia and Ukraine to allow experts to visit the complex to stabilise matters and avoid a nuclear accident.
- He noted that the **IAEA also needs to perform highly important inspections to ensure that nuclear material is being safeguarded**.

**International Atomic Energy Agency**

- Widely known as the world’s “**Atoms for Peace and Development**” organization **within the United Nations family**, the IAEA is the international centre for cooperation in the nuclear field.
- The IAEA was **created in 1957 in response to the deep fears and expectations generated by the discoveries and diverse uses of nuclear technology**
- Headquarters in **Vienna, Austria**.
- Reports to both **the United Nations General Assembly and Security Council**.

**Objective:**

- The Agency works **with its Member States and multiple partners worldwide to promote safe, secure and peaceful use of nuclear technologies**.
- In 2005, it was **awarded the Nobel Peace Prize** for their work for a safe and peaceful world.

**Programs:**

- **Program of Action for Cancer Therapy (PACT).**
- **Human Health Program.**
- **Water Availability Enhancement Project.**
- **International Project on Innovative Nuclear Reactors and Fuel Cycles, 2000.**

#### 16. New research: Giant meteorite impacts created continents

**Context:**

- A new Curtin University study has found the **most robust evidence yet showing that Earth’s continents were formed by giant meteorite impacts**. The paper, ‘Giant impacts and the origin and evolution of continents’, was published in Nature on August 10.
- By examining **tiny crystals of the mineral zircon in rocks from the Pilbara Craton in Western Australia**, which represents Earth’s best-preserved remnant of ancient crust, we found evidence of these giant meteorite impacts.
- **Studying the composition of oxygen isotopes** in these zircon crystals revealed a ‘top-down’ process starting with the melting of rocks near the surface and progressing deeper, consistent with **the geological effect of giant meteorite impacts**. University research provides the **first solid evidence that the processes that ultimately formed the continents began with giant meteorite impacts**

### What's the Difference Between a Meteoroid, a Meteor, and a Meteorite?

- **Meteoroids** are **objects** in space that **range in size from dust grains to small asteroids**. Most are pieces of other, **larger bodies that have been broken or blasted off**. These come from **comets, asteroids, planets and the Moon**.
- **When meteoroids enter Earth's atmosphere (or that of another planet, like Mars) at high speed and burn up, the fireballs or "shooting stars" are called meteors.**
- **When a meteoroid survives its journey through the atmosphere and hits the ground, it's called a meteorite.**

### 17. India at 75: Milestones in space that made us a force to reckon with

- Vikram Sarabhai formed the **Indian National Committee for Space Research (INCOSPAR) in 1962**. With Dr. Sarabhai leading the charge, INCOSPAR set up the **Thumba Equatorial Rocket Launching Station (TERLS) in Thiruvananthapuram** for upper atmospheric research. Fun fact, Dr. A. P. J. Abdul Kalam, who later became the President of India, was among the initial team of rocket engineers who formed the INCOSPAR.
- INCOSPAR then grew and became the **Indian Space Research Organisation (ISRO) on August 15th, 1969**. It was the perfect day as India was also celebrating its 22nd Independence Day.
- It has gradually become **one of the six largest space agencies in the world. India has one of the largest fleets of communication satellites (INSAT) and remote sensing (IRS) satellites.**
- With India's 75th Independence Day around the corner, let's go back in history and take a look at the key discoveries that put India on the global map for its space journey.
- **Aryabhata**
  - Named after the noted Indian astronomer, Aryabhata was India's first satellite which was launched on **April 19th, 1975 from Kapustin Yar, a Soviet rocket launch and development site in Astrakhan Oblast using a Kosmos-3M launch vehicle.**
  - **It was built by the ISRO, and launched by the Soviet Union** as a part of the Soviet Interkosmos programme. This was an iconic moment in the history of India. In fact, to mark the occasion, the satellite's image was printed on the reverse of Indian two rupee banknotes between 1976 and 1997.
- **SLV-3**
  - **The Satellite Launch Vehicle-3 (SLV-3)** was India's **first experimental** satellite launch vehicle, which was a four-stage vehicle. It was capable of placing 40 kg class payloads in the **Low Earth Orbit (LEO)**. It was launched **on July 18, 1980**.
  - As per ISRO's official website, SLV-3 put **Rohini in orbit, and hence made India the sixth member of an exclusive club of space-faring nations**. Rohini was a series of satellites launched by the Indian Space Research organization. The Rohini series consisted of four satellites, each of which was launched by the SLV and three of which made it successfully to orbit. The series was mostly experimental satellites. The successful culmination of the SLV-3 project paved the way for advanced launch vehicle projects including the Augmented Satellite Launch Vehicle (ASLV), Polar Satellite Launch Vehicle (PSLV), and the Geosynchronous satellite Launch Vehicle (GSLV).
- **PSLV**
  - **The Polar Satellite Launch Vehicle (PSLV)** is India's **third generation** launch vehicle, and also the first launch vehicle by India that **is equipped with liquid stages**. PSLV was launched **in October 1994** and has since then emerged as a reliable launch vehicle with **39 consecutively successful missions till June 2017**. According to ISRO's website, the vehicle has launched 48 Indian satellites and 209 satellites for customers from abroad between 1994 and 2017. Not to forget, the vehicle **successfully launched two spacecraft – Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013**.
- **Chandrayaan-I**
  - Chandrayaan-1 was **India's first moon mission**. It was the first unmanned lunar probe under the Chandrayaan programme and was launched in **October 2008** by ISRO.



- The spacecraft consisted of a **lunar orbiter and an impactor**. It also comprised instruments that were built in foreign countries like the USA, UK, Germany, Sweden, and Bulgaria. The spacecraft completed over 3,400 orbits around the moon. Although the mission was concluded after communication was lost with the spacecraft on Aug 29, 2009, it still managed to give India's space program a major boost.
- **Mars Orbiter Mission**
  - The Mars Orbiter Mission (MOM) was **India's first interplanetary mission**. India became the **fourth space agency in the world to reach Mars orbit, after Roscosmos, NASA, and the European Space Agency**. It also made India the **first nation in the world to reach the Martian orbit in its maiden attempt**. The spacecraft, **Mangalyaan**, was launched on Nov 5, 2013 and reached Mars' orbit on September 24, 2014.
- **GSLV**
  - Another brilliant innovation by ISRO is the **Geosynchronous Satellite Launch Vehicle (GSLV)**. GSLV too is a space launch vehicle designed to launch satellites and other space objects into **Geosynchronous Transfer Orbits**. **A three stage launcher with strap on motors**, GSLV has the capability to put a heavier payload in the orbit than the PSLV. **GSLV-D5 was the first successful flight of the GSLV using the indigenous cryogenic engine**. The D5 was launched on January 5, 2014.
- **Mission Shakti**
  - In a first-of-its-kind attempt, **the Defence Research and Development Organisation managed to successfully neutralise a satellite in space with its anti-satellite (ASAT) missile on March 27 2019**. This was one of the most important and complex missions that was undertaken by the DRDO and it was named – Mission Shakti. As you can guess by the name, Mission Shakti demonstrated the organisation's ability to defend India's assets, even in space!
- **Rakesh Sharma's Sare Jahan Se Achcha**
  - Amidst all the innovations and brilliant space techs, how can we forget the one name that proved to be India's golden ticket to fame in matters of space achievements? The one and **only Rakesh Sharma, the first Indian in space!** Sharma, a former Indian Air Force pilot, was **selected to become a cosmonaut and go into space as part of a joint programme between the Indian Air Force and the Soviet Interkosmos space programme**.
  - He flew aboard the **Soyuz T-11 on April 3rd, 1984**.

## 18. The Traditional Knowledge Digital Library (TKDL)

### Context

The Cabinet chaired by the Prime Minister, Shri Narendra Modi has approved the “Widening access of the Traditional Knowledge Digital Library (TKDL) database to users, besides patent offices”.

### Concept:

- The Traditional Knowledge Digital Library (TKDL) is a prior **art database of Indian traditional knowledge** established in **2001**, jointly by the Council of Scientific and Industrial Research (CSIR) and Department of Indian Systems of Medicine and Homeopathy (, now Ministry of AYUSH).
- The TKDL is a **first of its kind globally** that currently contains information from existing literature related to ISM such as **Ayurveda, Unani, Siddha, Sowa Rigpa and Yoga**.
- The information is documented in a digitized format in **five** international languages which are **English, German, French, Japanese and Spanish**.
- TKDL provides information in languages and format understandable by patent examiners at Patent Offices worldwide, so as to **prevent the erroneous grant of patents**.
- Until now, access to the complete TKDL database is **restricted to 14 Patent Offices** worldwide for the purposes of search and examination. This defensive protection through TKDL has been effective in safeguarding Indian traditional knowledge from misappropriation, and is considered a global benchmark.

### Access to TKDL



- The opening up of the TKDL is also envisaged to inculcate thought and knowledge leadership through Bharatiya Gnana Parampara, under the New Education Policy 2020.
- The TKDL can cater to a vast user base that would include businesses/companies {herbal healthcare (AYUSH, pharmaceuticals, phytopharmaceuticals, and nutraceuticals), personal care, and other FMCG}, research institutions.
- The access to the TKDL database would be through a **paid subscription model** with a phase-wise opening to national and international users. The TKDL database store data from the perspectives of the “**3P – Preservation. Protection and Promotion**”.
- While catering to its primary **mandate of preventing grant of wrong patents** on Indian traditional knowledge, the TKDL database will also push creative minds to innovate for **better, safer and more effective solutions** for a healthier and technology endowed population.

#### 19. Did asteroids bring water to Earth? Findings of the Hayabusa-2 probe, explained

##### Context:

- How did the **Earth, believed to have been covered in bubbling oceans of magma billions of years ago, transform into the ‘blue planet’** and become covered in water? In an article published in the journal Nature Astronomy on Monday (August 15), scientists from Japan **suggest that water and organic materials might have been brought to our planet from the outer edges of the solar system.**
- The scientists made the hypothesis after analysing **samples from the asteroid Ryugu, collected by the Japan Aerospace Exploration Agency’s (JAXA) Hayabusa-2 probe,** which had brought 5.4 grams of rocks and dust from the asteroid to Earth in December 2020.

##### What was the Hayabusa-2 mission?

- The **Hayabusa-2 mission was launched in December 2014 when the spacecraft was sent on a six-year voyage to study the asteroid Ryugu.** According to a report by Deutsche Welle from 2020, the spacecraft, which was approximately the size of a refrigerator, traveled more than 5 billion kilometers during its journey.
- The spacecraft arrived at **the asteroid in mid-2018 after which it deployed two rovers and a small lander onto the surface.** In 2019, the spacecraft fired an impactor into the asteroid’s surface to create an artificial crater with a diameter of a little more than 10 metres, which allowed it to collect the samples.
- In December 2020, **Hayabusa-2 delivered a small capsule that contained the rock and dust samples when it was 220,000 km from the Earth’s atmosphere,** which safely landed in the South Australian outback.
- Hayabasu2’s predecessor, **the Hayabusa mission, brought back samples from the asteroid Itokawa in 2010.**

##### What is an asteroid?

- Asteroids are **rocky objects that orbit the Sun, much smaller than planets.** They are also **called minor planets.** According to NASA, there are 994,383 known asteroids, the remnants from the formation of the solar system over 4.6 billion years ago.
- Asteroids are **divided into three classes.** First are those found in **the main asteroid belt between Mars and Jupiter,** which is estimated to contain somewhere between 1.1-1.9 million asteroids.
- The second group is **that of trojans,** which are asteroids **that share an orbit with a larger planet.** NASA reports the presence of **Jupiter, Neptune and Mars trojans.** In 2011, they reported an Earth trojan as well.
- The third classification is **Near-Earth Asteroids (NEA),** which have orbits that pass close to the Earth. Those that cross the Earth’s orbit are called Earth-crossers. More than 10,000 such asteroids are known, out of which **over 1,400 are classified as potentially hazardous asteroids (PHAs).**
- **Ryugu is also classified as a PHA and** was discovered in 1999 and was given the name by the Minor Planet Centre in 2015. It is 300 million kilometres from Earth and it took Hayabusa-2 over 42 months to reach it.

##### Why do scientists study asteroids?

- Since asteroids are **one of the oldest celestial bodies** in the Solar System, scientists study them to look for information about the **formation and history of planets and the sun**.
- Another reason for tracking them is to look for asteroids that could **possibly crash into Earth, leading to potentially hazardous consequences**.
- **NASA's OSIRIS-REX mission** had collected samples from the asteroid **Bennu** in October 2020, which will be brought to Earth in 2023. Scientists are interested in studying asteroids such as **Bennu, because it hasn't undergone drastic changes since its formation over billions of years ago and therefore it contains chemicals and rocks dating back to the birth of the solar system. It is also relatively close to the Earth.**

## 20. When COVID-19 or flu viruses kill they often have an accomplice — bacterial infections

### Context:

- The **1918 influenza pandemic resulted in the loss of over 3 per cent of the world's population — at least 50 million people**. But it wasn't the flu virus that caused the majority of these deaths.
- An analysis of lung samples collected during that flu pandemic indicated **that most of the deaths were likely due to bacterial pneumonia**, which ran rampant in the absence of antibiotics. Even in more recent history, like the **1957 H2N2 and 2009 H1N1 flu pandemics, nearly 18 per cent of patients with viral pneumonia had additional bacterial infections** that increased their risk of death. And the COVID-19 pandemic is no different.

### Viruses and bacteria team up

- **Multiple pathogens can cause multiple infections** in different ways. Scientists distinguish each type based on the timing of when each infection occurs. **Coinfection refers to two or more different pathogens causing infections at the same time. Secondary or superinfections, on the other hand, refer to sequential infections that occur after an initial infection. They're often caused by pathogens resistant to antibiotics used to treat the primary infection.**
- Within our respiratory tract, **the epithelial cells lining your airways and lungs serve as the first line of defense against inhaled pathogens and debris**. However, **viruses can kill these cells and disrupt this protective barrier, allowing inhaled bacteria to invade. They can also change the surface of epithelial cells to make them easier for bacteria to attach to.**
- Viruses can also alter the surface of epithelial and immune cells by reducing the number of receptors that help these cells recognize and mount a response against pathogens. This reduction means fewer immune cells report to the viral infection site, giving bacteria an opening to launch another infection.

### Influenza, COVID-19 and bacterial infections

- Interestingly, the two bacteria species most commonly involved in coinfections with the **influenzavirus are Streptococcus pneumoniae and Staphylococcus aureus**, which normally exist in the respiratory tract without causing disease. However, **the influenza virus can damage the cell barrier of the lungs and disrupt immune function enough to make patients susceptible to infection by these otherwise benign bacteria.**
- Secondary bacterial infections are also exacerbating the COVID-19 pandemic. A 2021 review estimated that 16 per cent to 28 per cent of adults hospitalized for COVID-19 also had a bacterial infection. These patients stayed in the hospital for twice as long, were four times more likely to need mechanical ventilation and had three times greater odds of dying compared to patients with only COVID-19.
- Researchers identified **Z-DNA binding protein (ZBP1)**, a molecule already known to **play a regulatory role in how the immune system responds to influenza**. Specifically, **ZBP1 detects influenza viruses within the lungs and signals infected epithelial and immune cells to self-destruct**. This induced cell death eliminates the virus and promotes recruitment of additional immune cells to the infection site.

## 21. Which oils to use and how much: Do's and don'ts of consuming fats

### Context

Too much fat will **burn our liver and heart very soon**, given our lifestyle of little physical activity and uncontrolled diet.

- On quantity, there is relatively less debate: about 3-4 teaspoons should be consumed daily, including the oil used in cooking. **An entirely oil-free diet will do harm in the long run, since essential fatty acids in oils are required by the body.**

### Good Fat

#### Monounsaturated fat (oleic acid)

- Studies showed that one component of fats, **monounsaturated fat (oleic acid)**, when consumed instead of other fats, was **highly effective in reducing blood fats and medication in patients with diabetes.**
- **Source –**
  - While this type of fat is **abundant in olive oil and canola oil**, we in India have used a similar oil, **mustard**, for centuries.
  - Other rich sources of monounsaturated fat are **avocados, pistachios, walnuts, almonds and sesame.**

#### Polyunsaturated fat

- The second type of ‘good’ fat is **polyunsaturated fat** — one example is **omega-3 fatty acids, of which fish are a rich source.**
- Unfortunately, there are not many vegetarian sources of these good fats — **walnuts, mustard oil, soybean, sesame, peanuts, canola oil, flaxseeds, chia seeds** contain relatively small amounts of omega-3 fatty acids.

#### Bad Fat: Saturated Fat

- The intake of saturated fats carries an **extremely high risk of arterial clogging and heart attacks**, even though some recent opinions vary.
- A particularly adverse component of saturated fats is **palmitic acids**, a major component of **palm oil and dairy ghee**, which could, besides acutely increasing the risk of heart disease, also lead to the growth of cancer cells.
- All **saturated fats get deposited in the liver, causing its shrinkage** (fibrosis and cirrhosis)
- **Source–**
  - Ghee, coconut oil and Palm oil
  - Dairy ghee is replete with **saturated fats (60%-80%) and palmitic acid.**
  - Coconut oil, which is widely used in the southern states, too is **rich in saturated fats and palmitic acids.** It has been found to **raise bad blood cholesterol (LDL)**, the prime determinant of **artery blockages**, in six out of seven good studies done till date.
  - **Bhujias and chips that are widely available in India are made in saturated fat-laden palm oil**

#### Worst Fat: Trans fats

- **One up on saturated fat for increasing heart and liver risks are trans fatty acids**
- High amounts of trans fatty acids (**which make up 30%-40% of some oils**) are highly **injurious to the heart, liver, pancreas, and blood arteries.** Indeed, this is the most damaging component of oil. Research shows that if we **reheat foods at high temperatures in any oil, the levels of trans fatty acids increase by 100%-200%.** These cooking practices are common in Indian households, and are uniformly adopted by street vendors and most food establishments.
- **Source –**
  - **Vegetable ghee — vanaspati and similar oils.** (Vanaspati ghee is partially hydrogenated vegetable oil made from vegetable sources; it is different from dairy ghee.)
  - **Margarine, bakery items, & in baked & fried foods.**

#### Efforts to reduce their intake:

- **National:**

- FSSAI launched a “**Trans Fat Free**” logo for **voluntary labelling** to promote **TFA-free products**. The label can be used by bakeries, local food outlets and shops for preparations containing TFA not exceeding **2 per 100 g/ml**.
- FSSAI launched a new mass media campaign “**Heart Attack Rewind**” to **eliminate industrially produced trans fat** in the food supply by the year 2022.
  - “Heart Attack Rewind” is a follow-up to an earlier campaign called “**Eat Right**”, which was launched in **July, 2018**.
    - Edible oil industries took a pledge to reduce the levels of salt, sugar, saturated fat and **trans fat content by 2% by 2022 from the current levels of 5%.**
    - **Swasth Bharat Yatra**, an initiative started under the “**Eat Right**” campaign is a **Pan-India cyclothon** to engage citizens on issues of food safety, combating food adulteration and healthy diets.
  - **Global:**
    - WHO launched a **REPLACE campaign in 2018** for global-level elimination of trans-fats in **industrially produced edible oils by 2023.**

## 22. Improving rice yield with an additional gene

### Context:

- The Green Revolution of the 1960s brought about a marked improvement in the yield of agricultural crops such as rice and wheat.

### OsDREB1C gene

- New Research report points out **that giving a Chinese rice variety a second copy of one of its own genes has boosted its yield by up to 40%.**
- When a second copy of a **single gene (called OsDREB1C)** is added to rice, it improves **photosynthesis and nitrogen use, speeds up flowering and absorbing nitrogen more efficiently** — offering larger and more abundant grains.

### Gene modulation

- A key point is that the researchers have **added the same gene again, and not any foreign one.**
- This is best described as **genetic modulation**. It is **not a genetic modification (GM)** and **neither is the result a transgenic plant, carrying elements from another donor.**

### GM crop Regulation in India

- India has exempted **crops with certain kinds of genetic modifications from the regulations** previously imposed on the commercialisation of all genetically modified crops
- For example, **BT cotton involves the transfer of the gene from the bacterium called Bacillusthuringiensis (BT)** to be transferred to normal cotton.
- India’s Agriculture Ministry has pointed out in 2019 that they have allowed transfer of this foreign gene to normal cotton, produce the BT cotton, which is then manufactured and sold both in India and abroad.

### Rice

- Rice is a staple food for most of the population in India.
- It is a **kharif crop** which requires **high temperature, (above 25°C)** and **high humidity** with annual **rainfall above 100 cm.**
  - In the **areas of less rainfall, it is grown with the help of irrigation.**
- In **southern states and West Bengal, the climatic conditions allow the cultivation of two or three crops** of rice in an agricultural year.
  - In West Bengal farmers grow three crops of rice called ‘**aus**’, ‘**aman**’ and ‘**boro**’.
- About **one-fourth of the total cropped area in India is under rice cultivation.**
  - **Leading producer states:** West Bengal, Uttar Pradesh, and Punjab.

- **High Yielding States:** Punjab, Tamil Nadu, Haryana, Andhra Pradesh, Telangana, West Bengal and Kerala.
- India is the **second-largest producer of rice after China.**
- India is the **world's largest exporter of rice.** It exported 18.75 million metric tons to over 150 countries during the year 2021-22, thereby earning \$6.11 billion.

#### **Genetic Engineering Appraisal Committee**

- The Genetic Engineering Appraisal Committee (GEAC) **functions under the Ministry of Environment, Forest and Climate Change (MoEF&CC).**
- It is responsible for the **appraisal of activities involving large-scale use of hazardous microorganisms and recombinants** in research and industrial production from the environmental angle.
- The committee is also responsible for the **appraisal of proposals relating to the release of genetically engineered (GE) organisms** and products into the environment including experimental field trials.
- GEAC is chaired by the **Special Secretary/Additional Secretary of MoEF&CC** and co-chaired by a representative from the Department of Biotechnology (DBT).

### **23. How phase-changing materials can build green structures**

#### **Context:**

- The statement **'70 per cent of the buildings India will have by 2030 are yet to be built'** has been repeated so often that it has become a cliché.
- The **International Energy Agency** has determined that **carbon dioxide emissions from existing and new buildings may grow from 194 million tonnes in 2020 to 245 million tonnes by 2040.**

#### **'Phase-Changing Materials' or PCMs**

- Materials that **change phases while absorbing or releasing energy.** Water becoming vapour or ice is a good example of such **'phase-changing materials', or PCMs.**
- PCMs can be **embedded into building materials either through macro encapsulation (hollows in slabs, walls or bricks filled with PCMs) or micro encapsulation (PCMs powdered and mixed with construction materials).**

#### **Benefits**

- A recent study by AAridi of the University of Angers, France, and A Yehya of Harvard University notes that **PCMs can save five to 14 times more energy in one unit volume than conventional sensible storage materials (water, masonry, or rock).**
- PCMs can **store a considerable amount of thermal energy in a building during off-peak load periods to balance the on-peak demand situation,** it says.
- Furthermore, **latent heat devices are better than sensible because they can store a large amount of heat with only a small to no temperature difference**
  - Latent heat is the heat energy required for a phase change without changing the temperature
- The study has delved into the **relative merits of different types of PCMs in buildings — and has determined that coconut oil is the best.**

#### **Various types of PCMs**

- PCMs can come from various sources — **crude oil (paraffin wax), chemicals (salt hydrates) or plants (palm, soya or coconut oil).**
- Four types of PCMs were studied: **magnesium nitrate hexahydrate as salt hydrates, octadecane as paraffins, coconut oil, and coconut oil produced with biofertilizers.**

#### **Octadecane**

- It was **found costliest**, at around \$8 a kg, followed by **coconut oil (\$2 per kg), magnesium nitrate hexahydrate (\$0.3 per kg).**
- Octadecane, **derived from crude oil, has the highest environmental impact** among the four PCMs, but **stores and releases the highest amount of energy because of its relatively high latent heat.**
- This makes it **desirable for small spaces.**

#### **The coconut oils**



- This PCM using **biofertilizers is eco-friendly, non-toxic, transparent**, and has excellent chemical and thermo-physical properties for **TES [thermal energy storage]**.
- Besides, coconut oil is relatively cheap and is **obtainable, renewable, and biodegradable**, unlike **paraffin, which requires decades to be fully decomposed**.
- Its production positively **affects the economy of the agricultural communities** that produce it, despite some issues related to cheap and child labour.

#### Waste to PCM

- The study notes that there are other **bio-based PCMs, too**, which may be used in **combo, such as beef tallow combined with coconut oil, rapeseed oil, palm kernel oil, palm oil, and soyabean oil**, among others.
- There are PCM materials sourced from waste or by-products **such as animal fats, fish wastes, pork lard, beef tallow, chicken fat, plastics and carbon PCM (C-PCM)**.

#### 24. A toothy solution for stem cell harvesting

##### Context:

- The bone marrow has till now been the single most common source of stem cells.
- However, other sources such as the umbilical cord or adipose tissue are being tapped too.

##### New Research regenerative, or stem cell therapy

- Irrespective of the age of the donor, **stem cells from gingival or gum tissue help regenerate neuronal cells [or nerve cells]**.
- This finding could **eventually help in the treatment of nerve-related disorders such as Parkinson's and Alzheimer's**.

##### Why gingiva?

- It is very **difficult to extract cells from the bone marrow**. These would **come from the knee cap of a donor who may not be healthy and is likely afflicted with arthritis** or some such condition related to the bone.
- The recovery **time after extraction of bone marrow tissue is more compared with that for gingival tissue**.
- Extracting bone tissue is a **highly invasive procedure**.
- **Gingiva offers no such complication**. Anyone can donate gingival tissue and the **healing time is about 7-10 days**.
- With age, **stem cells tend to develop tumours over time**. This was not observed in the **lab growth derived from gingival tissue**.

##### Limitation

- However, when the **stem cells were induced to develop osteoblasts or bone cells, or adipose tissue, the ability declined with the increasing age of the donor**.
- **Only in the regeneration of neuronal cells, stem cells derived from gingival tissue were uniformly effective, despite age differences**.

##### Use of stem cells in regenerative therapy

- Stem cells are **the basic building blocks that help generate other cells** — which could either be stem cells or other specialised cells for specific functions, **such as blood cells, nerve cells, bone cells or heart muscle cells**.
- In the **treatment of cancer**, an infusion of stem cells from a donor or from oneself has shown promise.
- Cancer is a disease that kills numerous cells in a short period of time. **To negate the effect of cancer, stem cells perform the critical function of regenerating healthy cells to replace the damaged ones**.
- Stem cell therapy was **first tried in 1958 by French oncologist Georges Mathé**, who performed the first bone marrow graft to help save six Yugoslavian nuclear researchers who had been accidentally irradiated.
- Stem cells are useful not just in cancer treatment but also in **understanding how diseases occur and affect the body, and in testing new drugs**, according to the Mayo Clinic website.
- Stem cells **can be derived from embryos, bone marrow, fat tissue or perinatal fluids such as umbilical cord blood**.

##### Autologous stem cell therapy

- It is the **treatment using one's own stem cell for age-related neurodegenerative diseases such as Parkinson's and Alzheimer's would be ideal.**
- **Here can avoid** chances of rejection of cells or other complications

#### **Allogeneic therapy**

- It **involves the use of donated stem cells.**
- Chances of rejection **of cells or other complications are there**

#### **Covid-19 treatment**

- Interestingly, the team expanded the experiment to **see if stem cell-induced regeneration can help reverse lung damage due to Covid-19 infection.**
- The team **measured improvement in lung condition across eight parameters including presence of blood clots and fibroids, and the infiltration of immune cells into the lungs.**

### **25. Covid-19 and Tomato flu show similar symptoms, know how to differentiate**

#### **Context:**

- Amid the monkeypox outbreak and the probability of the fourth wave of COVID-19, a new virus "Tomato flu" or "Tomato fever" has become a cause of concern.

#### **Tomato Fever & Covid-19: Similarity and Differences**

- It has been observed by the experts that the Tomato fever and Covid 19 have **similar symptoms like fever, fatigue, and body aches**, some Covid patients **even reported rashes**. Tomato flu could be **an after-effect of dengue fever or chikungunya in children rather than a viral infection.**
- Tomato flu is such a disease which tends to resolve on its own, without treatment. As per the Lancet report, **tomato flu is currently in an endemic state and is considered non-life threatening**

#### **Tomato Fever: Similar Symptoms with Other Diseases**

##### **Symptoms of tomato flu,**

- As with other viral infections include, **fatigue, nausea, vomiting, diarrhoea, fever, dehydration, swelling of joints, body aches, and common influenza-like symptoms, which are quite similar to dengue.**

##### **Tomato fly**

- It is also known as "**The Hand Foot Mouth Disease**" (HFMD).
- According to The Lancet, Tomato flu is **highly contagious**. They have also said, that the rare **viral infection is in an endemic state.**
- Till now more than 80 children have been infected with tomato flu **in Kerala and Kollam.**
- It is **affecting children below five years.**

##### **Treatment**

- This flu is a **self-limiting one** and so far, there is **no specific drug for its cure.**
- **Symptoms vanish over time** on their own with medicinal support.
- **Utensils, clothes and other items used by the infected persons must be sanitised** to prevent the flu from spreading.
- **Fluid intake should be increased** to counter dehydration.

### **26. Alternative fuel technology**

- Alternative fuels include gaseous fuels such as hydrogen, natural gas, and propane; alcohols such as ethanol, methanol, and butanol; vegetable and waste-derived oils; and electricity.
- These fuels may be used in a dedicated system that burns a single fuel, or in a mixed system with other fuels including traditional gasoline or diesel, such as in hybrid-electric or flexible fuel vehicles.
- Some vehicles and engines are designed for alternative fuels by the manufacturer. Others are converted to run on an alternative fuel by modifying the engine controls and fueling system from the original configuration.

**Flexible fuel engines** (flexible fuel vehicles or FFVs have an internal combustion engine and are capable of operating on gasoline and any blend of gasoline and ethanol).

### **27. Vigyan Pragati**

### Context

CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi organized the release function of the Special issue of its Popular Science Hindi magazine “Vigyan Pragati” on 23 august 2022.

### Details:

In the year 2022, this popular magazine of NIScPR has completed the glorious 70 years of spreading science among the public. The very first issue of this magazine was published in August, 1952. This special issue (August 2022) of ‘Vigyan Pragati’ contains India’s leading organisations engaged in science popularization. Both government and voluntary organisations have been covered in this special issue.

**Vigyan Prasara (VP)** is an autonomous organization under the Department of Science and Technology (DST), Government of India.

The principal objective of VP is to serve India’s science popularization agenda. This is achieved through several strategically important two – way stakeholder specific approaches to communicate about principles and practice of science and technology and implications for development and quality of life. Science popularization, therefore serves as a robust knowledge led tool to fulfil three mutually reinforcing public policy objectives.

### 28. Women in science

- Department of Science and Technology (DST) is implementing a dedicated scheme ‘**Women in Science and Engineering-KIRAN (WISE-KIRAN)**’ to ensure participation of women in the field of Science and Technology (S&T) through various gender enabling programmes.
- ‘Women Scientists Scheme (WOS)’ under WISE-KIRAN provides various opportunities to women scientists and technologists, especially those who had break in their career to pursue research.
- Under this scheme, women scientists are being encouraged to pursue research in frontier areas of science and engineering, on problems of societal relevance and to take up S&T-based internship followed by self-employment
- This initiative primarily aimed at providing opportunities to women scientists and technologists between the **age group of 27-57 years who had a break in their career** and not having regular employment, to explore possibility of re-entry into the profession.
- Following three categories of fellowships, with research grants, are available for India citizen:
  - **Women Scientist Scheme-A (WOS-A):** Research in Basic/Applied Science
  - **Women Scientist Scheme-B (WOS-B):** S&T interventions for Societal Benefit
  - **Women Scientist Scheme-C (WOS-C):** Internship in Intellectual Property Rights (IPRs) for the Self-Employment.
- Further, Indo-US Fellowship for Women in **STEMM (Science, Technology, Engineering, Mathematics & Medicine)** encourages women scientists and technologists to undertake international collaborative research in premier institutions in USA. In addition to fellowship programmes,
- DST also provides support for development of research infrastructure and creation of state-of-the-art research laboratories under ‘**Consolidation of University Research through Innovation and Excellence (CURIE) Programme**’ in women institutions to enhance women’s participation in S&T domain. DST has also started a new programme “Vigyan Jyoti” for meritorious girl students of Class 9-12 to encourage them to pursue education and career in science and technology particularly in the areas where women are underrepresented.
- **Gender Advancement for Transforming Institutions (GATI)** aims to transform institutions for more gender sensitive approach and inclusiveness with ultimate goal to improve the gender equity in S&T.
- “SERB-POWER (Promoting Opportunities for Women in Exploratory Research)” scheme of Science and Engineering Research Board of DST aims to address lower participation of women scientists in research activities and to mitigate gender disparity in science and engineering. In addition to this, Department of Biotechnology (DBT) is also implementing ‘Biotechnology Career Advancement and Re-orientation Programme (BioCARE)’ to enhance the participation

of Women Scientists in Biotechnology research and also instituted Janaki Ammal National Women Bio scientist Awards to recognize the contributions of senior and young women scientists in the country who are working in the areas of Biology and Biotechnology. Further, the Council of Scientific & Industrial Research (CSIR) is giving 5 years' relaxation in upper age limit to women candidates to be eligible for award of Fellowships/Associateships to pursue doctoral and postdoctoral research to promote women in science & technology. Moreover, Ministry of Earth Sciences **has initiated a special award called “National Award for Woman Scientist” since 2018 which is being conferred to one-woman scientist each year.**

**29. Sulfuric acid: The next resource crisis that could stifle green tech and threaten food security**

- **Without sulphur** in the form of , industries would **struggle to produce the phosphorus fertilisers that raise farm yields or extract the essential metals used in everything from solar panels to electric car batteries.**
- Yet a problem looms, which has gone largely unnoticed. **More than 80 per cent of the global sulphur supply is a waste product, extracted from fossil fuels like oil and natural gas** (which typically contain between 1 per cent and 3 per cent sulphur by weight) **to reduce emissions of sulphur dioxide, the gas that causes acid rain.**
- **Sulfuric acid prices would rise, stoking competition in which more profitable green technology industries are likely to outbid fertiliser producers.** This would increase the cost of food production and make food more expensive for consumers, especially in developing countries where farmers are least able to afford the higher costs.

**An essential industrial chemical**

- Sulphur is found **in a wide range of products, including tyres, sulphur fertiliser, paper, soap and detergent.**
- But its most **important application is in industrial chemistry, decomposing a wide range of materials.**
- The rapidly expanding use **of low-carbon technologies, such as high-performance batteries, light-weight motors for vehicles, and solar panels,** will significantly increase **mining of mineral deposits, particularly laterite ores that are increasingly important sources of cobalt and nickel.** All of these **are currently extracted using large quantities of sulfuric acid.**
- The US Geological Survey estimates that there is **an almost limitless supply of sulfate minerals in evaporites (rocks laid down by the natural evaporation of shallow, salty seas or lakes) and large resources of iron sulphides and elemental sulphur in volcanic deposits,** but accessing these would require expanding mining and mineral processing.
- **Converting sulphates to sulphur using current methods consumes a lot of energy and emits a lot of carbon.** Sulphur mining and sulphide ore processing can **pollute the air, soil and water, acidifying surface pools and aquifers and emitting toxins including arsenic, thallium and mercury.** And there are always human rights issues associated with intensive mining.

**30. India poised to become next global SaaS capital, says EY-CII study**  
**Concept**

- SaaS is a **way of delivering software applications over the internet** when a customer requires them.
- Earlier, companies would have to install software in their clients' localised hardware for them to use their applications. So, this required customers to pay for use of the software upfront, and also for the hardware on which the software would run.
- SaaS, which started as a concept during the dotcom boom, began to flourish as a business model after the financial crisis of 2007 as companies looked to save costs.
- At a personal level, the Microsoft Office 365 suite of products is a good example of SaaS. Instead of purchasing multiple one-time licences at a hefty cost, users can opt for a more affordable monthly subscription of the entire suite based on requirements. Users can also make do with basic hardware, while saving data on the cloud.

- One can view SaaS as a subset of cloud computing. Cloud or cloud computing is a broader concept that involves not just delivering software over the internet, but also providing computing and data storage services from a different location (owned or third party).

**Some of the most famous examples of SaaS are:**

- **Amazon Web Services (AWS)** – It is a subsidiary of Amazon. It provides around 150 services and has more than a million subscribers. AWS is even used by streaming companies like Netflix, defence organizations like the US Navy, and the world's most famous space organisation NASA.
- **Dropbox** – Files stored in Dropbox can be accessed from any device, from any location at any time.
- **Google Apps** – Google drive enables employees to access files from any location from any device.
- **Salesforce** – It is a Customer Relationship Management (CRM) tool, enabling employees of organizations to access the required information from any device at any location.
- **SAP Cloud Platform** – Launched by SAP in 2012
- **Microsoft Azure** – Launched by Microsoft in 2010.

**Why is it important?**

- The biggest advantage that SaaS enables is innovation. The advantage behind this method of delivery is that data can be accessed with an internet connection, web browser in any device at any location. In this type of model, vendors host and maintain servers and databases. The main difference between SaaS Delivery and On-premise model is that SaaS deployments won't require extensive hardware and the payment type is through a subscription model, no need to pay the entire cost upfront.
- It has basically converted fixed costs of companies into variable costs. When capital is scarce, the SaaS model frees up capital for more high priority requirements.
- The payment model for SaaS is typically a per seat, per month charge based on usage. This ensures more efficient allocation of capital, especially for early-stage companies.
- This also implies that the threat for established companies is higher today. If they are not alert, it's just a matter of time before SaaS-using start-up will outwit them.

### 31. Geographical Indication

**Context:**

The first editions of India GI Fair, Khilona-India Toys & Games Fair, Maa Shishu and STEM Confex being held concurrently from 26th to 28th August 2022 at India Expo Centre & Mart

**Concept:**

**What is a Geographical Indication?**

- It is an indication
- It originates from a definite geographical territory.
- It is used to identify agricultural, natural or manufactured goods
- It is an insignia on products having a unique geographical origin and evolution over centuries with regard to its special quality or reputed attributes.
- It is a mark of authenticity and ensures that registered authorized users or at least those residing inside the geographic territory are allowed to use the popular product names.
- GI tag in India is **governed by Geographical Indications of Goods (Registration & Protection) Act, 1999. It is issued by the Geographical Indications Registry (Chennai).**

**What is the benefit of registration of geographical indications?**

- It confers **legal protection** to Geographical Indications in India
- **Prevents unauthorised use of a Registered Geographical Indication** by others.
- It promotes economic prosperity of producers of goods produced in a geographical territory.

**What Indications are not registrable?**



For registrability, the indications must fall within the scope of **section 2(1)e of GI Act, 1999**. Being so, it has to also satisfy the provisions of section 9, which prohibits registration of a Geographical Indication.

1. the use of which would be likely to deceive or cause confusion; or
2. the use of which would be contrary to any law for the time being in force; or
3. which comprises or contains scandalous or obscene matter; or
4. which comprises or contains any matter likely to hurt the time being in force; religious susceptibilities of any class or section of the citizens of India; or
5. which would otherwise be dismantled to protection in a court; or
6. which are determined to be generic names or indications of goods and are, therefore, not or ceased to be protected in their country of origin or which have fallen into disuse in that country; or
7. which although literally true as to the territory region or locality in which the goods originate, but falsely represent to the persons that the goods originate in another territory, region or locality as the case may be.

#### **How long the registration of Geographical Indication is valid?**

- The registration of a geographical indication is valid for a period of 10 years
- It can be renewed from time to time for further period of 10 years each.

### **32. The significance of NASA's Artemis mission, the beginning of a new age of human exploration of the Moon**

#### **Context:**

- **NASA's Artemis 1 mission** is aimed at exploring the Moon with the **specific objective of getting human beings back on the lunar surface and possibly beyond — to Mars and elsewhere.**

**But why does NASA want to go back to the Moon, where it has been several times, and last went 50 years ago?**

- NASA officials today argue that the Moon missions are central **to the human spaceflight program** and not simply a do-over of the Apollo moon landings from 1969-72.
- It's a future where NASA **will land the first woman and the first person of colour on the Moon**
- And on these increasingly complex missions, astronauts **will live and work in deep space and will develop the science and technology to send the first humans to Mars.**

#### **So, what does this new Moon mission hope to achieve?**

- The new program was named Artemis by NASA leaders during the Trump administration. (In Greek mythology, **Artemis, the goddess of wild animals, the hunt, and vegetation**, as well as of chastity and childbirth, **was the twin sister of Apollo**, the much loved god of music and divination.)
- The program's first step will be the upcoming **test flight of the Moon rocket, known as the Space Launch System (SLS)**, with the **Orion capsule** on top where astronauts will sit during future missions. **This uncrewed flight, during which Orion will swing around the moon before returning to Earth**, is to wring out any issues with the spacecraft before putting people on board.
- In addition to the mission's function as a proving ground for technologies needed for a much longer trip to Mars, NASA is also hoping **to jump-start companies looking to set up a steady business of flying scientific instruments and other payloads to the moon, and to inspire students to enter science and engineering fields.**
- **China's expanding space ambitions, which include a lunar base in the 2030s, also provided motivation for Artemi**
- For scientists, the renewed focus on the Moon also **promises a bonanza of new data in the coming years.**
- The **rocks collected** by the astronauts during the Apollo missions **upended planetary scientists' understanding of the solar system.** Analysis of **radioactive isotopes provided precise dating of various regions of the Moon's surface.** The rocks also revealed a **startling origin story for the Moon:** It appears to have formed out of debris ejected into space when a Mars-size object slammed into Earth 4.5 billion years ago.

- It is **the best place in the solar system to study the origin and evolution of planets in the solar system.**

**What new things have scientists discovered about the Moon in recent decades?**

- Scientists have discovered that the Moon is **not as dry as they had thought.**
- **Water, frozen at the bottom of eternally dark craters at the poles, is a valuable resource.** It can **provide drinking water for future astronauts visiting the Moon, and water can be broken down into hydrogen and oxygen.**
- The **oxygen could provide breathable air; oxygen and hydrogen could be used as rocket propellant.** Thus, the Moon, or a refuelling station in orbit around the Moon, could serve as a stop for spacecraft to refill their tanks before heading into the solar system.
- **The ices, if they were ancient accumulations over several billion years, could even provide a scientific history book of the solar system.**
- Then NASA put in a call for proposals for a spacecraft that could tag along to the Moon with the **upcoming Lunar Reconnaissance Orbiter mission.**
- In June 2009, the rocket carrying the **Lunar Reconnaissance Orbiter and LCROSS** That October, **LCROSS made its death dive into Cabeus crater, near the moon's south pole.**
- Instruments on an Indian orbiter, **Chandrayaan-1, also found unmistakable signs of water, and scientists using state-of-the-art techniques found water locked up in the minerals of old Apollo 15 and Apollo 17 rocks.**

**Artemis 1 mission**

- It is carrying several payloads in **the form of small satellites called CubeSats, each of which is equipped with instruments meant for specific investigations and experiments.**
- The focus of these investigations is **clearly to explore long-term stays of human beings in space, and on the Moon.** One CubeSat will search for **water in all its forms, another will map the availability of hydrogen that can be utilised as a source of energy.**
- Then there are **biology experiments, investigating the behaviour of small organisms like fungi and algae in outer space, and the effect of radiation, especially the reaction on their genes.**

**The Orion Spacecraft**

- The **Orion spacecraft, which is specifically designed to carry astronauts into deep space on future missions, will have three dummy 'passengers' — mannequins made of material that mimic human bones, skin, and soft tissue.** These would be equipped with a **host of sensors to record the various impacts of deep space atmosphere on the human body.**

**Space Launch System**

- The rocket that is being used for the Artemis missions, **called Space Launch System, or SLS, is the most powerful ever built, more powerful than the Saturn V rockets that had taken the Apollo missions to the Moon.**
- The **giant, 98-metre-tall rocket, weighing 2,500 tonnes, can help the Orion spacecraft achieve speeds of over 36,000 km per hour, and take it directly to the Moon, which is 1,000 times farther than the International Space Station that sees a regular traffic of astronauts.**

### **33. Patents officers' body seek judicial intervention against arbitrary work target**

**Context:**

- The quality of innovation in patents granted in the **country may be suffering due to the mad rush to achieve unrealistic targets set up by the Controller General of Patents, Designs, and Trade Mark (CGPDTM) since it's way above global standards.**
- In a petition filed before the Central Administrative Tribunal (CAT), the Association has flagged the issue on two counts – for adversely impacting their service conditions and hurting the country's economic interest.

**Central Administrative Tribunal**

- It had been established under **Article 323 – A** of the Constitution.

- It provides for adjudication of disputes and complaints with respect to recruitment and conditions of service of persons appointed to public services and posts in connection with the affairs of the Union or other authorities under the control of the Government.
- In pursuance of **Article 323-A**, Parliament passed the **Administrative Tribunals Act in 1985**.
- The act authorizes the Central government to establish one CAT and the state administrative tribunals.
- This act opened a new chapter in the sphere of providing speedy and inexpensive justice to the aggrieved public servants.
- There are 19 Benches in the CAT all over India.

#### **Composition**

- The CAT is a specialist body consisting of Administrative Members and Judicial Members who by virtue of their specialized knowledge are better equipped to dispense speedy and effective justice.
- A **Chairman who has been a sitting or retired Judge of a High Court heads the CAT**.

#### **Legal Framework**

- The Tribunal is guided by the principles of natural justice in deciding cases and is not bound by the procedure prescribed by the Civil Procedure Code.
- Under **Section 17 of the Administrative Tribunal Act, 1985**, the Tribunal has been conferred with the power to exercise the same jurisdiction and authority in respect of contempt of itself as a High Court.
- The conditions of service of the Chairman and Members are the same as applicable to a Judge of High Court as per the Administrative Tribunals (Amendment) Act, 2006.
- The orders of the CAT are challenged by way of a **Writ Petition under Article 226/227** of the Constitution before the respective High Court in whose territorial jurisdiction the Bench of the Tribunal is situated.

#### **Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM)**

- It functions under the **Department of Promotion of Industry and Internal Trade, Ministry of Commerce & Industry**.
- The Controller General supervises the working of the **Patents Act, 1970, the Designs Act, 2000 and the Trade Marks Act, 1999** and also renders advice to the Government on matters relating to these subjects.

#### **Locations of Offices of Patent, Trademark, GI Registry**

- **Office of Controller General of Patents, Designs and Trademarks: Mumbai.**
- **Patent Head Office: Kolkata.**
- **Trade Mark Registry Office: Mumbai.**
- **GI Registry Office: Chennai.**
- **Offices of The Patent Information System (PIS): Nagpur.**
- **National Institute of Intellectual Property Management (NIIPM): Nagpur.**

## **NATIONAL ORGANIZATION**

### 1. ‘Russian propaganda promoters list’: NSAB Chairman on Ukraine list

- Besides P S Raghavan — who retired as India’s ambassador to Russia in 2016, others on the list are former National Knowledge Commission Chairman Sam Pitroda and journalist Saeed Naqvi.
- Published on July 14, Ukraine’s “Center for Countering Disinformation”, the list of more than 70 politicians, academicians and activists who are “promoting Russian propaganda”

#### **National Security Council**

- NSC of India is a **three-tiered organization that oversees political, economic, energy and security issues of strategic concern.**
- The **National Security Advisor (NSA)** presides over the NSC, and is also the **primary advisor to the prime minister.**
- It was **formed in 1998, where all aspects of national security are deliberated**
- Members: The **Ministers of Home Affairs, Defence, External Affairs and Finance** are its members.
- **Three tier Structure**
  - NSC comprises the three-tier structure- **Strategic Policy Group (SPG), the National Security Advisory Board (NSAB) and the National Security Council Secretariat.**
  - The **SPG chaired by the Cabinet Secretary** is the principal forum for inter-ministerial coordination and integration of the relevant inputs.
  - The **NSAB undertakes long-term analysis** and provides perspectives on issues of national security.
- **Function**
  - It operates **within the executive office of the prime minister of India**, liaising between the government’s executive branch and the intelligence services, advising leadership on intelligence and security issues.

### 2. Competition Commission of India (CCI)

#### **Context**

The Competition Commission of India (CCI) approves (a) acquisition of majority shareholding in Optimus Drugs Private Limited (ODPL) by Sekhmet Pharmaventures Private Limited (Sekhmet).

#### **Concept:**

- Competition Commission of India is a statutory body responsible for enforcing the objectives of the Competition Act, 2002.
- CCI was established by the Central Government with effect from 14th October 2003, but it became fully functional on 20th May, 2009.
- Composition – A Chairperson and 6 Members appointed by the Central Government.

#### **Formation of CCI:**

- The CCI was established under the provisions of the Competition act 2002:
- The Competition Act, 2007, was enacted after amending Competition Act, 2002, that led to the establishment of the CCI and the **Competition Appellate Tribunal.**
- The government replaced the **Competition Appellate Tribunal (COMPAT)** with the **National Company Law Appellate Tribunal (NCLAT)** in 2017.

**Function of CCI** – To eliminate practices having adverse effects on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade in the markets of India.

## GOVERNMENT SCHEME

### 1. India knowledge system

- Indian Knowledge System (IKS) is an **innovative cell under Ministry of Education (MoE)** at AICTE, New Delhi.
- It is established **to promote interdisciplinary research on all aspects of IKS, preserve and disseminate IKS for further research and societal applications.**
- It will actively engage for **spreading the rich heritage of our country and traditional knowledge** in the field of Arts and literature, Agriculture, Basic Sciences, Engineering & Technology, Architecture, Management, Economics, etc.

#### **Functions of IKS division:**

- **Facilitate and coordinate IKS based/related inter and transdisciplinary work** done by various institutions in India and abroad including universities, institutions of national importance, R&D laboratories and different ministries and inspire private sector organizations to engage with it.
- **Establish, guide and monitor subject-wise interdisciplinary research** groups comprising of researchers from institutes, centres and individuals.
- **Create and promote popularization schemes.**
- **Facilitate funding of various projects and develop mechanisms** to undertake research.
- **Make Policy recommendations** wherever required for the promotion of IKS.

### 2. Working towards animal health

#### **Context**

The developments unleashed by COVID-19 have once again put the spotlight on the pressing need to create greater collaborations and synergies between research on human health and animal health.

#### **Why Animal Health Matters?**

- Globally, we have witnessed around **9,580 instances of disease out breaks from 2000 to 2010**, of which **60% diseases were zoonotic in nature**
- The incidences of disease outbreaks across the globe have been increasing at a compound annual **growth rate (CAGR) of 6%.**
- In India, annual outbreak of zoonotic diseases translates into an estimated annual loss of **\$12 billion to the economy**
- Zoonotic diseases are responsible for huge consequences to farmers, exports and gross domestic product (GDP) growth nationally

#### **Effective Pandemic Preparedness:**

- The **Department of Animal Husbandry and Dairying (DAHD)** has set up a dedicated **‘One Health Unit’** in collaboration with the Gates Foundation
- One of the primary focus areas of the unit has been on coming up with an “animal pandemic preparedness model by creating a mechanism for storage and seamless exchange of data and information on livestock health
- This will be implemented through the **National Digital Livestock Mission (NDLM)**
- To incentivize the growth of the animal health industry in India, companies can now avail incentives for setting up or expansion of animal vaccine and related infrastructure under the Animal Husbandry Infrastructure Fund
- To create a robust pandemic preparedness model, it is imperative to juxtapose the data on animal health with the available data on human health.
- Within the framework of the NDLM, so far, substantial progress has also been made by linking all the animal disease diagnostic labs involved in sero-surveillance through a single portal, and harmonization of SOPs used by labs.

#### **National Digital Livestock Mission (NDLM):**

- It is a digital platform being **developed jointly by DAHD and NDDB on the foundation of the existing Information Network for Animal Productivity and Health (INAPH).**



- The aim is to create a farmer-centric, technology-enabled ecosystem where the farmers are able to realize better income through livestock activities with the right information.
- The bedrock of NDLM will be the unique identification of all livestock, which will be the foundation for all the state and national level programmes including domestic and international trade.
- This system will also include robust animal breeding systems, nutrition, disease surveillance, disease control programmes and a traceability mechanism for animals and animal products.

### 3. Education in Mother Tongue

#### Concept:

#### Steps taken:

- Education is in the **concurrent list** of the Constitution and majority of the schools are under the domain of the States/UTs.
- **Section 29(f)** of Chapter V under **Right to Education Act, 2009** clearly states that, *“medium of instructions shall, as far as practicable, be in child’s mother tongue.”*
- As envisaged in of **National Education Policy (NEP) 2020**, wherever possible, the medium of instruction until at least Grade 5, but preferably till Grade 8 and beyond, is to be the home language/mother tongue/local language/regional language. Thereafter, the home/local language shall continue to be taught as a language wherever possible.
- The **NIPUN Bharat Mission** of the Government of India through its Mission Implementation Guidelines suggests that teaching learning process and development of teaching learning material should be done in mother tongue.
- **Vidya Pravesh** a three-month play-based school preparation programme for Grade-I and **NISHTHA FLN (Foundational literacy and Numeracy)** have also re-emphasised the same.
- As per **Unified District Information System for Education Plus (UDISE+) 2020-21**, there are **28 languages** in which teaching learning is going on in grades (1-5). The languages are as follows: Assamese, Bengali, Gujarati, Hindi, Kannada, Konkani, Malayalam, Manipuri, Marathi, Nepali, Odia, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, English, Bodo, Khasi, Garo, Mizo, French, Hmar, Karbi, Santhali, Bhodi, Purgi.

### 4. World Breastfeeding Week (WBW)

#### Context

World Breastfeeding Week (WBW) being observed from 1<sup>st</sup> to 7<sup>th</sup> August

Breast milk is the ideal food for infants, according to the World Health Organization (WHO). It contains nutrients and antibodies crucial for their early days

#### The objectives of World Breastfeeding Week are:

- To create awareness among the parents about breastfeeding
- Encourage parents to adopt breastfeeding
- Creating awareness about the importance of initiation and exclusive breastfeeding, and adequate and appropriate complementary feeding
- Providing advocacy material about the importance of breastfeeding.

#### Breastfeeding

- Infants should be breastfed within one hour of birth, breastfed exclusively for the **first six months** of their lives, and be breastfed after six months in combination with solid, semi-solid and soft food until they are about two years old.
- Both the mother and new born are vulnerable for the first 12 weeks. Getting used to breastfeeding takes at least 14 days.

#### The correct norms of infant and young child feeding are:

- Initiation of Breastfeeding within **an hour of birth**
- Exclusive breastfeeding for **first six months** of life i.e. only breast Milk ‘NO’ other milk, food, drink or water

- Appropriate and adequate complementary feeding from six months of age while continuing breastfeeding
- Continued breastfeeding up to the age of two years or beyond

This important nutrition intervention will help in breaking the vicious cycle of malnutrition and aid the Government to achieve National Nutrition Goals and Sustainable Development Goals (SDG) 2030. According to WHO, increasing breastfeeding to near-international levels will help in saving more than 800,000 lives every year, the majority being children under 6 months.

#### **Many advantages**

- Breastfeeding provides greater immunity for children against infection, allergies, cancers and obesity; and improves brain maturation.
- It is also beneficial for the mother: it promotes faster weight loss after birth, reduces postpartum bleeding, and protects her against breast cancer, ovarian cancer, and osteoporosis.
- Data from The Lancet show that more investment in breastfeeding could add \$300 billion to the global economy and prevent about 8,20,000 child deaths every year.
- Globally only 25%-40% of babies are breastfed. Breastfeeding and later wet nursing were the norm for millions of years.
- However, the National Family Health Survey-5 data show that there has been a decline in early breastfeeding in as many as 12 of the 22 surveyed States and Union Territories while the share of institutional births has increased. Maternity and paternity leave
- The theme for World Breastfeeding Week this year is '**Protect Breastfeeding: A Shared Responsibility**'. Breastfeeding has decreased during the COVID-19 pandemic. Therefore, it is important that the promotion

#### **The World Alliance for Breastfeeding Action (WABA)**

- The World Alliance for Breastfeeding Action (WABA) was established in 1991 to create awareness about the importance of breastfeeding. I
- In 1992, WABA in coordination with UNICEF introduced World Breastfeeding Week during the first week of August every year. India enacted the Infant Milk Substitutes, Feeding Bottles and Infant Foods Act in 1992 with stringent regulations.
- The breastfeeding should be a continuous process, not an event restricted to a week

#### **Colostrum**

- Colostrum is a breast fluid produced by humans, cows, and other mammals before breast milk is released.
- It's very nutritious and contains high levels of antibodies, which are proteins that fight infections and bacteria.
- Colostrum promotes growth and health in infants and newborn animals, but research shows that taking bovine colostrum supplements may promote immunity, help fight infections, and improve gut health throughout life.

### **5. Quality control of Ayush drugs**

#### **Steps taken:**

##### **Drugs and Cosmetics Act 1940:**

- It enforces the **legal provisions** and provides the regulatory guidelines for the issuance of drug license of Ayurveda, Siddha, Unani and Homoeopathic drugs.
- The power to issue license is vested with the State drug Controllers/ State Licensing Authorities appointed by the concerned State/ Union Territory Government.

##### **Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H):**

- It is a subordinate office under Ministry of Ayush lays down Pharmacopocial Standards and Formulary specifications for Ayurveda, Siddha, Unani and Homoeopathy (ASU&H) drugs within the ambit of Drugs & Cosmetics Act, 1940, which serve as official compendia for ascertaining the quality of the drugs included therein.
- It has an appellate drug testing laboratory that receives the samples from Government agencies.

##### **AYUSH Oushadhi Gunvatta Evam Utpadan Samvardhan Yojana (AOGUSY):**

- It is implemented by **Ministry of Ayush**(Central Sector Scheme)to enhance India's manufacturing capabilities and exports and facilitate adequate infrastructural & technological upgradation.
- It strengthens regulatory frameworks for effective quality control and Pharmacovigilance of ASU&H drugs by surveillance of misleading advertisements of Ayush drugs and develop standards and accreditation/ certification of Ayush products & materials in BIS, QCI) and other R&D centres.

#### **AYUSH**

AYUSH is an acronym for **Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy** and are the six Indian systems of medicine prevalent and practiced in India and some of the neighboring Asian countries with very few exceptions in some of the developed countries

### **6. Mulya Pravah**

#### **Context**

The University Grant Commission has approved the revised guidelines of “**Mulya Pravah** “

**Mulya Pravah:** University Grants Commission (UGC) has launched a policy framework, Mulya Pravah – Guidelines for Inculcation of Human values and Professional Ethics in Higher Educational Institutions

- **Support for Marginalised Individuals for Livelihood and Enterprise “SMILE-75 Initiative”**

#### **Concept:**

- The objective of SMILE- 75 is to **make our cities/town and municipal areas begging-free** and make a strategy for comprehensive rehabilitation of the persons engaged in the act of begging through the coordinated action of various stakeholders.
- The Ministry of Social Justice & Empowerment has allocated a total budget of **100 crore** for the SMILE project for coming years till **2025-26**.
- Through this project, the Ministry envisions to develop a **support mechanism for holistic rehabilitation** of those engaged in the act of begging and build an India where no person is forced to beg in order to survive and fulfill their basic needs.
- Under the initiative, **seventy-five (75) Municipal Corporations** in collaboration with NGOs and other stakeholders will cover several comprehensive welfare measures for persons who are engaged in the act of begging with focus extensively on rehabilitation, provision of medical facilities, counselling, awareness, education, skill development, economic linkages and convergence with other Government welfare programmes etc.
- It includes a sub-scheme of **comprehensive rehabilitation** for persons engaged in begging which covers identification, rehabilitation, provision of medical facilities, counselling, and education, skill development for **decent job and self-employment / entrepreneurship**.

### **7. National Intellectual Property Awareness Mission (NIPAM)**

#### **Context**

National Intellectual Property Awareness Mission (NIPAM) has achieved target of imparting Intellectual Property (IP) awareness and basic training to 1 million students

#### **Concept:**

- NIPAM is a flagship program to impart IP awareness and basic training, was launched on 8 Dec 2021 as a part of “Azadi Ka Amrit Mahotsav” celebrations.
- The program is being implemented by **Intellectual Property Office, the Office of Controller General of Patents, Designs and Trade Marks (CGPDTM)**, Ministry of Commerce and Industry.
- The pan-India ambitious mission aims to provide awareness on intellectual property and its rights to **1 million students**.

- It aims to inculcate the **spirit of creativity and innovation** to students of higher education (**classes 8 to 12**) and ignite and inspire the **students of college/Universities** to innovate and protect their creations.

## 8. Government to enumerate people who clean sewers

### Context:

- The Ministry of Social Justice and Empowerment (MoSJ&E) is now preparing to undertake a nationwide **survey to enumerate all people engaged in hazardous cleaning of sewers and septic tanks, an activity that has led to at least 351 deaths since 2017.**
- Drawing a distinction between this work and manual scavenging, the Ministry insisted that the **practice of manual scavenging no longer takes place in the country as all manual scavengers had been accounted for and enrolled into the rehabilitation scheme.**
- India banned the practice under the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 (PEMSR).**
- **Rashtriya Garima Abhiyan:** It started national wide march “Maila Mukti Yatra” for total eradication of manual scavenging from 30th November 2012 from Bhopal.
- Ministry officials said that the enumeration exercise, soon to be conducted across **500 AMRUT (Atal Mission for Rejuvenation and Urban Transformation)** cities, is part of the Union government’s **National Action Plan for Mechanised Sanitation Ecosystem (NAMASTE)**, which will streamline the process of **rehabilitating sanitation workers and eventually merge with and replace the Self-Employment Scheme for the Rehabilitation of Manual Scavengers (SRMS), which was started in 2007.**

### NAMASTE scheme

- The NAMASTE scheme is being **undertaken jointly by the Ministry of Housing and Urban Affairs and the MoSJ&E and aims to eradicate unsafe sewer and septic tank cleaning practices**
- The Ministry’s Standing Finance Committee has already cleared ₹360 crore for this project — **to be spent over the next four years.**
- Parts of this project, already in the works for the past two years, have led to **municipal commissioners being declared as the Responsible Sanitation Authorities (RSAs) and Sanitation Response Units (SRUs) being set up in 200 cities, where the national helpline for addressing sanitation needs (14420) has also been operationalised.**
- Ultimate aim of the scheme is to link **these sanitation workers to the Swachhta Udyami Yojana**, through which the workers will be able to own sanitation machines themselves and **the government will ensure that at the municipality level, the work keeps coming in**
- Other benefits under the scheme will include **capital subsidies of up to Rs 5 lakh on sanitation machinery costing up to Rs 15 lakh and interest subsidies on loans, where interest rates will be capped between 4-6% for the beneficiaries, with the government taking care of the rest of the interest.**
- In addition, the scheme also **provides for training the workers in the use of these machines, during which time a stipend of up to Rs 3,000 per month will be provided.** The scheme will also provide for sanitation workers to train for and go into any of the **approved list of alternative occupations in sectors like agriculture, services, electronics assembling, handicrafts and so on.**

### Swachhta Udyami Yojana

- **National Safai Karamcharis Finance and Development Corporation (NSKFDC), an Apex Corporation of the Ministry of Social Justice and Empowerment, has launched “Swachhta Udyami Yojana” on 2.10.2014.**
- The objective of the Scheme is to provide **concessional loan for viable community toilet projects and sanitation related vehicles to collect the garbage, to consolidate the ongoing**

efforts for realising the objectives of the 'Swachh Bharat Abhiyan' launched by Prime Minister on 2nd October, 2014.

- Under the Scheme, **entrepreneurs among safaikarmacharis and identified manual scavengers can avail loan upto defined ceiling at concessional rate of interest @ 4% per annum.** In case of women beneficiaries, there is a rebate of 1% in the rate of interest charged.
- **No State/ Union Territory wise budget allocations are made under the Scheme as funds are to be provide to the channelizing agencies on the basis of the proposals received from them.**

## 8. HIV drugs shortage is a challenge to ending AIDS in India

### Context

In June, PLHIV (People Living with HIV) networks across the country started witnessing an acute shortage of **certain Antiretroviral (ARV) drugs in Anti-Retroviral Therapy (ART) centres.** Among them were pediatric formulations and **dolutegravir, the backbone of HIV treatment.**

- Staying on anti-retroviral therapy continuously is crucial to keep the virus suppressed.
- But **the virus can mutate into a resistant form if treatment delivery is poor or patchy.**
- **The National AIDS Control Organisation (NACO) under the Ministry of Health and Family Welfare is the nodal agency** responsible for overlooking and coordinating activities of the **National AIDS Control Programme (NACP)** along with the **Central Medical Services Society, which is responsible for centralised tendering and pooled procurement of different HIV products, including Antiretroviral drugs.**

### National AIDS Control Organization (NACO)

- National AIDS Control Organization is a **division of the Ministry of Health and Family Welfare** that provides leadership to HIV/AIDS control programme in India through **35 HIV/AIDS Prevention and Control Societies.**
- In **1986, following the detection of the first AIDS case** in the country, the National AIDS Committee was constituted in the Ministry of Health and Family Welfare.
- As the epidemic spread, need was felt for a nationwide programme and an organization to steer the programme. In 1992 India's first **National AIDS Control Programme (1992-1999) was launched,** and National AIDS Control Organization (NACO) was constituted to implement the programme.

### Central Medical Services Society

- Central Medical Services Society (CMSS) has been established with the approval of Cabinet on 24.08.2011 as a **Central Procurement Agency (CPA) to streamline drug procurement and distribution system of Department of Health & Family Welfare (DoHFW), Ministry of Health and Family Welfare, Government of India** and to eliminate existing deficiencies.
- The Mission of the Society is **to procure high quality health sector goods in a transparent and cost-effective manner** in line with the directives of the Government of India and **ensure timely and un-interrupted supply of health sector goods & services for State Government and Union Territories.**
- The CMSS Head Office is at New Delhi and Warehouses are at State capitals, at present there are 20 warehouses.

### National AIDS Control Programme (NACP)

- The **National AIDS Control Programme (NACP),** launched in 1992, is being implemented as a comprehensive programme for prevention and control of HIV/ AIDS in India. Over time, the focus has shifted from raising awareness to behaviour change, from a national response to a more decentralized response and to increasing involvement of NGOs and networks of People living with HIV (PLHIV).
- The NACP I started in 1992 was implemented with an objective of slowing down the spread of HIV infections so as to reduce morbidity, mortality and impact of AIDS in the country.
- In November 1999, the second National AIDS Control Project (NACP II) was launched to reduce the spread of HIV infection in India, and (ii) to increase India's capacity to respond to HIV/AIDS on a long-term basis.



- NACP III was launched in July 2007 with the goal of Halting and Reversing the Epidemic over its five-year period.
- NACP IV, launched in 2012, aims to accelerate the process of reversal and further strengthen the epidemic response in India through a cautious and well defined integration process over the next five years.
- The Programme will offer free HIV **Prevention, detection and treatment** services in facility and community settings to high-risk, vulnerable and other 'at-risk' populations and PLHIV without any stigma and discrimination promoting equity and inclusiveness.
- The Programme includes community system strengthening through formal and informal engagement with an emphasis on the decentralized model of district-level programme monitoring and community feedback loop.
- The Programme will continue special attention to most at-risk populations, youth, and pregnant women offering a comprehensive package of services. The community will be engaged in the design, concurrent appraisal and feedback to the project for providing strategic guidance and mid-course corrections.

## 9. SafaiMitra Surakshit Shehar

### Context

500 cities across India have declared themselves as 'SafaiMitra Surakshit Shehar'.

### Concept:

- In a major achievement towards **putting an end to manual cleaning of sewers and septic tanks, 500 cities** across India have declared themselves as '**Safai Mitra Surakshit Shehar**' by achieving targets for safety of all sanitation workers engaged in these tasks.
- These cities have adopted **mechanised cleaning of sewers** and in case any sanitation worker needs to enter a manhole, they are provided with adequate safety gear.
- By doing so, they have established that the cities are able to achieve adequacy in terms of institutional capacity, manpower and equipment norms as **stipulated by MoHUA** and are providing safe working conditions for SafaiMitras.
- The 'SafaiMitra Surakshit Shehar' declaration done by 500 cities aligns with **Swachh Bharat Mission-Urban's** longstanding goal of promoting sustainable sanitation practices and acting as a catalyst for the transformation of every '**manhole**' into a '**machine hole**'.
- The scheme was launched with the target of ensuring 'zero fatalities in sanitation work'.
- On **World Toilet Day in 2019**, the urban affairs ministry had launched the 'Safai Mitra Suraksha Challenge' through which it had identified **100 lighthouse cities that were well equipped in terms of sanitation infrastructure and facilities**.

The states have set up **Responsible Sanitation Authorities (RSAs) and Emergency Response Sanitation Units (ESRUs)** at the district level and are now prioritising training and capacity building of Safai Mitras.

## 10. National Labour Conference

### Context

With a view to re-energising the country's large labour workforce, the Union Labour Ministry is set to initiate discussions with State Labour Ministers on strategies for greater participation of women, new needs of the digital and gig economy, as well as transitioning towards green jobs. The issue will be a key agenda at the upcoming National Labour Conference of Labour Ministers' and Secretaries of States and UTs that will be held on August 25 and 26 in Tirupati.

### Concept :

The labour ministry is also conducting three surveys on an all-India basis. These are :

- **All India Survey on Migrant Workers**
- **All-India Quarterly Establishment-based Employment Survey**
- **All India Survey on Domestic Workers**

## 11. Ayushman Bharat Digital Health mission

### Context

The National Health Authority (NHA) issued hardware guidelines across States and Union Territories for healthcare institutions like hospitals, clinics and health and wellness centres to promote digitization in hospitals.

**Concept:**

- This scheme will be launched with the aim of harnessing **technology** in order to improve the effectiveness, efficiency, and transparency of healthcare delivery across India.
- It also seeks to create a national digital health infrastructure by building Health IDs, Unique Identifiers for doctors & health facilities, telemedicine & e-pharmacy, Personal Health Records etc.
- It will enable the patients to store, access and give consent to share their health records with doctors as well as health facilities of their choice.
- Unique digital health ID – This health ID will comprise of all the health records of each individual. It will be created with the help of details such as Aadhar and mobile number in order to generate a unique ID for them.
- **National digital health ecosystem** – Under this scheme, a national digital health ecosystem will be created by means of provision of a wide-range of data, information & infrastructure services, and duly leveraging open & interoperable standards-based digital systems. It will also provide security, confidentiality and privacy of personal information related to health.

## 12. Centre identifies 75 tribal districts for focused TB interventions

### Aashwasan Campaign

- The campaign to detect **TB cases across 174 tribal districts** started this January under the Aashwasan Campaign, under which **door-to-door screening was done** in over 68,000 villages. Official data showed that 3,82,811 people were identified for **presumptive TB** after a **verbal screening** of over 1.03 crore people in these villages.
- The Aashwasan Campaign was **undertaken by the Tribal Affairs and Health Ministries and supported by USAID (United States Agency for International Development)** as a technical partner and Piramal Swasthya as the implementing partner.

### Steps Taken by India:

- India has **committed to eliminating TB in the country by 2025.**
  - Five years ahead of the global deadline of 2030.
- **National Strategy Plan for TB Elimination 2017-2025:**
  - The requirements for moving towards TB elimination in India have been arranged in **four strategic areas of Detect, Treat, Prevent & Build.**
  - There is also across all four areas, an overarching theme of the **Private Sector.** Another overarching theme is that of **Key Populations.**
- **TB Harega Desh Jeetega Campaign, Nikshay Poshan Yojana, etc.**

### Global Efforts:

- The **End TB Strategy of WHO.**
- **World Tuberculosis (TB) Day is observed on 24<sup>th</sup> March** to raise public awareness about the devastating health, social and economic consequences of TB.

### Nikshay Poshan Yojana (NPY)

- The NPY was launched in 2018 by the **Ministry of Health and Family Welfare.**
- It aims to support every Tuberculosis (TB) **Patient by providing a Direct Benefit Transfer (DBT) of Rs 500 per month for nutritional needs.**

### The Saksham Project

- It is a project of the **Tata Institute of Social Sciences (TISS)** that has been providing psycho-social counselling to DR-TB patients.

### Tuberculosis

- Tuberculosis is **caused by bacteria (Mycobacterium tuberculosis)** that most often affect the lungs.
- **Transmission:** TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.

- **Symptoms:** Cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- **Treatment:** TB is treatable and curable disease. It is treated with a standard 6 month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
- **Multidrug-resistant TB (MDR-TB)** is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs.
- **Extensively drug resistant TB (XDR TB)** is a rare type of MDR TB that is resistant to isoniazid and rifampin, plus any fluoroquinolone and at least one of three injectable second-line drugs (i.e., amikacin, kanamycin, or capreomycin).

### 13. National Cancer Grid (NCG)

#### Context

The National Cancer Grid (NCG) has established the Koita Centre for Digital Oncology (KCDO) to promote use of digital technologies and tools to improve cancer care across India.

#### Concept:

- The National Cancer Grid (NCG) is an initiative of the **Government of India through the Department of Atomic Energy and its grant-in-aid institution**, the Tata Memorial Centre, to create a network of cancer centres, research institutes, patient groups and charitable institutions across India with the objective of developing uniform standards of patient care for prevention, diagnosis, and treatment of cancer; providing specialized training and education in oncology and facilitating collaborative basic, translational and clinical research in cancer.
- NCG today has over **270 hospitals** in its network across India.
- The National Cancer Grid (NCG) has established the Koita Centre for Digital Oncology (KCDO) to promote use of **digital technologies and tools to improve cancer care across India**. The Centre has been set up with the contributions received from the Koita Foundation, which will support it for five years.

### 14. Pradhanmantri Bhartiya Janurvarak Pariyojna

#### Context:

The Ministry of Chemicals and Fertilisers announced to implement One Nation One Fertiliser by introducing a “Single Brand for Fertilisers and Logo” under the fertiliser subsidy scheme named “Pradhanmantri Bhartiya Janurvarak Pariyojna” (PMBJP).

#### Concept:

- Under the scheme companies are allowed to display their name, brand, logo and other relevant product information **only on one-third space of their bags**.
- On the **remaining two-thirds space**, the “Bharat” brand and Pradhanmantri Bharatiya Jan Urvarak Pariyojana logo will have to be shown.
  - The single brand name for UREA, Di-Ammonium Phosphate DAP, Muriate of potash (MOP) and Nitrogen Phosphorus Potassium NPK etc. would be **BHARAT UREA, BHARAT DAP, BHARAT MOP and BHARAT NPK etc.** respectively for all Fertiliser Companies, State Trading Entities (STEs) and Fertiliser Marketing Entities (FMEs).
- This scheme applies to both public & private sector companies.
- It will bring about uniformity in fertiliser brands across the country

#### Why?

- Awareness of the financial burden on the government to make cheaper ferlisers available to farmers.
- Bring down the cost of subsidy.
- Reduce the diversion of urea to non-agricultural uses.

#### Fertiliser sector:

- The maximum retail price of **urea** is currently fixed by the government, which compensates companies for the higher cost of manufacturing or imports incurred by them.

- The MRPs of **non-urea fertilisers** are decontrolled.
  - But companies cannot avail of subsidy if they sell at MRPs higher than that informally indicated by the government.
- The government also decides where they can sell through the Fertiliser (Movement) Control Order, 1973.
  - Under this, the department of fertilisers draws an agreed monthly supply plan on all subsidised fertilisers in consultation with manufacturers and importers.
  - This supply plan is issued before the 25th of each month for the following month, with the department also regularly monitoring movement to ensure fertiliser availability as per requirement, including remote areas.

## 15. Swachh Sagar, Surakshit Sagar Campaign

### Context

**Union Minister of Environment, Forest and Climate Change Participates in Swachh Sagar, Surakshit Sagar Campaign at Puducherry**

### Concept:

- It is the longest running coastal cleanup campaign in the world with the highest number of people participating in it, which will culminate on “International Coastal Clean-up Day” (17th September 2022). Globally, “International Coastal Clean Up Day” is celebrated on the third Saturday of September, every year.
- It aims to increase public awareness about the accumulation and negative impacts of litter in oceans, on coastlines and on beaches.
- An app “Eco Mitram” has been launched to spread awareness about the campaign and also for the common people for voluntary registration for the beach cleaning activity.

### Objectives:

- Running a cleanliness campaign along India’s entire coastline.
- To reduce marine litter.
- Minimising the use of plastics.
- Encouraging segregation of waste at source and waste management.

## 16. PM Modi spins charkha at ‘Khadi Utsav’ in Ahmedabad

### Context

Prime Minister Narendra Modi tried his hands on the charkha while attending a ‘Khadi Utsav’ event in Ahmedabad on Saturday.

- 8 different schemes of Khadi & Village Industries are now merged under two heads i.e. ‘**Khadi Vikas Yojana**’ and ‘**Gramodyog Vikas Yojana**’:
- **Khadi Vikas Yojana** includes **Market Promotion & Development Assistance (MPDA)**, **Interest Subsidy Eligibility Certificate (ISEC)**, **Workshed**, **Strengthening Weak Infra**, **Aam Aadmi Bima Yojana**, **Khadi Grant**.
- **Gramodyog Vikas Yojana** [Village Industries Grant].

### Rozgar Yukt Gaon

- It is an initiative by the Cabinet Committee for Economic Affairs and focuses on empowering Khadi artisans by **providing resources to produce and sell their products**.
- The committee has proposed to bring a change in the **business model of Khadi enterprises**, replacing the **Subsidy-based model with the Enterprise-based model**.
- Under this scheme, **the tools and equipment like Charkha, loom and warping units used in producing Khadi will be distributed amongst 50 villages**.

### Market Promotion and Development Assistance (MPDA)

- Market Promotion and Development Assistance (MPDA) scheme is regulated by the **Ministry of MSME** (Micro Small and Medium Enterprises).
- It is aimed at developing new avenues for the promotion of the Khadi Industry in India.
- A grant of 977 crores was sanctioned to help revive **the production, selling and marketing of Khadi and small enterprises at the rural level**.

### **Interest Subsidy Eligibility Certificate (ISEC)**

- Launched in May 1977, the scheme helped the enterprises involved in **the production of Khadi and Polyvastra gain capital from the banks.**
- The rural enterprises shall be granted bank loans at **only 4 per cent of interest and the remaining interest amount will be subsidized by KVIC (Khadi and Village Industries Commission).**

#### **Boosting Agarbatti Udyog (2020)**

- In 2020, the **ministry of MSME provided** another shot in the arm for the **Gramodyog Vikas Yojana** when a new programme was sanctioned to **boost Agarbatti manufacturing in rural areas.**
- The Agarbatti artisans will be trained by the **KVIC (Khadi and Village Industries Commission)** to help build the enterprise-led business model in the rural sector.
- Raw material, tools and equipment to produce Agarbatti will also be provided by KVIC.
- This move by the ministry is aimed at reviving the Agarbatti Udyog and scope of employment in the rural enterprises.

#### **Khadi and Village Industries Commission (KVIC)**

- **It is a statutory body established under the Khadi and Village Industries Commission Act, 1956. It functions under the Ministry of Micro, Small and Medium Enterprises.**

#### **Objectives:**

- Social objective of providing employment
- Economic objective of producing saleable articles
- The wider objective of creating self-reliance amongst the poor and building up a strong rural community spirit

#### **Spin Scheme**

- The **SPIN (Strengthening the Potential of India)** scheme was recently launched by the **Khadi and Village Industries Commission (KVIC)** to **help potters** become self-sufficient.
- It is an initiative through which KVIC will make it easier for potters to **obtain low-interest bank loans under Pradhan Mantri Shishu Mudra Yojana**, allowing them to diversify their businesses and increase their income.

### **17. 780 more defence sub-systems & components to be barred for imports**

#### **Context:**

To minimise imports by Defence Public Sector Undertakings (DPSUs), Defence Minister Rajnath Singh has approved **the third Positive Indigenisation List (PIL) of 780 strategically important sub-systems and components, which will be strictly procured from the domestic industry with a timeline beginning from December 2023 to December 2028.**

- The Ministry stated that the **indigenisation of these items will be taken up through different routes under 'Make' category, which aims to achieve self-reliance by involving greater participation of the Indian industry.** Projects involving design and development of equipment, systems, major platforms or upgrades thereof by the industry can be taken up under this category.
- The third PIL incorporates **wide variety of components and sub-systems of equipment and different platforms, including Arjun tanks, Advanced Light Helicopters, Light Combat Helicopters, Jaguars and Sukhois.**
- Last month, Additional Secretary (Defence Production) Sanjay Jaju stated the **export figure for defence items and technologies touched a record high of Rs 13,000 crores in the financial year of 2020-21. Of that, 70 percent was contributed by private indigenous companies and remaining by the DPSUs.**

#### **What is the 'Make' Category?**

- The 'Make' category of capital acquisition is **the cornerstone of the Make in India initiative** that seeks to build indigenous capabilities through the involvement of both public and private sector.
- **'Make-I'** refers to government-funded projects while **'Make-II'** covers industry-funded programmes.
  - **Make-I** involved in development of **big-ticket platforms such as light tank and communication equipment** with Indian security protocols.



- Make-II category involves **prototype development of military hardware** or its upgrade for import substitution for which no government funding is provided.
  - The five projects approved under the industry-funded Make-II procedure **are simulators for Apache attacks helicopters and Chinook multi-mission choppers, wearable robotic equipment for aircraft maintenance, autonomous combat vehicle and integrated surveillance and targeting system for mechanised forces.**
- Another sub-category under 'Make' is 'Make-III' that covers **military hardware that may not be designed and developed indigenously, but can be manufactured in the country for import substitution**, and Indian firms may manufacture these in collaboration with foreign partners.

#### **Defence Acquisition Procedure (DAP) 2020**

- It **enables the notification of a List of Weapons or Platforms that will be banned for import.**
- It focuses on **Foreign Direct Investment (FDI) in defence manufacturing and indigenization of the manufacturing prices.**
- It also introduces several new ideas such as the need to incorporate **artificial intelligence in platforms and systems, use of indigenous software** in defence equipment and 'innovation' by Start-ups and MSMEs as a new category of defence acquisition.
- It includes following **procurement categories: Buy (Indian – Indigenously Designed Developed and Manufactured), Buy (Indian), Buy and Make (Indian), Buy (Global – Manufacture in India) and Buy (Global).**
  - It **increases the Indigenous Content (IC) requirement** for all projects from 40% to 50% earlier, depending on the category, to 50% to 60%.
  - **Only under procurement through Buy (Global), foreign vendors can have 30% IC from Indian companies.**

#### **18. GeM to launch carbon neutral services in govt departments**

##### **Context:**

- **Public procurement portal Government e-Marketplace (GeM) will soon launch carbon neutral services to estimate the carbon footprint of various central government ministries and departments and help them work towards carbon neutrality.**
- Ministries and government departments **can also get mitigation plan and steps to achieve carbon neutrality**

##### **Gem – Government e-Market Place Portal**

- **GeM is a one-stop National Public Procurement Portal** to facilitate online procurement of common use **Goods & Services required by various Central and State Government Departments/Organisations/Public Sector Undertakings (PSUs).**
- The procurement of goods and services by **Ministries and the Central Public Sector Enterprises (CPSEs)** is **mandatory for goods and services available on GeM.**
- It also **provides the tools of e-bidding and reverse e-auction** to facilitate the government users achieve the best value for their money.
- It functioned under **Ministry of Commerce and Industry.**
- GeM has made it **mandatory for sellers to enter the Country of Origin** while registering all new products on GeM.
- The Union Cabinet has cleared up a **proposal allowing cooperatives to sell products on the Government-e-Marketplace (GeM) platform.**
- In October last year, GeM **launched 'forward auction' service aimed at removing the clutters in government departments** by auctioning disposable furniture, refrigerators, computers, air conditioners.

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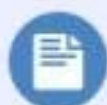
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