



**VAJIRAM & RAVI**

(Institute for IAS Examination)



#BestSellerForDecade

# Prelims Quick Revision 2022



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## HISTORY AND CULTURE

### National War Memorial

The eternal flame of Amar Jawan Jyoti underneath India Gate was recently put out and **merged** with another eternal flame at the National War Memorial.

### Amar Jawan Jyoti

- The eternal flame at the Amar Jawan Jyoti was an iconic symbol of the nation's tributes to the soldiers who have died for the country in various wars and conflicts **since Independence**.
- It was established in 1972, to mark India's victory over Pakistan in 1971 War, which resulted in the creation of Bangladesh. It had been burning continuously since then.

### India Gate

- The India Gate, All India War Memorial, as it was known earlier, was built by the British in **1931**. It was erected as a memorial to around 90,000 Indian soldiers of the British Indian Army, who had died in several wars and campaigns between 1914-1921.
- Names of more than 13,000 dead soldiers are mentioned on the memorial commemorating them.
- As it was a memorial for Indian soldiers killed in wars, the Amar Jawan Jyoti was established underneath it.

### National War Memorial

- The National War Memorial, which is around 400 meters from India Gate was inaugurated in 2019.
- It was built to commemorate **all the soldiers** who have laid down their lives in the various battles, wars, operations and conflicts of Independent India.
  - Eg. Sino-Indian war in 1962, Indo-Pak wars in 1947, 1965 and 1971, Indian Peace Keeping Force Operations in Sri Lanka, Kargil Conflict in 1999, United Nations peace-keeping missions, Humanitarian Assistance Disaster Relief (HADR) operations, counterinsurgency operations and Low-Intensity Conflict Operations (LICO).
- There are many independent memorials for such soldiers, but no memorial existed commemorating them all at the national level. The architecture of the memorial is based on four concentric circles:
 

Raksha Chakra	•Circle of Protection
Tyag Chakra	•Circle of Sacrifice
Veerta Chakra	•Circle of Bravery
Amar Chakra	•Circle of Immortality

### Sahitya Akademi Awards

- The Sahitya Akademi Awards for literary works in 2021 were announced recently.
- The award is a **literary honour** in India, conferred by the Sahitya Akademi. It is conferred annually on writers of the most outstanding books of literary merit published in any of the **24 major Indian languages**.
- Besides the 22 languages enumerated in the Constitution of India, the Sahitya Akademi has recognised English and Rajasthani.

### Sahitya Akademi

- Inaugurated in 1954, Sahitya Akademi - **India's National Academy of Letters**, is the central institution for literary dialogue, publication and promotion in the country.
- Functioning as an **autonomous organization**, it also gives special awards called **Bhasha Samman** to

significant contribution to the languages not formally recognized by the Akademi and for contribution to classical and medieval literature.

### World Hindi Day

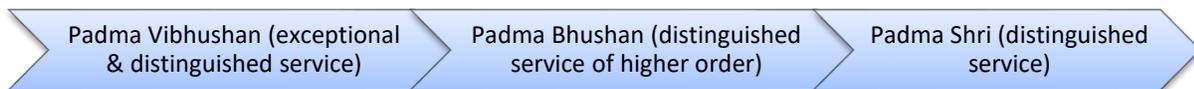
- Recently on the occasion of World Hindi Day (10th January), UNESCO's World Heritage Centre has agreed to publish **Hindi descriptions of India's world heritage sites** on **WHC website**.
- World Hindi Day is celebrated to mark the anniversary of first World Hindi Conference which was held in **1975** by then Prime Minister Indira Gandhi. The day was **first observed on January 10, 2006**.
- National Hindi Diwas is celebrated every year on September 14. On that day in 1949, the constituent assembly adopted Hindi, written in Devanagari script, as the official language of the Union, while the focus of the World Hindi Day is to promote the language at the global stage.

#### Facts About Hindi Language

- The word Hindi originated from the Persian word Hind, which means the land of the Indus River.
- In linguistic terms, Hindi belongs to the Indo-Iranian sub-family of the Indo-European family of language.
- Hindi has been influenced and enriched by Turkish, Arabic, Persian, English and Dravidian (ancient South India) languages.
- The earliest form of Hindi was called 'Apabhramsa', which was an offspring of Sanskrit. In 400 AD, poet Kalidas wrote Vikramorvashiyam in Apabhramsa.

### Padma Awards

- The Padma Awards 2022 were announced recently. 128 Padma Awards were approved this year.
- Instituted in **1954**, the Padma Awards are one of the highest civilian honours of India announced annually on the eve of Republic Day and are conferred by the President later.
- The Awards are given in **three categories**:



- The Padma Vibhushan is the second-highest civilian award of the Republic of India, second only to the Bharat Ratna.
- The Padma award seeks to recognize achievements in all fields of activities or disciplines where an element of public service is involved viz. literature and education, arts, science and engineering, trade and industry, civil services, public affairs, sports, medicine etc.
- The awards are given on the recommendations made by the **Padma Awards Committee**, which is constituted by the Prime Minister every year. The nomination process is open to the public. Even self-nomination can be made.
- All persons without distinction of race, occupation, position or sex are eligible for these awards. However, government servants including those working with PSUs, except doctors and scientists, are not eligible for these Awards.
- The awards can also be conferred on foreigners/Non-Resident Indian (NRI)/Person of Indian Origin (PIO)/Overseas Citizen of India (OCI).
- The award does not amount to a title and **cannot** be used as a suffix or prefix to the awardees' name.

**Karakattam**

- Kerala Nattukala Kshema Sabha (KNKS), an outfit that works for the promotion of local art forms in the state, has demanded that Karakattam (also known as Kumbakkali) be recognised as the agricultural art form of Kerala.
- Karakattam is a form of folk dance performed at festivals, conferences, roadshows and primarily at Mariamman festivals.
- Karakattam performances are characterised by a lot of swaying movements. Three tiers of flower arrangements of different colours sit on top of a container filled with either water, rice, or soil. All of this is balanced on the head of a Karakattam dancer while he or she dances.
- Other highlights include *blowing fire, inserting needles into eyes, and keeping balance while holding a bottle parallel to the ground on the performer's back*.
- It is one of the many creative traditions that owe their existence to Mariamman, the rain goddess.
- Although it has links with the rain goddess, the form is about more than just worship—it is also about reversing the caste dominance.
- Even though Karakattam is mostly famous in Tamil Nadu, it's performed in different parts of Kerala as well. While the dance form is not dying, it has undergone radical change and adaptation in recent years.

**Devayatnam**

- Archaeological Survey of India (ASI) of Ministry of Culture recently organised a two-day international conference '**Devayatnam – An odyssey of Indian temple architecture**'.
- Devayatnam, the house of god is not only a place to worship and perform rituals but also a centre for education, fine arts, music, science & technology, rituals & traditions or every activity shaping the society.
- The conference aims to deliberate upon the philosophical, religious, social, economic, technical, scientific, art and architectural aspects of temple.
- It also intends to start a dialogue on the evolution and development of the various styles of temple architecture.
- In India, there are **3 main kinds of temple architecture**: Nagara or the Northern Style, Dravida or the Southern style, and Vesara or the Mixed styles.
- These architectures highlight India's rich history, culture, and heritage and are an integral part of Indian life and its ecosystem.
- Construction of temples started with beginning of human settlements & evolved through ages.
- Temple construction was practiced as a pious act not only in the subcontinent but the idea also travelled to the nearest neighbourhood such as south-east and east Asia.
- Approximately 10 of India's 40 UNESCO World Heritage Inscriptions are Hindu temples in different architectural styles, patterns and symmetry.

**Pandrethan Temple**

- The Chinar Corps of the Indian Army was recently accorded recognition by the **National Monuments Authority (NMA)**, for preserving and rejuvenating the Pandrethan temple.
- The Chinar Corps had adopted the ancient excavation site within the cantonment and after restoration, had named it '**Dharohar**'.
- The Pandrethan temple, an **8th century heritage site** is situated in **Srinagar's Badamibagh**.
- The site hosts several excavated figurines tracing back to the 2nd century – in the form of two large monolithic rock shiva lingams, seven Gandhara-style sculptures and a huge rock carving of the feet of a monolithic statue.
- Situated in the foothills of **Zabarwan range**, and on Jhelum River banks, it has magnificent sculptures of Shiva Trimurti, Varah and Padmapani Avalikiteshwara.

- The site near Shiva temple was excavated by the British-era ASI in 1913, yielding several Buddhist sculptures and rubbles of a Chaitya assignable to the 8th century.

**National Monuments Authority (NMA)**

- NMA has been set up as per the provisions of The Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 2010. It operates under the aegis of the Ministry of Culture.
- Several functions have been assigned to the NMA for the protection and preservation of monuments and sites through management of the prohibited and regulated area around the centrally protected monuments.

**Konark Sun Temple**

- Odisha government has planned to run the Konark Sun Temple completely on **solar energy**. Konark is going to be the 1<sup>st</sup> model town in Odisha to shift from grid dependency to green energy.
- By 2022-end, the state has targeted to generate 2,750 megawatt (MW) from renewable energy sources like the sun, wind, biomass, small hydro and waste-to energy (WTE), etc.
- Among these, the state targets to generate 2,200 MW from solar energy and a part of it will be utilised to run the Sun Temple and Konark town on solar energy.

**Konark Sun Temple**

- It is a 13th-century CE temple dedicated to sun god Surya, at Konark on the coastline of Odisha. It was built by **King Narasimhadeva I of Eastern Ganga Dynasty** around **1250 CE**.
- The word 'Konark' is a combination of two Sanskrit words **kona** (corner or angle) and **arka** (the sun). The temple is conceived as a **giant stone chariot** with 24 wheels and 7 horses.
- Once over 200 feet (61 m) high, much of the temple is now in ruins. The structures and elements that have survived are popular for their intricate artwork, iconography, and themes.
- The temple follows the **Kalinga or Orissa style of architecture**, which is a subset of the nagara style of Hindu temple architecture.
- Declared a **UNESCO world heritage site** in 1984, it is a major pilgrimage site for Hindus, who gather here every year for the **Chandrabhaga Mela** around the month of February.
- This temple was called the **Black Pagoda** in European sailor accounts as early as 1676 because its great tower appeared black.
- Similarly, the Jagannath Temple in Puri was called the **White Pagoda**. Both temples served as important landmarks for sailors in the Bay of Bengal.

**Theyyam**

- As part of its efforts to promote cultural tourism, Kerala Tourism has decided to live stream Theyyam performances. Theyyam is a popular ritual form of dance worship in Kerala and Karnataka. It consists of thousand-year-old traditions, rituals and customs.
- The ceremonious dance is accompanied by the chorus of musical instruments like Chenda, Elathalam, Kurumkuzal and Veekkuchenda. Each Theyyam is a man or a woman who attained divine status by performing heroic deeds or by leading a virtuous life.
- Most Theyyams are believed to be the incarnations of Shiva or Shakti (the consort of Shiva) or they have strong associations with these principal deities of Hinduism.
- The people consider Theyyam itself as a channel to God and they thus seek blessings from Theyyam.
- There are over 400 separate Theyyams, each with their own music, style and choreography. The most prominent among these are Raktha Chamundi, Kari Chamundi, Muchilottu Bhagavathi, Wayanadu Kulaven, Gulikan and Pottan.

- Theyyam is performed by males, except the Devakoothu theyyam; the Devakoothu is the only Theyyam ritual performed by women.

### Commemorative Stamp

The Central government's plans to issue a *commemorative stamp* to honour former Prime Minister P.V. Narasimha Rao on his 100<sup>th</sup> birthday in June last year were scuttled when the stamps got leaked before their official release.

#### About Commemorative Stamp

- A Postal Stamp is a small adhesive piece of paper of specified value issued by a national post office to be affixed to a letter or parcel to indicate the amount of postage paid.
- Commemorative postage stamps are issued on subjects/ themes / institutions / personalities / events that have a national or international stature or have made national/international contribution or impact.
- No stamp can be issued on a living personality.
- The personalities on whom commemorative postage stamp may be issued should be of national or international importance.
- Also, the occasion to be commemorated must be the birth centenary or 10th /25th /50th /100th death anniversary.
- Proposals for issue of Commemorative Postage Stamps may be sent by any citizen of India
- Stamps on personalities shall not exceed 10% of the Annual Issue Programme

#### Deen Dayal SPARSH Yojana

- **Philately** is the collection and study of Postage stamps.
- Department of Posts launched a scholarship scheme called Deen Dayal SPARSH Yojana in 2017.
- **Objective:**
  - To promote Philately among children at a young age in a sustainable manner that can reinforce and supplement the academic curriculum in addition to providing a hobby that can help them relax and de-stress.
- The scheme **awards annual scholarships to those students who have good academic record and also pursue Philately as a hobby.**
- A maximum of 40 students will be selected representing 10 students each from **class VI to class IX.**
- **Nodal Ministry:** Ministry of Communication

#### History of Indian Stamps

- Every year on **October 9**, World Post Day is celebrated around the world - the day on which the **Universal Postal Union (UPU)** was established in 1874 in Bern, Switzerland.
  - In India, National Postal Day is celebrated on October 10.
- The Indian history began with the introduction of paper postage in Sindh, India (now in Pakistan) in 1852.
- The **first stamps valid for postage throughout India were placed on sale in October, 1854.**
- Commemorative stamps were issued in 1954 to mark the centenary of this event.
- The first independent stamps to be produced in India after the removal of British control were a set of three, depicting the **Ashoka pillar, the Indian National Flag and a Douglas DC-4 plane.**

#### GI Tag for Nagaswaram

- Nagaswaram made in **Narasinghapettai in Thanjavur district** has been granted the Geographical Indication (GI) tag under the category of musical instruments.
- The musical instrument is traditionally made by artisans based in a village near **Kumbakonam** who make them through specialized processing skills, a technique inherited from their forefathers.
- GI Tag is issued for agricultural, natural, or manufactured goods that have a unique quality, reputation, or other characteristics attributable to their geographical origin.

### **Nagaswaram**

- Nagaswaram is a **wind instrument** that has also been accorded a high status as a '**Mangala Vadyam**' and is played in religious ceremonies, auspicious occasions, and classical concerts.
- The instrument is also known as 'nakaswaram'. It is believed that Lord Shiva gifted the instrument to the demon, Nagasuran. It has the shape of a snake, and nagas (meaning snakes) used this instrument, hence it came to be known as nagaswaram.
- The double-reeded instrument is made up of **wood** and has two parts – a conical tube and a **metal bell**. The major portion of the 'Narasinghapettai nagaswaram' is made from the Acha (*Hardwickia binata*) tree.
- The horn-like portion of Nagaswaram is known as 'Olavi' and the loudspeaker-like portion 'anasu'. 'Jeevali' is played at one end of the horn. It is through this 'jeevali' that air is blown.

### **Kodava Takke**

- Recently a book of poems has brought the spotlight on **Kodava Takke**, an endangered language.
- It belongs to the **Dravidian group** of languages and is the original language of **Kodagu district** in Southern Karnataka.
- Historically, it has been referred to as a dialect of Kannada. However it has been re-analysed as a language by early 20th century academics.
- The language does not have a script and is traditionally written in Kannada script.
- The language has two dialects: **Mendele** and **Kiggat**.

### **Kodavas**

- The Kodavas are an ethno-linguistic group from the region of Kodagu (Coorg).
- They are traditionally land-owning agriculturists and patrilineal, with martial customs.
- They **worship ancestors and weapons**. They used to worship swords, bows, arrows and later guns. Hence, Kodavas are the only ones in India permitted to carry firearms without a license.

### **Bamiyan Buddhas**

- The Taliban regime in Afghanistan has said it would protect the ancient Buddha statues in **Mes Aynak**, also the site of a copper mine where the Taliban are hoping for Chinese investment.
- The current Taliban position is in contrast to the time they ruled Afghanistan earlier, when, they brought down the centuries-old Buddha statues in Bamiyan, in March 2001, using explosives.
- The statues were brought down as the Taliban saw them as symbols of idol worship.
- The Bamiyan Buddha statues, created from sandstone cliffs, dated back to the **5th century AD**, and were once the tallest standing Buddhas in the world.
- In their Roman draperies and with two different mudras, the statues were great examples of the convergence of Gupta, Sassanian and Hellenistic artistic styles.
- The statues consisted of the male **Salsal** ("light shines through the universe") and the shorter female **Shamama** ("Queen Mother"), as they were called by the locals.
- After their destruction by the Taliban, the UNESCO included the remains of the Bamiyan Buddhas in its list of world heritage sites in 2003.
- To mark 20 years of their destruction, in March 2021, the statue of Salsal was "recreated" — a 3D projection was beamed where it had stood.

### **Bamiyan**

- The Bamiyan valley, in the Hindu Kush mountains and along the river Bamiyan, was a key node of the

early Silk Routes, emerging as a hub of both commercial and cultural exchange.

- The rise of Bamiyan was closely connected with spread of Buddhism across Central Asia, and that in turn was linked to the political and economic currents of that time.
- Early in the first century AD, a semi-nomadic tribe called the Kushanas swept out of Bactria, made themselves the unavoidable middlemen between China, India and Rome, and prospered on the revenues of the Silk Road.
- In so doing, they encouraged a syncretic (mix of) culture, in which tribal traditions from Central Asia fused with artistic conventions derived from the Hellenized Mediterranean and with the ideologies coming from Buddhist India.

### Malcha Mahal

- The Delhi government is planning to restore a 14th century monument, Malcha Mahal.
- It is located in Chanakypuri area in Delhi. It was **built in 1325 by Firoz Shah Tughlaq** and was for long used as a hunting lodge. It later became the residence of the descendants of the Nawab of Awadh.
- It came to be known as '**Wilayat Mahal**' after Begum Wilayat Mahal of Awadh, who claimed that she was a member of the royal family of Oudh. She was given the palace by the government in 1985.
- When she died in 1993, it came into the ownership of her daughter Sakina Mahal, and son Prince Ali Raza (Cyrus), who died in 2017 and his sister passed away some years before that.
- The monument is **not ASI-protected** and, therefore, no attention was paid to it to conserve it.

### Personalities

<b>Alluri Sitaram Raju</b>	<ul style="list-style-type: none"> <li>• The Vice President recently visited the birthplace of revolutionary freedom fighter Alluri Sitaram Raju at <b>Pandurangi</b>.</li> <li>• Alluri Sitaram Raju, was an Indian revolutionary, who became a monk at the age of 18 and led the <b>Rampa Rebellion</b> in 1922.</li> <li>• The rebellion was to oppose the British Raj for enacting the <b>1882 Madras Forest Act</b>.</li> <li>• The Act heavily limited the tribal group's freedom of movement within their forest habitat and prevented them from practicing a <u>traditional form of agriculture known as podu.</u></li> <li>• In 1924, Raju was taken into police custody, and was executed publicly, effectively ending the armed rebellion.</li> <li>• He was awarded the designation of <b>manyam veerudu</b>, or <b>forest hero</b>, for his courage.</li> </ul>
<b>Guru Tegh Bahadur</b>	<ul style="list-style-type: none"> <li>• The Prime Minister recently gave an address from the <u>Red Fort</u> to mark the <u>401st birth anniversary of Guru Tegh Bahadur.</u></li> <li>• Guru Tegh Bahadur was the <b>ninth of ten gurus</b> in Sikhism. He was born in Amritsar on April 21, 1621 to <u>Mata Nanki and Guru Hargobind</u>, the sixth Sikh guru. As a boy, Tegh Bahadur was called <b>Tyag Mal</b> because of his ascetic nature.</li> <li>• He spent his early childhood in Amritsar under the guidance of <b>Bhai Gurdas</b>, who taught him Gurmukhi, Hindi, Sanskrit, and Indian religious philosophy, while <b>Baba Budha</b> trained him in swordsmanship, archery and horse-riding.</li> <li>• He was only 13 when he distinguished himself in a battle against a Mughal chieftain. <u>His bravery and swordsmanship in the battle earned him the name of</u></li> </ul>

	<p><u>Tegh Bahadur.</u></p> <ul style="list-style-type: none"> <li>• He traveled extensively to preach the teachings of <b>Nanak</b> and contributed many hymns to the Guru Granth Sahib including the Saloks, or couplets.</li> <li>• He is regarded as the <b>saviour guru</b>, as during the reign of the Mughals, there were oppressions in which people were forced to <u>convert to Islam under the Mughal ruler Aurangzeb.</u></li> <li>• In that period of time, he <u>resisted the forced conversions of non-Muslims to Islam.</u></li> <li>• Later, Guru Tegh Bahadur was executed on the orders of Aurangzeb in Delhi in <b>1675</b>. His martyrdom is remembered as the <b>Shaheedi Divas</b> every year on November 24.</li> </ul>
<p><b>Subhas Chandra Bose</b></p>	<ul style="list-style-type: none"> <li>• In order to commemorate 125th birth anniversary of freedom fighter Netaji Subhas Chandra Bose, the government has decided to install his statue at India Gate.</li> <li>• He was born in 1897 in Cuttack.</li> <li>• After completing his education in India, Bose left for London to prepare for the Indian Civil Services exam and cleared it.</li> <li>• He had mixed feelings about working under the British, and eventually resigned in 1921 as a symbol of boycotting the British after the incident of the Jallianwala Bagh massacre.</li> <li>• After returning to India, Bose joined the Indian National Congress (INC) under the influence of Mahatma Gandhi and started the newspaper “Swaraj”.</li> <li>• His attempts to get rid of the British with the help of the <u>Nazi party and Imperial Japan</u> during the time of the 2<sup>ND</sup> world war left him a troubled legacy.</li> <li>• In July 1943, he arrived in Singapore and took over the reins of the Indian Independence Movement started by <b>Rash Behari Bose</b> and organized the <b>Azad Hind Fauj</b> also known as the <b>Indian National Army (INA)</b>.</li> <li>• He died in a plane crash in Taipei, Taiwan in 1945.</li> <li>• In honour of his contribution to the freedom struggle, his birthday anniversary is celebrated as Parakram Diwas. Parakram means Courage.</li> </ul>
<p><b>Sant Ravidas</b></p>	<ul style="list-style-type: none"> <li>• Sant Ravidas Jayanti is observed on <b>Magh Purnima</b>. This year marks the <u>645th birth anniversary</u> of Sant Ravidas.</li> <li>• Born in <b>1377 C.E. in Varanasi</b>, Guru Ravidas was an <u>Indian mystic, poet, social reformer and spiritual guru.</u></li> <li>• Also known by Raidas, Rohidas and Ruhidas - his devotional songs and verses created a lasting impact upon the <b>Bhakti Movement</b>.</li> <li>• He was among the first people to <u>oppose the Indian caste system</u> through his poems and teachings based on spirituality and spread the <u>message of equality.</u></li> <li>• Around 41 poems accredited to Ravidas were included in <b>Adi Granth</b> (sacred scripture of Sikhism).</li> <li>• Guru Ravidas is considered the <u>founder of the Ravidasia religion</u>. He was also known as the <u>spiritual guide of Meera Bai</u>, who is an eminent personality in the sphere of Hindu spiritualism.</li> </ul>
<p><b>Ramanujacharya</b></p>	<ul style="list-style-type: none"> <li>• Prime Minister recently inaugurated the <b>Statue of Equality</b>, a gigantic statue of Ramanujacharya, on the outskirts of Hyderabad.</li> <li>• Born in 1017 in Sriperumbudur in Tamil Nadu, Ramanujacharya is respected as a Vedic philosopher and social reformer.</li> <li>• Ramanuja revived the <b>Bhakti movement</b> and his preachings inspired other Bhakti</li> </ul>

schools of thought. He is considered to be the inspiration for poets like Annamacharya, Bhakt Ramdas, Thyagaraja, Kabir, and Meerabai.

- He went on to write 9 scriptures known as the **navaratnas**, and composed numerous commentaries on Vedic scriptures.
- Ramanuja is also credited with establishing the correct procedures for rituals performed in temples throughout India, the most famous being Tirumala and Srirangam.
- His greatest contribution is the propagation of the concept of **vasudhaiva kutumbakam**, which translates as “All the universe is one family”.
- He spoke of universal salvation through devotion to God, compassion, humility, equality, and mutual respect, which is known as **Sri Vaishnavam Sampradaya**.

## GEOGRAPHY AND ENVIRONMENT

### Rooftop Solar Programme Phase-II

The Ministry of New and Renewable Energy is implementing Rooftop Solar Programme Phase-II for which the guidelines were issued in August 2019.

#### About Phase-II

- The programme will be implemented through DISCOMs. This will lead to ease of access for the consumers.
- Under this Programme **4000 MW** rooftop solar (RTS) capacity addition is targeted in **residential sector** through Central Financial Assistance (CFA).
- Under this scheme, Ministry is providing a 40% subsidy for the first 3 kW and 20% subsidy beyond 3 kW and upto 10 kW of solar panel capacity
- For Residential Welfare Associations and Group Housing Societies, the CFA has been limited to 20% for the RTS plants for power supply to the common facilities with a maximum capacity of 500 kW.
- In addition, incentives up to 10% of the cost of rooftop solar are provided to Distribution Utilities depending upon achievements in capacity addition above baseline.
- The Programme is demand-driven and capacities are allocated based on demand received from Distribution Utilities and other state implementing agencies.

#### Key Objectives of The Programme

- To promote grid connected RTS in all consumer segments, viz., residential, institutional, social, Govt., commercial, industrial etc.
- To bring DISCOMs at forefront as key drivers for rapid deployment of RTS.
- To create awareness, capacity building, human resource development, etc.
- To promote sustainable business models.
- To promote domestic manufacturing of solar cells and module.

### Sujlam 2.0 Campaign

On world water day (23 March), Union Jal Shakti Minister has launched Sujlam 2.0 Campaign.

#### About The Mission

- This mission has been launched for **Grey Water Management**.
- **Nine ministries** sign joint advisory to undertake grey water activities as part of the campaign.
- Under the Campaign, ministries plan to mobilize communities, institutions like panchayats, schools, anganwadi to undertake management through people's Participation.
- Funds under National Health Mission (NHM), MGNREGS and 15<sup>th</sup> Finance Commission may be used to treat greywater at the healthcare centres and the treated water may be reused to recharge the groundwater.
- Creation of individual and community greywater management assets will be encouraged.
- With active participation from all States and local communities, great success was achieved under the Sujlam 1.0 campaign which was started in August 2021. More than 1 million soak pits were built at household and community level across the country.

#### About Grey-water

- It refers to domestic wastewater (generated in households or office buildings) without fecal

contamination (e.g. washing dishes, laundry and bathing).

- Because it contains fewer pathogens, it is generally safe to handle and easy to treat and reuse onsite for toilet flushing, landscape or crop irrigation, and other non-potable uses.
- Every day, 31 billion litres of greywater are generated in India, according to estimates.

### Fly Ash Management and Utilisation Mission

The National Green Tribunal (NGT) directed the constitution of a 'Fly Ash Management and Utilisation Mission.'

- The Mission's primary goal will be to coordinate and monitor issues relating to the handling and disposal of fly ash and associated issues.
- The Mission is to be jointly headed by the secretaries, of the Union Ministry of Environment, Forest & Climate Change (MoEF&CC), Union Ministry of Coal and Power and the Chief Secretaries of Uttar Pradesh and Madhya Pradesh.
- The **secretary of MoEF&CC** will be the nodal agency for coordination and compliance.

*{For more about Fly-ash refer Quick revision Part 1, Page 69}*

### Blend of 15% Green Hydrogen With Piped Natural Gas

Currently, the government is planning to blend 15% green hydrogen with piped natural gas (PNG) for domestic, commercial and industrial consumption.

#### About This Plan

- The move is in line with India's ambitious goals of reducing greenhouse gas emissions and becoming carbon neutral by 2070.
- This initiative will be part of the government's **National Hydrogen Energy Mission** with an aim to generate hydrogen from green energy sources.
- The government will bring green hydrogen under **renewable purchase obligation (RPO)**. It means that bulk buyers such as DISCOMs and captive users have to buy a certain proportion of renewable energy (RE) out of their total power requirement.
- Like RPO, a similar mechanism will be created for hydrogen and it will be called hydrogen purchase obligation (HPO).
- The HPO will cover industries like oil refineries and fertiliser plants, which use grey hydrogen. HPO is likely to come from 2023.

#### Challenges With This Plan

- On the pipeline front, hydrogen embrittlement can weaken metal or polyethylene pipes and increase leakage risks, particularly in high-pressure pipes.
- **Lack of Infrastructure:** Because hydrogen is highly flammable & much less dense than gasoline, it is difficult to transport. It either needs to be cooled to -253 degree C to liquefy it, or it needs to be compressed to 700 times atmospheric pressure so it can be delivered as a compressed gas.

*{For more about green hydrogen refer Quick Revision Part-1, Page 217}*

### Bioenergy Crops

According to a new study, converting annual crops to perennial bioenergy crops can induce a cooling effect on the areas where they are cultivated. Eucalyptus, poplar, willow, miscanthus and switchgrass were the bioenergy crops used in the study.

**Finding Of The Study**

- Cultivation area under bioenergy crops occupies  $3.8\% \pm 0.5\%$  of the global total land area.
- But they exert strong regional biophysical effects, leading to a global net change in air temperature of  $-0.08 \sim +0.05$  degrees Celsius.
- Global air temperature decreases by  $0.03-0.08\text{ }^{\circ}\text{C}$ , with strong regional contrasts and inter-annual variability, after 50 years of large-scale bioenergy crop cultivation.
- Strong cooling effects in Eurasia, between  $60^{\circ}\text{N}$  and  $80^{\circ}\text{N}$ , may protect permafrost from thawing or reduce methane emissions from wetlands

**About Bioenergy Crops**

- These include specific plants that are grown and maintained at lower costs for biofuel production.
- Wheat, corn, main edible oilseeds/oils, sugarcane, and other crops are among them.
- These crops increase soil carbon and fix atmospheric carbon.
- They could be used for the phyto-remediation of heavy metal-contaminated soils.

**Chilika Lake**

- Recently, the **Water Bird Status Survey -2022** was conducted in Chilika lake.
- The census was undertaken jointly by the Odisha State Wildlife Organisation, the Chilika Development Authority (CDA) and the Bombay Natural History Society (BNHS).
- 10,74,173 water birds (107 species) and 37,953 individuals (76 wetland dependent species) were counted in the entire lagoon.

**About Chilika Lake**

- It is Asia's **largest** and **world's second-largest** brackish water lagoon after The New Caledonian barrier reef. It is the biggest lake of India after Vembanad Lake. It has been listed as a tentative UNESCO World Heritage site.
- It is located at the mouth of Daya River, flowing into the Bay of Bengal, covering an area of over 1,100 km<sup>2</sup>.
- In 1981, it was designated the **first Indian wetland** of international importance under Ramsar Convention.
- It is the largest wintering ground for migratory birds on the Indian sub-continent.
- The large **Nalabana Island (Forest of Reeds)** covering about 16 sq km in the lagoon area was declared a **bird sanctuary** in 1987.
- **Kalijai Temple** - Located on an island in the Chilika Lake.

**Asian Waterbird Census (AWC)**

- It is an integral part of the global waterbird monitoring programme, the International Waterbird Census (IWC), coordinated by **Wetlands International**. AWC is held in January every year.
- The major regions covered under AWC are Southeast Asia, Australasia, East Asian – Australasian Flyway, region between Afghanistan and Japan.
- It was initiated in 1987 in the Indian subcontinent.
- In India, AWC is jointly coordinated by the Bombay Natural History Society (BNHS) and Wetlands International. During the census, the volunteers visit the wetlands and count the waterbirds.

**Kerala Gets Its First Ever Scientific Bird Atlas**

The first-of-its-kind, State-level bird atlas in India has been created with Kerala Bird Atlas (KBA).

- KBA has created solid baseline data about the distribution and abundance of bird species across all major habitats, giving an impetus to futuristic studies.
- KBA has been conducted as a citizen science-driven exercise with the participation of over 1,000 volunteers of the bird-watching community.
- The KBA accounts for nearly three lakh records of 361 species, including 94 very rare species, 103 rare species, 110 common species, 44 very common species, and 10 most abundant species.

### Pangong Tso

China is constructing a new bridge in eastern Ladakh connecting the north and south banks of Pangong Tso lake and closer to the LAC (Line of Actual Control).

#### About Pangong Tso lake

- It is an endorheic lake located in eastern Ladakh and western Tibet at an altitude of 4,225 m.
- It is 134 km long and divided into five sub-lakes.
- More than 2/3<sup>rd</sup> of the lake is under Chinese control.
- During winter the lake freezes completely, despite being saline water.
- The lake is in the process of being identified under the Ramsar convention as a wetland of international importance.

### Reserved Forest/Sanctuary/ Tiger Reserve/ National Parks In News

<b>Behali Reserved Forest</b>	<p>The team of researchers working in the Behali Reserve Forest located the carcasses of five primates, believed to be capped langurs. Presumably these were killed by poachers for their skin, bones and tails.</p> <p><b>About Behali Reserve Forest</b></p> <ul style="list-style-type: none"> <li>• Located in the Biswanath district of Assam in the foothills of the Eastern Himalayas, it was declared as a reserved forest in 1917. It is a part of the greater Sonitpur Elephant Reserve.</li> <li>• It lies between the two famous protected areas, the <b>Nameri National Park</b> on its west and <b>Kaziranga National Park</b> on its south.</li> <li>• It is also recognized as an Important Bird Area in 1994 and a Key Biodiversity Area in 2004.</li> <li>• Borgang and Buroi are the main tributaries flowing through Behali Reserve Forest and drains in the Brahmaputra.</li> </ul>
<b>Orang National Park</b>	<p>The government is pursuing a policy for the reintroduction of the gharial in the orang national park.</p> <ul style="list-style-type: none"> <li>• It is located on the northern bank of the Brahmaputra River in the Darrang and Sonitpur districts of Assam. It was established as a sanctuary in 1985 and declared a national park in 1999.</li> <li>• The Park has a rich flora and fauna, including great Indian rhinoceros, pygmy hog, Asian elephant, Bengal tiger and many more.</li> </ul>
<b>Asola Bhatti Wildlife Sanctuary</b>	<ul style="list-style-type: none"> <li>• It lies on Delhi-Haryana border, covering 32.71 km<sup>2</sup> area on the southern Delhi Ridge of Aravalli hill range.</li> <li>• It is the part of the Northern Aravalli leopard wildlife corridor, which starts from the Sariska National Park in Rajasthan and ends at Delhi Ridge.</li> <li>• This is an important habitat for the Indian leopard, Sambar deer, hog deer, nilgai,</li> </ul>

	<p>blackbuck and spotted deer.</p> <ul style="list-style-type: none"> <li>• Bird species include the Booted Eagle, Greater Spotted Eagle, Steppe Eagle, Egyptian Vulture, and Black-Winged Kite.</li> </ul>
<b>Pench Tiger Reserve</b>	<p>Tigress named Collarwali, also known as the queen of Pench and a Super Mom who birthed 29 cubs, died at Pench Tiger Reserve.</p> <p><b>About Pench Tiger Reserve</b></p> <ul style="list-style-type: none"> <li>• It lies in the southern slopes of the <b>Satpura range</b> on the southern border of Madhya Pradesh. It derives its name from the River Pench.</li> <li>• It was declared a National Park by the Government of Maharashtra in 1975. It received the official status of Tiger Reserve of India in February 1999.</li> <li>• It is spread over two states, the Seoni and Chhindwara districts of Madhya Pradesh and Nagpur district of Maharashtra.</li> </ul> <p><b>Other 5 Tiger Reserves In Madhya Pradesh</b></p> <div style="text-align: center;"> </div>
<b>4th Tiger Reserve Of Rajasthan</b>	<p>National Tiger Conservation Authority (NTCA) has given the nod to Ramgarh Vishdhari Sanctuary of Rajasthan for the Tiger Reserve.</p> <p><b>About Ramgarh Vishdhari Tiger Reserve (RVTR)</b></p> <ul style="list-style-type: none"> <li>• The 1,052.12 sq. km RVTR in Bundi district will be Rajasthan's fourth tiger reserve and 52nd for the nation.</li> <li>• The RVTR will link the Ranthambore Tiger Reserve in the Northeast and the Mukundra Hill Tiger Reserve on the Southern side.</li> <li>• Other three tiger reserves of Rajasthan are Ranthambore Tiger Reserve (RTR) in Sawai Madhopur, Sariska Tiger Reserve (STR) in Alwar, and Mukundra Hills Tiger Reserve (MHTR) in Kota.</li> </ul>
<b>BRT Tiger Reserve</b>	<p>The tiger estimation is underway at Biligiri Ranganathaswamy Temple (BRT) Tiger Reserve.</p> <ul style="list-style-type: none"> <li>• BRT is located in Chamarajanagar district of Karnataka State.</li> <li>• The habitat is situated in the middle of the bridge between the Western Ghats and the Eastern Ghats.</li> <li>• It derives its name from the white rocky cliff on the top of which is a temple of Lord VISHNU locally known as Rangaswamy. The site was declared as a Tiger Reserve in 2011. In 2018 Census, 52-80 tigers were found.</li> </ul>
<b>Density of Tigers in Sunderbans</b>	<p>Preliminary findings of a study by the Wildlife Institute of India (WII) suggest that the density of tigers in the Sunderbans may have reached the carrying capacity.</p> <p><b>About Carrying Capacity</b></p> <ul style="list-style-type: none"> <li>• The carrying capacity of an environment is the maximum population size of a biological species that can be sustained by that specific environment, given the food, habitat, water, mates and other resources available. It can be defined as the average population size of a species in a particular habitat.</li> <li>• If these needs are not met, the population will decrease until resources are replenished.</li> </ul> <p><b>Findings</b></p> <ul style="list-style-type: none"> <li>• Availability of food and space is the primary factor that determines how many tigers a forest can hold.</li> </ul>

	<ul style="list-style-type: none"> <li>• There is even a simple linear regression explaining the relationship in the 2018 All-India Tiger report that put the carrying capacity in the Sunderbans at around 4 tigers per 100 sq km</li> <li>• A joint India-Bangladesh study in 2015 estimated tiger density at 2.85 per 100 sq km after surveying eight blocks spread over 2,913 sq km across international borders in the Sundarbans.</li> <li>• The ongoing WII study indicates a density of 3-5 tigers per 100 sq km in the Sunderbans.</li> <li>• 88 tigers were estimated in 2,313 sq km of the Sundarbans in 2018.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <li>• In the Terai and Shivalik hills habitat — eg. Corbett tiger reserve— 10-16 tigers can survive in 100 sq km.</li> <li>• This slides to 7-11 tigers per 100 sq km in the reserves of north-central Western Ghats such as Bandipur, and to 6-10 tigers per 100 sq km in the dry deciduous forests, such as Kanha, of central India.</li> </ul> </div>
<p><b>Kaziranga Become Net Carbon Emitter</b></p>	<p>According to the latest research, Kaziranga national park is releasing more carbon than it is absorbing.</p> <p><b>How Kaziranga National Park Become Net Emitter</b></p> <ul style="list-style-type: none"> <li>• The soil of Kaziranga is home to a large population of <b>bacteria</b> that release carbon dioxide as they breathe, which adds to the carbon dioxide being emanated by other organisms.</li> <li>• The <b>photosynthetic activity of trees during monsoon decreases</b> due to increased cloud cover. Hence, the ability of the forest to absorb carbon dioxide also decreases.             <ul style="list-style-type: none"> <li>✓ The situation remains the same during the post-monsoon and winter months, making the forest a net carbon emitter.</li> </ul> </li> <li>• There is a decreasing trend in the rainfall coming from the <b>transpired water</b> in the pre-monsoon months which are responsible for the highest carbon absorption.             <ul style="list-style-type: none"> <li>✓ Transpiration is a process that involves loss of water vapour through the <b>stomata of plants</b>.</li> <li>✓ Stomatal openings are necessary to admit carbon dioxide to the leaf interior and to allow oxygen to escape during photosynthesis</li> </ul> </li> <li>• As the planet warms further, the ability of the park to absorb carbon would further decrease.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>About Kaziranga National Park</b></p> <ul style="list-style-type: none"> <li>• It is spread across the floodplains of the Brahmaputra River, in the state of Assam.</li> <li>• It has been declared as <b>national park in 1974</b> and was a <b>UNESCO world heritage site in 1985</b>.</li> <li>• It has been also declared as a <b>tiger reserve in 2007</b>.</li> <li>• It also recognized as an Important Bird Area by <b>BirdLife International</b>.</li> <li>• It is inhabited by the world's largest population of <u>one-horned rhinoceroses</u>, as well as many mammals, including tigers, elephants, panthers and bears, and thousands of birds.</li> <li>• <b>Pobitora Wildlife Sanctuary</b> has the <b>highest density</b> of one-horned rhinos in the world and second highest <b>number of Rhinos</b> in Assam after Kaziranga National Park</li> </ul> </div>
<p><b>Vedanthangal Bird Sanctuary</b></p>	<p>Environment Ministry's Expert Appraisal Committee has recommended grant of environment clearance for Sun Pharmaceuticals Industries Ltd.'s expansion project in Tamil Nadu's Madurantakam taluk, around 3.7 km from the Vedanthangal Bird Sanctuary.</p> <p><b>About Vedanthangal Bird Sanctuary</b></p> <ul style="list-style-type: none"> <li>• It is a protected area located in the Madurantakam taluk of Chengalpattu District.</li> </ul>

- The British government took steps to develop Vedanthangal as a bird sanctuary as early as 1798. It was established in 1858 by order of the Collector of Chengalpattu.
- More than 40,000 birds, from various parts of the world visit the sanctuary during the migratory season every year. It is home to the pintail, gargantuan, gray wagtail, blue-winged teal, common sandpiper and similar migratory birds.

**19th Meeting of NTCA**

The 19th Meeting of National Tiger Conservation Authority (NTCA) was held under the chairmanship of Union Minister for Environment, Forest & Climate Change.

**Outcomes Of The Meeting**

- Tiger continues to be an endangered species.
- The air gun problem in north eastern states is an issue that's why states & UT should organising awareness program so that people can surrender their airguns.
- As part of effective regulation of tourism activity in the Tiger Reserves, there should be one core area which should be sacrosanct and vehicular movement in the reserve being one way.
- The minister also released a Water Atlas, mapping all the water bodies in the tiger bearing areas of India & unveiled the Action Plan for introduction of Cheetah in India.

**About National Tiger Conservation Authority**

- NTCA is a statutory body, under the Chairmanship of the Minister for Environment and Forests.
- It was established in December 2005 following a recommendation of the Tiger Task Force.
- It was constituted under enabling provisions of the Wildlife (Protection) Act, 1972, as amended in 2006 & sets standards, guidelines for tiger conservation in tiger reserves, national parks and sanctuaries.

*{For Introduction of Cheetah in India, refer Quick Revision part 1, Page 42}*

**4th Asia Ministerial Conference on Tiger Conservation**

- It was organised by the Government of Malaysia and the Global Tiger Forum (GTF).
- At the conference, 13 Tiger Range Countries (TRC) adopted the **Kuala Lumpur Joint Statement on Tiger Conservation**, which emphasised joint commitments towards tiger conservation.
- The 13 TRC consist of Malaysia, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Laos, Myanmar, Nepal, Russia, Thailand, and Vietnam
- The conference is an important event for reviewing progress towards the Global Tiger Recovery Programme and commitments to tiger conservation.
- The 3rd Asia Ministerial Conference on Tiger Conservation was held in New Delhi, India.

**India's Progress On Tiger Conservation**

- India has achieved the remarkable feat of doubling the tiger population in 2018 itself, 4 years ahead of the targeted year 2022.
- Budgetary allocation for tiger conservation has increased from Rs 185 crore in 2014 to Rs 300 crore in 2022.
- 14 Tiger Reserves in India have already been awarded with international CA|TS accreditation.
- ~4.3 million man-days of employment are being generated by 51 Tiger Reserves in India.
- Funds from Compensatory Afforestation Fund Management and Planning Authority (CAMPA) are being utilized for promoting voluntary village resettlement from core areas of the Tiger Reserves.

**About Global Tiger Forum (GTF)**

- It is an Inter-Governmental international body working exclusively for conservation of Tigers.
- It was established in 1994. Its headquarters in New Delhi.
- The General Assembly of GTF meets after every three years.

**Weather Hazard And Vulnerability Atlas**

India Meteorological Department (IMD) launches India’s 1st weather hazard and vulnerability atlas.

**About This Atlas**

- It is developed by the scientists at Climate Research and Services (CRS) office of the IMD, Pune.
- It is based on 14 extreme weather events and the risks they pose to the local population, livelihoods and economy of each district. It provides month – wise hazard levels of each district.
- **Section ‘Climate Hazard Map’** includes maps on dust storm, hailstorm, thunderstorm, fog, lightning, wind hazard, extreme rainfall events, drought, and cyclone.
- **‘Climate Vulnerability Map’ section** has maps/information/data for cold wave, heat wave, floods, and snowfall.
- It has 640 maps which provide a range of vulnerability with risks ranging from nil, low, moderate, high and very high categories for every Indian district.
- Each weather phenomenon’s **month-wise** hazard levels posed to the respective district has been enlisted in this one-of-its-kind atlas.

*{For details on Climate vulnerability index refer Quick Revision Part 1, Page 60}*

**The Enigma**

- Recently, 555.55-carat black diamond called “The Enigma” was unveiled in Dubai.
- It is believed to have come from outer space.
- The cosmic origin theory is based on their carbon isotopes and high hydrogen content.
- Black diamonds, also known as carbonado, are extremely rare, and are found naturally only in Brazil and Central Africa.

**Species in News**

**Red Sanders**



Recently, the Red Sanders has fallen back into the ‘**endangered**’ category in the IUCN Red List.

**About Red Sanders (Red Sandalwood)**

- It is **endemic** to the southern Eastern Ghats Mountain range of South India.
- They usually grow in the rocky, degraded and fallow lands with Red Soil and a hot and dry climate.
- It was classified as ‘near threatened’ in 2018 in IUCN red list & is listed under Appendix II of CITES.

**Uses:** Known for its therapeutic properties and are in high demand for its cosmetic and medicinal properties, it is also used to make furniture.

**Threats:** Over-exploitation and degradation to habitat through altered land use and the spike disease.

	<p><b>Sandalwood Spike Disease</b></p> <ul style="list-style-type: none"> <li>• It is an infectious disease which is caused by phytoplasmas which are bacterial parasites of plant tissues transmitted by insect vectors and involved in plant-to-plant transmission.</li> <li>• There is no cure as of now for the infection. There is no option but to cut down and remove the infected tree to prevent the spread of the disease.</li> <li>• The disease was first reported in Kodagu, Karnataka in 1899.</li> <li>• More than a million sandalwood trees were removed in the Kodagu and Mysore region between 1903 and 1916</li> </ul>
<p><b>Icefish</b></p> 	<p>Scientists have discovered a <u>massive breeding colony</u> of icefish in <b>Antarctica's southern Weddell Sea</b>.</p> <p><b>Significance Of This Discovery</b></p> <p>The discovery of the nests contributes to scientists' understanding of the icefish life cycle. It raises even more questions, how often are the nests built, and reused? Do the fish die after the eggs hatch? The findings reveal a globally unique ecosystem.</p> <p><b>About Ice Fish</b></p> <ul style="list-style-type: none"> <li>• Sometimes called crocodile icefish because of the shape of the snout.</li> <li>• They are also called white-blooded fish, because they <b>lack red blood cells and haemoglobin</b>.</li> <li>• Icefish have larger hearts and gill blood vessels to circulate a greater volume of blood, and this extracts sufficient oxygen from the oxygen-rich waters.</li> <li>• They were found at a depth of 90 metres to 200 metres.</li> </ul>
<p><b>Clouded Leopard</b></p> 	<p>Researchers have recorded photographic evidence of the clouded leopards at an elevation of 3,700 metres in the community forest of in eastern Nagaland.</p> <p><b>About Clouded Leopard</b></p> <ul style="list-style-type: none"> <li>• They are named so because they have large dusky-grey blotches and irregular spots and stripes reminiscent of clouds.</li> <li>• It is listed as <b>Vulnerable</b> on the IUCN Red List and listed in Schedule I of the Indian Wildlife (Protection) Act, 1972</li> <li>• They inhabit dense forests from the foothills of the Himalayas through mainland Southeast Asia into South China.</li> <li>• It is the State animal of the state Meghalaya in India.</li> </ul>
<p><b>Oriental Darter</b></p> 	<p>Recently, the ringing of oriental darters has been taken up to monitor seasonal floatation in bird movement in the Keoladeo National Park after a gap of 22 years.</p> <p><b>About Oriental Darter</b></p> <ul style="list-style-type: none"> <li>• It is a water bird of tropical South Asia and Southeast Asia.</li> <li>• It has a long and slender neck which looks like a snake when it swims and dives into water to catch a fish.</li> <li>• These birds are found mainly in freshwater lakes and streams.</li> <li>• It has been classified as <b>Near-threatened in IUCN) red list</b>.</li> </ul> <p><b>About Keoladeo National Park</b></p> <ul style="list-style-type: none"> <li>• Formerly known as the Bharatpur Bird Sanctuary, Rajasthan</li> <li>• It became a bird sanctuary in the year 1976 and then became a Ramsar site in the</li> </ul>

	<p>year 1981.</p> <ul style="list-style-type: none"> <li>It was declared a national park in 1982 and then later tagged as a World Heritage Site by UNESCO in 1985.</li> </ul>
<p><b>Fimbristylis Sunilii</b></p> 	<ul style="list-style-type: none"> <li>It is a perennial plant. It stands 20-59 cm tall and was collected from an elevation of 1,100 metres.</li> <li>It has been provisionally assessed as data deficient (DD) under the <b>IUCN Red List categories</b>.</li> <li>It has been named after plant taxonomist C.N. Sunil, retired professor and research guide of Botany, SNM College. It is being reported in <b>Western Ghats region</b>.</li> </ul>
<p><b>Neanotis prabhuii</b></p> 	<ul style="list-style-type: none"> <li>It is a prostrate perennial herb, and grows on high altitude grasslands.</li> <li>It grows up to 70 cm in length and is many-flowered with the petals pale pink in colour.</li> <li>It has been categorised as data deficient (DD) in the absence of any detailed observations and data on populations.</li> <li>It has been named after K.M. Prabhukumar, Senior Scientist at CSIR-NBRI, Lucknow.</li> </ul>
<p><b>Monoceromyia flavoscutata</b></p> 	<ul style="list-style-type: none"> <li>M. flavoscutata, discovered from Thadiyankudisai in Dindigul district, Tamil Nadu.</li> <li>It was named after its yellow-coloured thoracic ends.</li> <li>It can be differentiated from the closely resembling species based on the colouration of the thorax and the wing vein characters.</li> <li>It is wasp-like flower flies from north-eastern India and the Western Ghats.</li> </ul>
<p><b>Monoceromyia nigra</b></p> 	<ul style="list-style-type: none"> <li>M. nigra discovered from West Siang of Basar district of Arunachal Pradesh.</li> <li>Differed from the other species based on thoracic, abdominal and facial colouration and wing vein character.</li> <li>It was named as nigra based on the black-coloured thorax.</li> <li>It is wasp-like flower flies from north-eastern India and the Western Ghats.</li> </ul>
<p><b>Sloth Bear</b></p> 	<p>India's oldest sloth bear, fondly named Gulabo, died at the age of 40 at the Van Vihar National Park in Bhopal.</p> <p><b>About Sloth bear</b></p> <ul style="list-style-type: none"> <li>The sloth bear is divided into two subspecies, <i>Melursus ursinus</i> and <i>Melursus inornatus</i>.</li> <li>Sloth Bear (<i>Melursus ursinus</i>) is native to the Indian subcontinent and the other species found in Nepal, Bhutan and Sri Lanka.</li> <li>Sloth Bears are myrmecophagous, which means that they eat ants and termites. They also feed on fruits and honey.</li> <li>They are solitary creatures and generally nocturnal.</li> <li>It is listed as Vulnerable on the IUCN Red List.</li> <li>The Daroji Sloth Bear Sanctuary is Asia's first dedicated sanctuary for Sloth Bears. Established in 1994 in Karnataka.</li> </ul> <p><b>Threats</b></p> <ul style="list-style-type: none"> <li>Poaching for the bears' gallbladder, which is used in traditional medicine.</li> <li>Habitat loss and fragmentation are also severe threats.</li> </ul>

	<ul style="list-style-type: none"> <li>Cubs may face risks from predators such as tiger, leopard and wolves.</li> </ul>
<b>Denison Barb</b>	<p>Denison barb (Miss Kerala) has been included in <b>Schedule I</b> of the Wild Life (Protection) Amendment Bill, 2021.</p> <p><b>About Denison Barb</b></p> <ul style="list-style-type: none"> <li>It a native freshwater fish species commonly found in parts of Karnataka and Kerala.</li> <li>The fish is featured with red and black stripes on its body.</li> <li>IUCN Red list: Endangered.</li> <li>This species is known to inhabit fast-flowing hill streams and is often found in rocky pools with thick vegetation along river banks.</li> <li>It is commonly seen in the aquarium trade. Pet collection caused it to become endangered and is its single major threat.</li> </ul>
<b>Eastern Swamp Deer</b>	<ul style="list-style-type: none"> <li>The population of eastern swamp deer, has dipped in Kaziranga National Park and Tiger Reserve from 907 individuals in 2018 to 868 due to two high floods in 2019 -20.</li> <li>Eastern swamp deer has now been distributed to areas beyond the Kaziranga National Park, such as Orang National Park and Laokhowa-Burachapori wildlife sanctuaries (Assam)</li> </ul> <p><b>About Eastern Swamp Deer</b></p> <ul style="list-style-type: none"> <li>It is one of the three subspecies of swamp deer, commonly known as the (barasingha). It is endemic to Kaziranga, Assam.</li> <li>They inhabit swampy grasslands and floodplains in the Indian sub-continent.</li> <li>They are already extinct in Pakistan and Bangladesh.</li> <li>It is listed as <b>Vulnerable</b> in IUCN red list &amp; Schedule I in wildlife protection act, 1972.</li> <li>There are three subspecies of swamp deer found, the western swamp deer found in Nepal, southern swamp deer found in central and north India and eastern swamp deer found in the Kaziranga and Dudhwa National Parks.</li> </ul>
<b>Spot-billed Pelicans</b>	<p>The Mass death of spot-billed pelican is due to parasitic (nematode) infestation at the Telinelapuram Important Bird Area (IBA) in the Naupada swamp in Andhra Pradesh.</p> <p><b>About Spot-billed Pelicans</b></p> <ul style="list-style-type: none"> <li>The spot-billed pelican also known as grey pelican is a member of the pelican family.</li> <li>It breeds in southern Asia from southern Iran across India east to Indonesia.</li> <li>They live in lowland freshwater, brackish, and marine wetland areas of Southeast Asia, mainly near open water.</li> <li>Near Threatened in IUCN Red List and Schedule IV of the Wildlife (Protection) Act, 1972 (WPA).</li> </ul>

<p><b>Koala</b></p> 	<ul style="list-style-type: none"> <li>The Australian government declared it as Endangered.</li> <li>The koala has suffered greatly in recent years due to habitat loss, disease and most of all, bushfires and hunting for their fur.</li> <li>They are an arboreal herbivorous marsupial native to Australia.</li> <li>They are listed as <b>Vulnerable in IUCN Red List Status</b>.</li> </ul>
<b>Indian Gaur</b>	<ul style="list-style-type: none"> <li>Indian gaur also known as Indian bison is one of the largest extant bovines, native to South and Southeast Asia.</li> <li>They are found in evergreen forests or semi-evergreen and deciduous forests.</li> </ul>

	<ul style="list-style-type: none"> <li>Listed as <b>Vulnerable</b> in IUCN red list and in <b>Schedule I of Wild Life Protection Act, 1972.</b></li> <li>It is the <b>State Animal of Goa and Bihar.</b></li> </ul>
<p><b>Crimson Rose Butterfly</b></p> 	<ul style="list-style-type: none"> <li>It is a large butterfly with a mix of black, white and crimson colours on its wings and body.</li> <li>It is known to migrate along the coast, inland and crosses the sea often.</li> <li>This species found in India, Sri Lanka, Myanmar, and Bangladesh.</li> <li>It is listed as the <b>Least Concern in IUCN Red List</b> and in <b>Schedule I of Wildlife (Protection) Act, 1972.</b></li> </ul>
<p><b>Cyrtodactylus Exercitus</b></p> 	<ul style="list-style-type: none"> <li>Researchers have discovered a new species of gecko belonging to the family of Cyrtodactylus exercitus from Meghalaya.</li> <li>The name was given to honour the Indian army for its service to the nation, (in Latin, exercitus means army).</li> <li>The English name of the species was given as Indian army's bent-toed gecko.</li> <li>New gecko species is strictly <b>nocturnal species.</b></li> <li>India is now home to 40 species of the bent-toed gecko with the northeast accounting for 16 of them.</li> </ul>
<p><b>Colorado Blue Columbines</b></p> 	<ul style="list-style-type: none"> <li>It is a species of flowering plant, native to the Rocky Mountains, USA.</li> <li>It is a herbaceous perennial plant often found at elevations of 2,100 to 3,700 m.</li> <li>It is used as an ornamental plant in gardens.</li> </ul>
<p><b>Scomberoides pelagicus</b></p> 	<ul style="list-style-type: none"> <li>A new carangid (Vatta) species identified from the Indian coast.</li> <li>It belongs to the 'queen fish' group and is named scomberoides pelagicus. Locally known as pola vatta.</li> <li>There are over 60 species of carangids (family of ray-finned fish) in the Indian seas.</li> <li>The newly-described one is the fifth queen fish from the Indian waters.</li> </ul>
<p><b>Neuroterus Valhalla</b></p> 	<ul style="list-style-type: none"> <li>Researchers have discovered a wasp species called Neuroterus Valhalla.</li> <li>The scientists are yet to find the male member of the species.</li> <li>The species are spread in the US and Mexico.</li> <li>The wasp is about a millimeter long and is does not sting.</li> </ul>
<p><b>New genus of a parasitic Flowering plant</b></p> 	<ul style="list-style-type: none"> <li>It has been discovered from the Nicobar group of islands.</li> <li>The genus Septemeranthus grows on the plant species Horsfieldia glabra (Blume) Warb.</li> <li>It has a distinct vegetative morphology, inflorescence architecture and floral characters.</li> <li>It is endemic only to the Nicobar group of islands.</li> <li>They play an important role as they provide food for frugivorous birds.</li> </ul>
<p><b>Dugong</b></p>	<ul style="list-style-type: none"> <li>The Tamil Nadu government has decided to go ahead with the establishment of India's first conservation reserve for dugong in the Gulf of Mannar, the Palk Bay.</li> <li>It is also known as Sea Cow, which is a herbivorous marine mammal.</li> </ul>

	<ul style="list-style-type: none"> <li>• They are found in over 30 countries and in India are seen in the Gulf of Mannar, Gulf of Kutch, Palk Bay, and the Andaman and Nicobar Islands.</li> <li>• It is listed as Vulnerable in the IUCN Red List and Schedule I in the Wild life protection act 1972.</li> <li>• <b>Threats:</b> Dugongs graze on seagrass and the loss of seagrass beds due to ocean floor trawling is one of the most important factors behind decreasing dugong populations. Dugong meat is consumed under the wrong impression that it cools down human body temperature</li> </ul>
<p><b>Maxillaria anacatalina-portillae</b></p> 	<ul style="list-style-type: none"> <li>• Scientists have described a new species of the Neotropical orchid from cloud rainforests of northern Ecuador.</li> <li>• This plant is unique with its showy, intense yellow flowers.</li> <li>• Based on the small number of known populations and restricted area of distribution, it should be classified as Critically Endangered in the IUCN Red list.</li> </ul>
<p><b>Glycosmis Albicarpa</b></p> 	<ul style="list-style-type: none"> <li>• Scientists from the Botanical Survey of India (BSI) have discovered a new gin berry species from the <b>Kanyakumari Wildlife Sanctuary</b> in Tamil Nadu.</li> <li>• The species has a distinct large white fruit.</li> <li>• It is endemic to the southern Western Ghats.</li> <li>• The species belongs to the orange family, Rutaceae.</li> <li>• Many of the related plants of these taxonomic groups are being utilised for their <b>medicinal values</b> and food.</li> </ul>
<p><b>Indian Grey Hornbill</b></p> 	<ul style="list-style-type: none"> <li>• The forest department has released 20 Indian grey hornbills in three batches.</li> <li>• It is a common hornbill found on the Indian subcontinent.</li> <li>• It is mostly arboreal and has grey feathers all over the body.</li> <li>• It is listed as Least Concern in the IUCN red list.</li> <li>• They are threatened primarily by habitat loss in the city and the cutting down of large trees.</li> </ul>

<p><b>Syllipsimopodi Bideni</b></p> 	<ul style="list-style-type: none"> <li>• Scientists said a fossil named Syllipsimopodi bideni represents the oldest known relative of today's octopuses and boasts 10 arms.</li> <li>• Syllipsimopodi represents the only member of the octopus lineage with 10 arms, meaning two were lost in later evolution.</li> <li>• It is about 12 cm long, had a torpedo shaped body and squid like appearance though it was not closely related to squids.</li> </ul>
<p><b>Halari Donkey</b></p> 	<ul style="list-style-type: none"> <li>• It is native to Saurashtra region in Gujarat.</li> <li>• Currently it is an <b>endangered species</b>. A 2015 survey found that 1200 individuals of the breed were present. However, in a recent survey conducted in 2021-22, this number has come down to 439 people.</li> </ul>
<p><b>Sawfish</b></p> 	<ul style="list-style-type: none"> <li>• Also known as carpenter sharks, they have a long-flattened head and body and an elongated snout, much like that of the saw shark.</li> <li>• The species can grow more than seven metre in length.</li> <li>• Their long-flattened snouts (or saws) with tooth-like edges make them vulnerable to</li> </ul>

	<p>fishing nets.</p> <ul style="list-style-type: none"> <li>According to IUCN, all 7 species of sawfish are listed as <b>Critically Endangered</b>.</li> </ul>
<p><b>Himalayan Griffon Vulture</b></p> 	<ul style="list-style-type: none"> <li>The Himalayan vulture or Himalayan griffon vulture is an Old World vulture native to the Himalayas and the adjacent Tibetan Plateau.</li> <li>It is listed as <b>Near Threatened</b> on IUCN Red List.</li> <li>They are susceptible to poisoning induced by <b>diclofenac</b>, a drug whose residues are in carcasses of domestic animals.</li> </ul>
<p><b>Spotted Deer</b></p> 	<ul style="list-style-type: none"> <li>Also known as chital, chital deer, and axis deer.</li> <li>It is sexually dimorphic, males are larger than females, and antlers are present only on males.</li> <li>The upper parts are golden to rufous, completely covered in white spots.</li> <li>It is listed as <b>least concern</b> on the IUCN Red List and under Schedule III of the Indian Wildlife Protection Act (1972).</li> </ul>
<p><b>Drosophila Melanogaster</b></p> 	<ul style="list-style-type: none"> <li>It is a species of fly, which is a common pest in homes, restaurants, and other places where food is served.</li> <li>The species is often referred to as the fruit fly, or less commonly the vinegar fly or pomace fly.</li> <li>Its geographic range includes all continents, including islands.</li> </ul>
<p><b>Rough-toothed Dolphin</b></p> 	<ul style="list-style-type: none"> <li>It is a species of dolphin that can be found in deep warm and tropical waters around the world. Their common name was based on the ridges found on their teeth, which are unique to this species.</li> <li>These small members of the dolphin family usually travel in small, tight-knit groups of two to 20 individuals.</li> <li>It is listed as <b>Least Concern</b> on the IUCN Red List.</li> </ul>

<p><b>Kangaroo</b></p> 	<ul style="list-style-type: none"> <li>Kangaroos are <b>marsupials</b>, meaning that they give birth to <u>undeveloped babies after approximately 30 days</u>.</li> <li>They are very social and live in mobs of up to 50 individuals.</li> <li>They have very powerful <b>hind legs</b>, helping them to hop at high speeds. They also <u>use their strong tail to help them balance</u>.</li> <li>These species are native to Australia and listed as <b>Least Concern</b> on the <b>IUCN Red List</b>.</li> </ul>
<p><b>Poppy</b></p> 	<ul style="list-style-type: none"> <li>A poppy is herbaceous annual, biennial or short-lived flowering plant.</li> <li>Most poppies are found in the Northern Hemisphere, and several species of poppies are cultivated as garden ornamentals.</li> <li>One species of poppy, <i>Papaver somniferum</i>, is the source of the narcotic drug <b>opium</b>.</li> <li>It also produces edible seeds.</li> </ul>
<p><b>Ganoderma Lucidum</b></p> 	<ul style="list-style-type: none"> <li>It is a medicinal mushroom in use for centuries to heal diseases like <u>diabetes, cancer, inflammation, ulcer as well as bacterial and skin infections</u>.</li> <li>The mushroom is shiny red-brown in colour and naturally grows on wood.</li> <li>They have earned nicknames such as <u>mushroom of immortality, celestial herb and auspicious herb</u>. It is also known globally as <b>red reishi mushroom</b>.</li> </ul>

<p><b>Indian Tent Turtle</b></p> 	<ul style="list-style-type: none"> <li>This species is native to India, Nepal and Bangladesh. Its habitats include stagnant water pools along the river and slow-flowing water along the river.</li> <li>Due to the attractive appearance of the species, they are traded illegally in the pet market.</li> <li>It is listed as <b>least concern</b> in the IUCN Red List and <b>Schedule I</b> of the Wildlife (Protection) Act, 1972.</li> </ul>
<p><b>Spinosaurus</b></p> 	<ul style="list-style-type: none"> <li>Spinosaurus is a genus of spinosaurid dinosaur that lived in North Africa about 99 to 93.5 million years ago.</li> <li>It is the largest of all known terrestrial carnivores.</li> <li>It was named for its “sail back” feature, created by tall vertebral spines.</li> </ul>
<p><b>Palmking</b></p> 	<ul style="list-style-type: none"> <li>It is a butterfly which is widely distributed across parts of <u>India, Myanmar, Indo China, Peninsular Malaysia and Thailand.</u></li> <li>It is characterised by its brown/woody colour and dark bands.</li> <li>Its wood colour is an easy camouflage making it difficult to spot.</li> </ul>
<p><b>Vaquita porpoise</b></p> 	<ul style="list-style-type: none"> <li>It the world's rarest marine mammal, also known as <b>Panda of the sea.</b></li> <li>It has the smallest range of any whale, dolphin or porpoise, and only lives in a small 1,500 square-mile area in <b>Mexico’s upper Gulf of California.</b></li> <li>It has a large dark ring around its eyes and dark patches on its lips.</li> <li>The population of the species declined 98% in two decades.</li> <li>It has been listed as <b>critically endangered</b> under the IUCN Red List.</li> </ul>
<p><b>Actinimenes Koyas</b></p> 	<ul style="list-style-type: none"> <li>A new species of of shrimp has been discovered.</li> <li>It was collected at a depth of 1.0–2.0 m from <b>Agatti Island’s coral atoll.</b></li> <li>The newly discovered species has been named ‘Koyas’ to honour the Lakshadweep Island’s local community.</li> <li>The new species is easily distinguished from the other species by the structural variation in the <b>fourth sternal plate</b> with a median notch.</li> </ul>
<p><b>Ariosoma Indicum</b></p> 	<ul style="list-style-type: none"> <li>Scientists discovered new eel species with a greenish-brown body from Kerala and West Bengal respectively.</li> <li>The new species is not listed as ‘Threatened’ or ‘Endangered’ by the IUCN’s Red List or the CITES</li> </ul>
<p><b>Mugger Crocodile</b></p> 	<ul style="list-style-type: none"> <li>It is a medium-sized broad-snouted crocodile, also known as mugger and marsh crocodile.</li> <li>It is native to freshwater habitats from southern Iran to the Indian subcontinent.</li> <li>It is listed as Vulnerable in the IUCN Red List and Schedule I in the Wildlife Protection Act, 1972.</li> <li>Major threats are habitat destruction, fragmentation, fishing activities and use of crocodile parts for medicinal purposes.</li> </ul>

**Star Rating For Faster Green Clearance**

Union Ministry of Environment, Forests and Climate Change has decided to “incentivise states” by ranking them on the basis of “efficiency and timelines in grant of environmental clearances”.

**About Rating System**

- The State Environment Impact Assessment Authority (SEIAA) which clears projects in the shortest period of time, has a high rate of clearance, and seeks fewer “essential details” will be ranked the highest.
- It has been decided to incentivise the states through a star-rating system, based on efficiency and timelines in grant of EC (environmental clearance).
- It spells out **seven criteria** to rate SEIAAs on “transparency, efficiency and accountability”.
- On a scale of 7, an SEIAA will get 2 marks if it takes less than 80 days on average for granting clearance; 1 for less than 105 days; 0.5 for 105-120 days; and 0 for over 120 days.
- If less than 10% of the projects for scrutiny prompted a site visit by committee members, to examine ground conditions, an SEIAA would get one mark. More than 20%, on the other hand, would be a demerit or zero marks.
- SEIAA with a **score of seven or more would be rated ‘five star.’** The government said that if an SEIAA demands clarification, the time taken to respond won’t be deducted.
- Environmentalists warned that the state authorities, whose mandate is to ensure protection of the environment, will now “compete” to clear projects swiftly, to increase state rankings.

**About SEIAAs**

- SEIAA is a state agency that reviews specific projects enlisted in **Category B of Environmental Impact Assessment (EIA) Notification, 2006**. These are relatively smaller though they make up the bulk of projects (over 90% clearances) that are presented for approval
- SEIAAs are responsible for providing environmental clearance for a bulk of the infrastructure, developmental and industrial projects.
- Their main purpose is to assess the impact of the proposed project on the environment and people, and to try and minimise this impact.

**Plastic Park**

Union Government has given the final approval for setting up a plastic park at Ganjimutt in Mangaluru.

**About Plastic Park**

- It will be set up on 104 acres of Karnataka Industrial Areas Development Board (KIADB) land.
  - In that, 50% of the project cost will be borne by Union Government and remaining 50% by KIADB.
  - KIADB will create a special purpose vehicle (SPV) under its purview to implement the project.
  - A polypropylene unit is to be set up in the park. This unit will provide **raw materials** to the polymer and plastic units inside the park.
- Polypropylene is a thermoplastic polymer. It is mainly used in plastic packaging.

**Plastic Park Scheme**

- Under this scheme the Plastic Park are being developed by State Governments with the grant-in-aid funding support from Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers. The Central Government provides **grant funding** up to 50% of the project cost, subject to a ceiling of Rs. 40 crore per project.
- The ministry has approved setting up of 10 Plastic Parks in the country.
- The Scheme aims to increase the competitiveness and value addition in the plastic processing industry.

**Extended Producer Responsibility**

Union Environment Ministry announced **Plastic Waste Management (Amendment) Rules, 2022** which notified **extended producer responsibility (EPR)** guidelines for plastic packaging waste to strengthen **circular economy of plastic packaging waste**.

#### About New Guideline

- They have been issued as part of the government's efforts to **eliminate single-use plastics**.
- They contain specifications for reuse, recycling, use of recycled plastic content, and end-of-life disposal.
- Producers, importers, brand owners, plastic waste processors have to register on a centralised portal of **Central Pollution Control Board** immediately.
- It shall be applicable to both **pre-consumer and post-consumer** plastic packaging waste.
- After recycling the mandated percentage of plastic, a company would have to submit a **certificate** to the relevant authority and if more than the mandated amount is recycled, it could be sold to other companies.
- Environmental compensation will be levied based upon polluter pays principle, with respect to non-fulfilment of EPR targets by producers, importers and brand owners
- State Pollution Control Board (SPCBs) or Pollution Control Committees (PCCs) have been tasked to submit an annual report on EPR portal with respect to the state/Union Territory to the CPCB.
- Permitted thickness of plastic bags will be increased to **120 microns from December 31, 2022**.
- The new rules classify plastics into four categories-
  - ✓ **Category 1:** rigid plastic packaging
  - ✓ **Category 2:** flexible plastic packaging of single layer or multilayer
  - ✓ **Category 3:** Multi-layered plastic packaging;
  - ✓ **Category 4:** plastic sheet or like used for packaging as well as carry bags of compostable plastics
- The implementation of EPR will be done through a customized online platform which will act as digital backbone of the system.

*{For more about Plastic Waste Management Amendment Rules 2021, refer Quick Revision Part 1, Page 73}*

#### UN Resolution To End Plastic Pollution

175 countries supported a landmark resolution at the **United Nations Environment Assembly** to end plastic pollution and reach an internationally legally binding agreement by 2024.

#### About The Treaty

- This historic resolution, entitled "End Plastic Pollution: Towards an internationally legally binding instrument". The decision was made at a meeting of the UN Environment Assembly in Nairobi.
- The resolution, based on three preliminary draft resolutions from different countries, establishes an **Intergovernmental Negotiating Committee (INC)** that aims to complete a draft of a legally binding agreement by the end of 2024.
- It is expected to introduce a legally binding tool, which will reflect the diverse options for addressing the full life cycle of plastics, the design of reusable and recyclable products.

#### United Nations Environment Assembly (UNEA)

- It was created in June 2012, when world leaders called for the UN Environment to be strengthened and upgraded during the United Nations Conference on Sustainable Development, also referred to as RIO+20.
- It is the world's highest-level decision-making body on the environment.
- It meets biennially to set priorities for global environmental policies and develop international environmental law.

#### Solar Waste

A report prepared by the **National Solar Energy Federation of India** states that India can generate more than 34,600 tonnes of cumulative solar waste by 2030.

### Highlights Of The Report

- India does not have a solar waste management policy, but it does have ambitious solar power installation targets.
- Solar waste is the electronic waste generated by discarded solar panels. It can increase by at least four-five-fold by the next decade.
- India should focus its attention on drafting comprehensive rules to deal with solar waste.
- The issue was not addressed in the last electronic waste management regulations in 2016.
- Solar panels have a life of 20-25 years, so the problem of waste seems distant.
- Recycling a solar panel cost between \$20 and \$30, according to the National Renewable Energy Laboratory; sending it to a landfill costs \$1-2.

### Degradation of Coral Reefs

IPCC's AR6 report on Impact, Adaption and Vulnerability talks about the degradation and loss of coral reefs.

#### Major Findings of This Report

- The coral occupies only 0.1% of the global sea surface. But more than 25% of marine biodiversity is supported by them.
- It talks about the effects of global warming and anthropogenic activities on Asia's coral reefs.
- The oceans absorb more than 93% of the excessive heat from global warming and lot of this heat is going to the Indian Ocean and surrounding seas.
- The loss and degradation of coral reefs can affect the livelihood of about 4.5 million people in southeast Asia and the Indian Ocean.
- In the coral reef fisheries sector, there are about 3.35 million fishers in southeast Asia and 1.5 million fishers in the Indian Ocean.
- Some 571 coral species have been severely impacted in the South China Sea by global climate changes and anthropogenic activities.
- The risk of **coral diseases** has been found to be high in Indonesia's Papua province, the Philippines, Japan, India, northern Maldives, Persian Gulf and Red Sea.
- Coral growth was predicted to decline by the end of this century and human activities were one such factor that had contributed to the reduction in growth.

#### Cause Of Degradation

- The reefs are being bleached and are dying due to changes in the beneficial microorganisms of coral, caused by environmental stress.
- Each coral reef is made up of colonies of tiny animals called polyps. Each polyp produces calcium carbonate, which makes up their skeleton and protects corals internal bodies. The coral polyps live in an endosymbiotic relationship with algae. Algae provides up to 90% of the coral's energy.
- **Increased seawater temperature** has been found to affect the functioning of *symbiotic algae* of corals and its bacterial consortia, leading to coral bleaching and mortality.
- Bleached corals continue to live, but they are more vulnerable to disease and starvation because Zooxanthellae provide up to 90% of the coral's energy.
- Increase in pathogen abundance and increase in susceptibility of the host reef, has led to a rise in the severity of coral diseases.

**Plan To Protect Great Barrier Reef**

Australia unveiled a billion-dollar package to protect the climate-ravaged Great Barrier Reef. The plan aims to prevent the vast networks of corals from being removed from UNESCO's World Heritage List.

**About Great Barrier Reef**

- Extending for over 2,300 kilometers, it is the world's largest coral reef system. It is located in the Coral Sea, off the coast of Queensland in Australia.
- It is home to over 9,000 known species & consists of about 3,000 individual reefs of coral.
- It was designated as a World Heritage Site in 1981.
- As per the recent study, bleaching had affected 98% of reefs since 1998.
- In the year 2021, UNESCO has decided to downgrade its status.

**Indian Environment Service (IES)**

The Supreme Court asked the Centre to establish a dedicated Indian Environment Service (IES) at the all-India level. The creation of IES was recommended by a committee headed by former Cabinet Secretary **TSR Subramanian in 2014.**

- India had a strong environmental policy and legislative framework but weak implementation has resulted in environmental governance being criticised by conservation experts and the judiciary.
- Currently matters of environmental regulation rests on scientists recruited into the Ministry of Environment and Forests as well as bureaucrats from the Indian Administrative Services.
- It will act as an expert group in the public and quasi-governmental sectors over the next decades, regarding environmental matters.

**India Nepal Bridge**

New bridge is to be built over Mahakali River. It will link Dharchula in the Uttarakhand with Nepal's Dharchula.

- The bridge will be completed in 3 years. It will help people living in Dharchula in Uttarakhand and in the territory of Nepal.
- It will boost the existing people to people relation both sides, hence deepening the ties between two countries.
- India is Nepal's largest trade partner and largest source of foreign investments.

**Mahakali 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.

**National Water Awards**

Uttar Pradesh got first position for efforts towards water conservation in National Water Awards (NWA). The award was organised by Department of Water Resources, River Development and Ganga Rejuvenation Ministry of Jal Shakti.

**Key Points**

- The award was launched first in 2018.
- The awards are giving to States, Organisations, and Individuals etc.in 11 different categories.

- The main focus is on the good work and efforts made by individuals and organisations across the country and the government vision for the path to ‘Jal Samridh Bharat’
- It provides opportunities to start-ups, leading organisations and people to engage and create awareness for management of water resources.

### India's First Geological Park

Recently, the approval for first geological park was given by Geological Survey of India, under Ministry of Mining. The park will be built at **Lamheta village** on the banks of Narmada River in Jabalpur district of Madhya Pradesh.

- Several dinosaur fossils had been found in the Narmada valley, particularly in the Bhedaghat-Lameta Ghat area of Jabalpur. In 1828, the first dinosaur fossil was collected from the Lameta Bed by William Sleeman.
- UNESCO has also recognised Lamheta as geo heritage site.

The term geological heritage (or ‘geo-heritage’) can be applied to natural geological or geomorphological features possessing aesthetic, intrinsic or scientific and educational value, and that provide unique insight into geological processes affecting the formation or evolution of the Earth.

#### About Geo Park

- It is a unified area that advances the protection and use of geological heritage in a sustainable way and promotes the economic well-being of the people who live there.
- It promotes awareness of geological hazards, including volcanoes, earthquakes and tsunamis and many help prepare disaster mitigation strategies with local communities.
- It embodies records of past climate changes and are indicators of current climate changes.

### Two More Ramsar Sites Announced

- Two new Ramsar sites **Khijadiya wildlife sanctuary** and **Bakhira wildlife sanctuary** were announced on the occasion of World Wetlands Day.
- On the occasion, "**National Wetland Decadal Change Atlas**" was prepared by Space Applications Center (SAC - one of the major centers of ISRO). The original Atlas was released by SAC in 2011 and has over the years been used extensively by all the State Governments

<b>Khijadiya wildlife sanctuary</b>	<ul style="list-style-type: none"> <li>• It is a fresh water sanctuary which is located near the gulf of Kutch, Gujarat.</li> <li>• The sanctuary is a <b>coastal wetland with rich avifaunal diversity</b>.</li> <li>• It provides a safe habitat to endangered and vulnerable species like endangered Pallas’s fish eagle, vulnerable common pochard, dalmatian pelican, common crane etc</li> </ul>
<b>Bakhira wildlife sanctuary</b>	<ul style="list-style-type: none"> <li>• It is fresh water marsh in the Sant Kabir Nagar district, Uttar Pradesh.</li> <li>• It offers a <b>safe wintering and staging ground</b> for a large number of species of Central Asian Flyway.</li> <li>• It provides habitat for Egyptian vulture, grater spotted eagle, common pochard, woolly-naked stork etc.</li> </ul>

#### About World Wetland Day

- It is observed on 2<sup>nd</sup> February since 1997 to create awareness about the need for conservation of wetlands.
- United Nations General Assembly adopted resolution 75/317 for World Wetlands Day on August 30, 2021 to give official recognition.

Wetlands	Ramsar Sites
<ul style="list-style-type: none"> <li>• State-wise distribution of wetlands: <b>Gujarat</b> is at the top (17.56% of total geographical</li> </ul>	<ul style="list-style-type: none"> <li>• India has a network of <b>49 Ramsar sites</b>, the highest in South Asia, covering 10,93,636 hectares.</li> </ul>

<p>area of the state or 22.7% of total wetlands areas of the country). It is followed by Andhra Pradesh, Uttar Pradesh, and West Bengal</p>	<ul style="list-style-type: none"> <li>The countries with the most Ramsar Sites are <b>UK (175) and Mexico (142)</b>. <b>Bolivia</b> has the largest area with 148,000 sq km under the Convention protection</li> </ul>
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*{For more on wetland and Ramsar Site, refer Quick Revision Part 1, Page 44}*

**Sanctuary Tag For Golden Langur Habitat Opposed**

Recently, the neighbours of a **golden langur habitat** in western Assam have **opposed** a move by the State government to upgrade it to a wildlife sanctuary.

**Why Villagers Are Opposing This Move?**

- The villagers have been protecting and conserving the flora and fauna of **Kajoijana Reserve Forest** (one of the better-known homes of golden langur) for more than 25 years.
- Assam Forest Department had issued a preliminary notification for converting 19.85 sq. km. patch of forest into **Kajoijana Bamuni Hill Wildlife Sanctuary**.
- The villagers demanded that the “conventional idea of wildlife sanctuary” be dropped and the reserve forest be converted into a community forest resource using Forest Rights Act, 2006.

Reserve Forests	Community Forest Resource
<p>They are the <b>most restricted forests</b> and are constituted by State Government on any forest land or wasteland which is the property of Government. In reserved forests, <b>local people are prohibited, unless specifically allowed</b> by a Forest Officer in the course of settlement.</p>	<p>According to <b>Section 2(a) of Forest Rights Act</b>, it is the <b>customary common forest land</b> within the <i>traditional or customary boundaries of the village or seasonal use of landscape</i> in the case of pastoral communities, including reserved forests, protected forests and protected areas such as sanctuaries and national parks to which the community had traditional access.</p>

**About Golden Langurs**

- They live in moist evergreen and tropical deciduous forests, as well as in some riverine areas and savannas in Assam and Bhutan.
- Listed as **Endangered** in IUCN red list & Schedule I in Wildlife Protection Act 1972.
- It is listed as among the world’s 25 most endangered primates.
- The major threat is the rapid loss of this habitat due to deforestation.

**India’s First OECM Site**

On the occasion of World Wetlands Day, the **Aravalli Biodiversity Park** was declared India’s first “**Other Effective area-based Conservation Measures**” (OECM) site.

**About OECM site**

- OECM is a conservation designation for areas that are achieving the **effective in-situ conservation** of biodiversity **but are outside of protected areas** like national parks and sanctuaries.
- The OECM tag is given by the **International Union for Conservation of Nature (IUCN)**.
- The OECM tag does not bring any legal, financial or management implications, but designates the area as a biodiversity hotspot on the international map.
- The OECM areas were defined at the Convention on Biological Diversity that was held in 2018.

**About Aravalli Biodiversity Park**

- Spread across 390 acres in Gurgaon (Haryana), it has semi-arid vegetation.

- The park was transformed into a city forest from a 40-year-old mining site through the efforts of citizens, ecologists and scientists along with the help of the urban local body.
- The proposal to make Aravallis as the OECM was made by **National Biodiversity Authority**.

### Loss of Ice in South Col Glacier

Mount Everest's South Col Glacier has shrunk dramatically in the last three decades.

#### Highlights Of The Study

- The South Col formation may already have lost around 55 metres (180 feet) of thickness in the last 25 years.
- Carbon dating showed the top layer of ice was around 2,000 years old, suggesting that the glacier was thinning more than 80 times faster than the time it took to form.
- It may disappear entirely by mid of this century.

#### About South Col Glacier

- It is a sharp-edged col between Mount Everest and Lhotse.
- It is typically swept by high winds, which leaves it free of significant snow accumulation.
- It is around 7,900 metres above sea level and a kilometre below the peak of world's highest mountain.
- It was first reached by Lambert, Aubert, and Flory of Edouard Wyss-Dunant's Swiss Mount Everest Expedition on 12 May 1952. The Expedition failed to reach the summit.

### National Adaptation Fund For Climate Change (NAFCC)

- Economic Survey 2021-22 noted that "Of the 30 sanctioned projects under NAFCC, two have closed down while 28 are still going on much beyond the initial target time".
- Grants released under NAFCC fell from Rs 115.36 crore in 2017-18 to Rs 42.94 crore in 2020-21, and Rs 27.76 crore (till December 2021) in the current year.

#### About NAFCC

- It is a **Central Sector Scheme** which was set up in the year 2015-16.
- The overall aim of NAFCC is to support concrete adaptation activities which mitigate the adverse effects of climate change. The activities under this scheme are implemented in a **project mode**.
- The projects related to adaptation in sectors such as agriculture, animal husbandry, water, forestry, tourism etc. are eligible for funding under NAFCC. **NABARD** is the National Implementing Entity (NIE).

#### Objectives

- Preparing and updating climate scenario, assessing vulnerability and climate impact assessment.
- Capacity building of various stakeholders on climate change adaptation and project cycle management and developing knowledge network
- Mainstreaming the approaches/ learnings from project/programme implementation through knowledge Management.

### Coastal Vulnerability Assessment Index

Indian National Centre for Ocean Information Services (INCOIS) has carried out coastal vulnerability assessment for the entire Indian coast at state level. Coastal vulnerability is a spatial concept that identifies **people and places** that are most susceptible to disturbances resulting from coastal hazards such as coastal storms, sea level rise and erosion etc.

**About The Assessment Index**

- INCOIS has brought out an Atlas comprising 156 maps on 1:1,00,000 scales to prepare a Coastal Vulnerability Index (CVI).
- These maps will determine the coastal risks due to **future sea-level rise** based on the physical and geological parameters for the Indian coast.
- The CVI uses the relative risk that **physical changes** will occur as sea-level rises are **quantified** based on **parameters** like:

**Tidal range, Wave height, Coastal slope, Coastal elevation, Shoreline change rate, Geomorphology, Historical rate of relative sea-level change.**

- Coastal vulnerability assessments can be useful information for coastal disaster management and building resilient coastal communities.

**About INCOIS**

- Located in Hyderabad, INCOIS is an autonomous organisation established in 1999, under the **Ministry of Earth Sciences**. It is a unit of the Earth System Science Organisation (ESSO), New Delhi.
- It is mandated to provide the best possible **ocean information** and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvements through systematic and focussed research.

**Marine Heatwave**

According to a recent study, marine heatwaves have been on the rise in waters around India.

**Findings Of The Study**

- **Western Indian Ocean** region experienced the greatest increase in marine heatwaves at a rate of about **1.5 events per decade**, followed by **northern Bay of Bengal** at a rate of **0.5 events per decade**.
- Marine heatwaves in the western Indian Ocean and Bay of Bengal aggravated the drying conditions over the central Indian subcontinent.
- There has been a significant increase in rainfall over South Peninsular India in response to the heat wave over North Bay of Bengal.
- From 1982 to 2018, a total of 66 incidents occurred in the western Indian Ocean, while 94 incidents occurred in the Bay of Bengal.
- This is the first time that a study has demonstrated a close **link** between **marine heatwaves and atmospheric circulation and rainfall**.

**About Marine Heatwave**

- A marine heatwave is defined, when seawater temperatures exceed a seasonally-varying threshold (usually the 90th percentile) for at least 5 consecutive days.
- Such heat waves are caused by an increase in heat content of oceans, especially in upper layers.
- Worldwide, they are one of the major results of human-induced global warming.
- These events are linked to **coral bleaching, seagrass destruction, and loss of kelp forests**. These can also increase the risk of **ocean deoxygenation and acidification**.
- They may alter habitat of some species, such as spiny sea urchins from south-eastern Australia, which are spreading south into Tasmania.

**Erra Matti Dibbalu**

Citizens in Visakhapatnam are working together to **preserve** the geological marvel of Erra Matti Dibbalu.

**About Erra Matti Dibbalu**

- These are rare red sand dunes, located between Visakhapatnam and Bheemunipatnam in Andhra Pradesh.
- Comprises a mixture of sand (40-50%), silt and clay (another 50%) with oxidation imparting the unique red colour. These dunes are formed around 12,000 years ago due to **sea-land interaction**.
- The width of the dunes, which runs for 5 kilometres along the coast, varies from 200 metres to 2 kilometres.
- It is listed among the 34 notified **National Geological Heritage Monument Sites** of India in 2014.

**Significance**

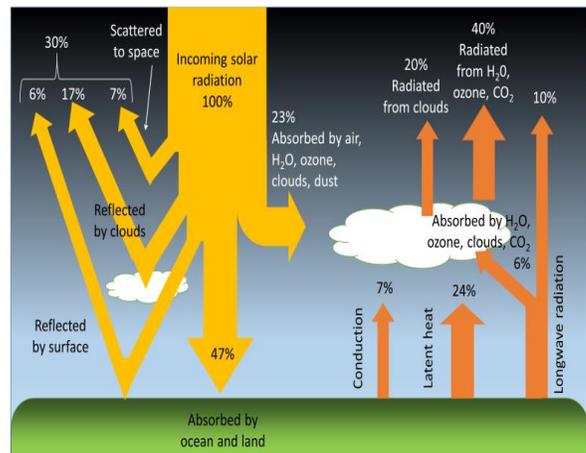
- Sand dunes are a reminder of the million years of geological processes.
- They are the result of the combined effect of numerous factors including global climate change, sea level rise, monsoonal variability and serve as valuable paleo-environment indicator.

**Himalayas Is Warming Increasingly**

Studies have shown that water vapor exhibits a positive radiative effect at the top of the atmosphere, leading to an increase in overall warming in high altitude Himalayas.

**Key Findings of The Study**

- It highlights the importance of **Precipitable Water Vapour (PWV) and aerosol** radiative effects in the climate-sensitive Himalayan region.
- It shows the atmospheric radiative effect due to **PWV is about 3-4 times higher compared to aerosols**, resulting in atmospheric heating rates rising.
- Radiative effect is the change in energy flux in the atmosphere caused by natural or anthropogenic factors of climate change as measured by watts/metre<sup>2</sup>



**Electric Vehicles Can Lower Emissions Of VOC**

- A recent study has predicted that India can slash emissions of volatile organic molecules (VOC) by 76% in the next eight years. Gases escaping out of a vehicle’s exhaust account for 65-80 % of an automobile’s emission.
- India can achieve this target by swapping all two- and three-wheelers with electric vehicles and all diesel-fuelled ones with Compressed Natural Gas (CNG).

**About VOCs**

- VOCs are carbon-containing chemicals released by petrol and diesel vehicles.
- However, VOCs can have a natural origin, too. Plants emit these chemicals to attract pollinators, defend themselves from pests and predators and adapt to environmental stress.

**Concerns of VOCs**

- VOCs can irritate the eyes, nose and throat, damage body organs and cause cancer.
- VOCs can also trigger the formation of PM 2.5.
- VOCs can drive the formation of other dangerous pollutants. For instance, they react with sunlight and nitrogen dioxide to form ground-level ozone.

**One Ocean Summit**

The Prime Minister of India addressed **UN-backed One Ocean Summit**.

**About The Summit**

- It was organised by France in Brest in cooperation with **United Nations & World Bank**.

- The objective is to mobilise the international community to take tangible action towards preserving and supporting healthy and sustainable ocean ecosystems.
- Commitments will be made towards combating illegal fishing, decarbonising shipping, reducing plastic pollution, improve governance of high seas & coordinating international scientific research.

### India's Stand At The Summit

- India supports the French initiative of a High Ambition Coalition on **Biodiversity Beyond National Jurisdiction (BBNJ)**.
  - ✓ "BBNJ Treaty", also known as "Treaty of the High Seas", is an international agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, currently under negotiation at UN.
- India will be happy to join France in launching a global initiative on single-use plastics.
- India is hoping for a legally binding international treaty this year regarding sustainable ocean ecosystems.

### Green Hydrogen/ Green Ammonia Policy

**Ministry of Power** has notified **Green Hydrogen/Green Ammonia Policy** for production of Green Hydrogen or Green Ammonia using renewable sources of energy.

### Provisions Of The Policy

- Green Hydrogen/Ammonia manufacturer can buy **renewable energy from power exchange** anywhere or install renewable energy capacity on their own or through another developer.
- Under the policy, the government is offering to set up manufacturing zones for production, connectivity to the ISTS grid (Inter-State Transmission System) on priority basis. Manufacturers will be allowed waiver of **inter-state transmission fee** for a period of 25 years for projects started before 30 June 2025.
  - ✓ This means that a green hydrogen producer will be able to set up a solar power plant in Rajasthan to supply renewable energy to a green hydrogen plant in Assam and would not be required to pay any inter-state transmission charges.
  - ✓ Besides, producers will be allowed to set up bunkers near ports for storage of green ammonia for export by shipping.
  - ✓ The land for the storage for this purpose shall be provided by the respective Port Authorities at applicable charges.
- Open access will be granted within 15 days of receipt of application.
- Manufacturer can bank his **unconsumed renewable power**, up to **30 days**, with distribution company and take it back when required.
- Distribution licensees can also purchase and supply renewable energy to manufacturers in their states at subsidized prices, which will cover only the **cost of purchase, wheeling charges and a small margin as determined by the state commission**.
- The benefit of Renewable Purchase Obligation (RPO) for consumption of renewable energy will be incentivized to manufacturer and distribution licensee.
- To ensure ease of doing business, a **single portal** will be set up by Ministry of New and Renewable Energy (MNRE) to carry out all the activities including statutory clearances
- Production target has also been raised five times from 1 million tonnes (m) to 5 mt by 2030. In October, 2021 it was announced that India is targeting initially around 1 million tonnes annual green hydrogen production by 2030.

*{For more about different types of hydrogen, refer Quick Revision Part 1, Page 217}*

### Rising Threat Of Wildfires

- A new report, "Spreading like Wildfire: The Rising Threat of Extraordinary Landscape Fires" suggests wildfire risk will rise in this century.
- Report is released by the United Nation Environment Programme (**UNEP**) and GRID-Arendal.

**Key Findings Of The Report**

- The report assesses the current global occurrences of wildfires and impacts on lives, livelihoods, values and infrastructure, and how these are likely to change in the future.
- Climate change and land-use change are projected to make wildfires more frequent and intense, with a global increase of extreme fires of up to 14% by 2030, 30% by the end of 2050 and 50% by the end of the century.
- No single nation has solved the problem of dealing with wildfires and even developed countries like Australia struggle to deal with the impacts of wildfires.
- Wildfires are made worse by climate change through increased drought, high air temperatures, low relative humidity, lightning, and strong winds resulting in hotter, drier, and longer fire seasons.
- Climate change is made worse by wildfires, mostly by ravaging sensitive and carbon-rich ecosystems like peatlands and rainforests.
- Currently, direct responses to wildfires receive over half of related expenditure, with less than 1% allocated for planning and prevention.
- Governments are urged to adopt a so-called "Fire Ready Formula", which calls for two thirds of spending to be devoted to planning, prevention, preparedness and recovery and one third for response.

Recently, UNEP has released its **Annual Frontiers Report** named "Noise, Blazes and Mismatches".

- The Frontiers report identifies and offers solutions to **three environmental issues: urban noise pollution, wildfires and phenological shifts** that merit attention and action from governments and the public at large to address the triple planetary crisis of climate change, pollution and biodiversity loss.
- Phenology is the timing of recurring life cycle stages, driven by environmental forces, and how species interacting within an ecosystem respond to changing conditions.

**Razzaza Lake**

Razzaza Lake is seeing a significant decline in water levels and it has been also hit by pollution and high levels of salinity.

**About Razzaza Lake**

- It is also known as Lake Milh, is located in Iraq. It's the second largest lake in Iraq.
- It is part of a wide valley that includes the lakes of Habbaniyah, Tharthar and Bahr al-Najaf.
- The lake was constructed as a measure to control **floods in the Euphrates** and to be used as huge reservoir for irrigation purposes.
- Iraqis and tourists frequented the lake as a recreational spot to cool down during Iraq's hot summers.

**New Notification on Bricks Kilns**

Union Ministry of Environment, Forest and Climate Change (MoEF&CC) came up with stringent standards for brick kilns.

**Salient Features of the Notification**

- Standard for PM emission - 250 mg per normal cubic meter (mg/Nm<sup>3</sup>).
- In case of kilns located within 10 km radius of non-attainment cities, the existing brick kilns will be converted to either zig-zag technology or vertical shaft or use of PNG as fuel in brick making within a period of one year and two years for other areas
  - ✓ Non-attainment cities: These are those that have fallen short of the National Ambient Air Quality Standards (NAAQS) for over five years.
- All brick kilns will use approved fuels such as PNG, coal, firewood and/or agricultural residues. Use of pet coke, tyres, plastic, hazardous waste will not be allowed in brick kilns
- Brick kilns will have to build a permanent facility for port holes and platforms as per the norms prescribed by the Central Pollution Control Board (CPCB).

- Brick kilns should follow the **fugitive dust emission control guidelines** prescribed by the respective State Pollution Control Boards (SPCBs).
- Brick kiln owners shall ensure that the roads used for transportation of raw materials or bricks are paved.

### Wet Bulb Temperature

Part 2 of the 6<sup>th</sup> assessment report of IPCC emphasised on the trend in 'Wet Bulb' Temperature in South Asia.

#### About Wet Bulb Temperature

- It is the lowest temperature that can be cooled by the evaporation of water in the air at constant pressure. It can be measured by using a thermometer with the bulb wrapped in wet muslin.
- It is a threshold that considers heat and humidity beyond which humans cannot tolerate high temperatures.
- It is the temperature of adiabatic saturation indicated by a moistened thermometer bulb exposed to the air flow.
- A wet-bulb temperature of 31 degrees Celsius is extremely dangerous for humans, while a value of 35 degrees is un-survivable for more than about six hours, even for fit and healthy adults
- At present, wet-bulb temperatures in India rarely exceed 31 degrees C, with most of the country experiencing maximum wet-bulb temperatures of 25-30 degrees C, according to IPCC.
- It notes that if emissions are cut, but only by the levels currently promised, many parts of northern and coastal India would reach extremely dangerous wet-bulb temperatures of over 31 degrees C towards the end of the century.

### World Wildlife Day

- World Wildlife Day on March 3rd annually dedicates a celebration to all life on our planet.
- On 20 December 2013, at 68th session, the United Nations General Assembly (UNGA) proclaimed 3 March as world wildlife day.
- The date chosen coincides with the day of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which was signed in 1973.

### Yilan Crater

- Geologists have discovered a crater named Yilan Crater.
- Prior to 2020, only one impact crater "Xiuyan Crater" was discovered in Liaoning province.
- Then, in 2021, Yilan crater was discovered in heavily forested Lesser Xing'an mountain range. The local residents knew it as "Quanshan," or "circular mountain ridge."
- Yilan crater is slightly larger than Xiuyan. It is 1.85 km in diameter and is located in the northeast of China's Heilongjiang Province.
- Its southern rim has eroded, but its northern rim is visible on the surface as a crescent-shaped ridge.
- Carbon dating sediments suggest that this crater was formed between 46,000- 53,000 years ago. Thus, it is the largest crater on Earth under 100,000 years old.

### Karewas

The highly fertile alluvial soil of Kashmir called Karewas is being destroyed in the name of development.

#### About Karewas

- These are lacustrine deposits (deposits in lake) in the Valley of Kashmir and in Bhadarwah Valley of the Jammu Division.

- Karewas are the thick deposits of glacial clay and other materials embedded with moraines. These are **unconsolidated to semi-consolidated** lacustrine deposits.
- “Vudr” is the local name for Karewas in Kashmiri language.
- These are the **flat-topped mounds** that border the Kashmir Valley on all sides.
- Karewas were formed during the **Pleistocene Period**, when the entire Valley of Kashmir was under water.
- Due to the rise of Pirpanjal, the drainage was impounded and a lake of about 5000 sq. km area was developed and thus a basin was formed.
- Subsequently, the lake was drained through Bramulla gorge. The deposits left in the process are known as karewas.
- Karewa deposits have different soil and sediments such as sand, clay, silt, shale, mud, lignite and losses. Hence, these are very useful for agricultural and horticulture activities.
- Karewas are most suitable for the cultivation of saffron, almonds, apples, and other cash crops.

### Amazon Rainforest Close to Tipping Point

A new study is published in Nature Climate Change that warned about the Amazon rainforest which is closed to its tipping point. In this study, researchers analysed 30 years of satellite data to understand the resilience of the rainforest and how it has changed over the years.

#### Major Findings

- According to a new study, more than **75%** of the Amazon rainforest has been likely heading towards a tipping point since the early 2000s.
- Amazon may be losing its ability to bounce back from extreme events such as drought or fire, threatening to become a dry savanna-like ecosystem.
- A vicious cycle of damage could trigger "dieback" which is a condition in which a tree or shrub begins to die from the tip of its leaves or roots backwards, owing to disease or an unfavourable environment
- According to findings **deforestation** is on the rise, it totalled 430 square kilometres in January 2022, five times higher than the same month last year. Around a fifth of the rainforest has already been lost, compared to pre-industrial levels.
- This loss will affect the amount of rainfall. Trees take up water through the roots, releasing it into the atmosphere, influencing precipitation over South America.
- The analysis showed that the indicators of tipping points go up faster in areas with less rainfall and closer to human land use.
- The rainforest is also a **carbon sink**, a place that absorbs more carbon dioxide than it leaves.

#### Savanna Ecosystem

- The savanna ecosystem is a tropical grassland with warm temperatures year-round.
- Savannas are also characterised by seasonal water availability, with the majority of rainfall confined to one season, in the summer.
- The savanna is characterized by grasses and small or dispersed trees that do not form a closed canopy, allowing sunlight to reach the ground.

### Flood Plain Zoning

The states of Manipur, Rajasthan, Uttarakhand and erstwhile State of Jammu & Kashmir had enacted flood plain zoning approach.

**About Flood Plain Zoning**

- It has been recognized as an effective **non-structural** measure for flood management.
- Flood-plain zoning measures are intended to demarcate areas likely to be affected by floods of varying magnitude or frequencies and probability levels.
- It also aims to specify the types of permissible developments in these zones, so that whenever floods actually occur, the damage can be minimised.

**India's Status of Vulnerability to Floods**

- The Rashtriya Barh Ayog (RBA) had, in the year 1980, estimated the total area liable to floods in the country as 40 Mha.
- The extent of maximum area affected by floods as per the Working Group (WG) Report on Flood Management and Region-Specific Issues in 2011 is 49.815 Mha.
- On an average 7.5 million hectares of land are affected every year, 1,600 people lose their lives and crops, homes and public utilities are damaged due to floods.

**Project Dolphin**

- It is an ambitious inter-ministerial initiative of the government, which was approved at the first meeting of the **National Ganga Council (NGC)** under the chairmanship of the PM in 2019.
- Project Dolphin is one of the activities planned under Arth Ganga.
- It aims at the conservation and protection of the Dolphins in rivers and oceans of the country.
- It is expected to be implemented by the Ministry of Environment, Forest and Climate Change.
- The National Mission for Clean Ganga (NMCG), which implements the government's flagship scheme Namami Gange, has been taking some initiatives for saving dolphins.
- Project Dolphin will be on the lines of Project Tiger, which has helped increase the tiger population

**National Dolphin Day**

- Union Environment Ministry has designated October 5 as National Dolphin Day, to be observed annually starting this year.
- National Board for Wildlife's (NBWL) standing committee took this decision to designate this day.
- The focus will also be on improving the water quality and flow of Ganga and its tributaries so that the Ganges dolphins can survive.

*{For more on Indus River Dolphins refer Quick revision Part 1, Page 57}*

**Permafrost Peatlands**

A new study warns that the expansion of frozen permafrost peatlands, carbon-storing lands in Europe and western Siberia, may be happening faster than expected.

**Efforts Lost**

- By 2040, northern Europe might become too wet and warm to support permafrost peatlands.
- By 2060, these areas could lose 75% under moderate efforts to mitigate climate change. The figure could go as high as 81% and 93% if the world does little to address the issue.

**About Permafrost Peatland**

- Some peatlands are buried under frozen ground or permafrost and exist as permafrost peatlands.
- They are found in the northern parts of Alaska, Canada, Russia and parts of northern Europe.
- Frozen wetlands in Europe and western Siberia store up to 39 billion tonnes of carbon.

- This is equivalent to twice that is held by the whole of European forests.

**About Peatlands**

- Peatlands are a class of wetlands, which are ecosystems flooded with water.
- Waterlogged conditions limit microbial decay of dead plant materials rich in carbon dioxide.
- This prevents the reintroduction of the gas into the atmosphere
- They are a type of wetland which occur in almost every country and are known to cover at least 3% of global land surface.

**Why Peatlands are Important?**

- They are critical for preventing and mitigating the effects of climate change, preserving biodiversity, minimising flood risk, and ensuring safe drinking water.
- They are the largest natural terrestrial carbon store. They store more carbon than all other vegetation types in the world combined.
- Damaged peatlands are a major source of greenhouse gas emissions, responsible for almost 5% of global anthropogenic CO2 emissions.

**Zoji la**

- Zoji La is a high mountain pass in the Himalayas in the Indian UT of Ladakh.
- It provides a vital link between Ladakh and Kashmir Valley.
- It is **the second highest pass** after Fotu La on the Srinagar-Leh National Highway.
- During the Indo-Pakistani War of 1947–1948, Zoji La was confiscated by the Pakistanis. The pass was captured by the Indian Army in an attack called **Operation Bison** on 1 November 1948.
- Since heavy snowfall stops vehicular flow every year during winters, the all-weather Zoji-La Tunnel has now been constructed to reduce it.

**Boma Technique**

Boma technique undertaken at **Keoladeo National Park** for capturing and translocating spotted deer is set to improve the prey base in **Mukundara Hills Tiger Reserve**.

**About Boma Capturing Technique**

- It is popular in Africa. It involves the luring of animals into an enclosure by chasing them through funnel-like fencing.
- The funnel tapers into an animal selection-cum-loading chute supported with grass mats and a green net to make it opaque for animals, which are herded into a large vehicle for their transport to another location.
- This age-old technique was previously used to capture wild elephants for training and service.

Keoladeo National Park	Mukundara Hills Tiger Reserve
<ul style="list-style-type: none"> <li>• It is located in the State of Rajasthan.</li> <li>• It was designated a Wetland of International Importance under the Ramsar Convention in 1981.</li> <li>• It was declared a national park in 1982 and was listed as a World Heritage Site by UNESCO in 1985.</li> </ul>	<ul style="list-style-type: none"> <li>• It is located near Kota, Rajasthan.</li> <li>• The park is situated in a valley formed by two parallel mountains viz. Mukundra and Gargola.</li> <li>• It was declared a Wildlife Sanctuary in 1955 and a National Park in 2004.</li> <li>• It was notified as a Tiger Reserve in 2013</li> </ul>

**Mercury Pollution**

Combating the global trafficking of mercury is discussed in the 2<sup>nd</sup> round of the fourth meeting of the Conference of the Parties to the Minamata Convention on Mercury (**COP-4.2**). **The declaration was read in Nusa Dua, Bali (Indonesia)**

**Objectives of the Declaration:** The non-binding declaration calls upon parties to:

- Develop practical tools and notification and information-sharing systems for monitoring and managing trade in mercury.
- Exchange experiences and practices relating to combating illegal trade in mercury, including reducing the use of mercury in artisanal and small-scale gold mining.
- Share examples of national legislation and data and information related to such trade.

**About Minamata Convention on Mercury**

- It is a multilateral environmental agreement that addresses specific human activities which are contributing to widespread mercury pollution. Minamata Disease caused by methylmercury poisoning which was first described in the inhabitants of Minamata Bay, Japan.
- It is a UN treaty coming under the United Nations Environment Programme (UNEP).
- It is the world's first legally binding treaty that was adopted in 2013 and entered into force in August, 2017.
- India has ratified the Convention in 2018.
- Some 137 parties and countries are working together to control the supply and trade of mercury, reduce use, emissions and release mercury.
- The treaty also covers areas such as identification of at-risk populations, improving health facilities, and training health workers to better deal with mercury-related illnesses and diseases.

**About Mercury**

- Mercury is a naturally occurring element found in air, water and soil.
- It is released into the atmosphere through natural processes such as weathering of rocks, volcanic eruptions, geothermal activities.
- It is recognized by WHO as one of the top ten chemicals or groups of chemicals of major public health concern.
- Even small amounts of mercury can be toxic and have serious health effects-on the nervous, digestive and immune systems, and on the lungs, kidneys, skin and eyes.

**Lead Poisoning**

High levels of lead were found in the blood of thousands of children living around the Kabwe mine in Zambia.

**About Lead Poisoning**

- Children under the age of 6 are particularly vulnerable to lead poisoning, which can seriously affect mental and physical development.
- It is a toxic substance that can cause serious health effects in humans and animals.
- At very high levels, lead poisoning can be fatal.
- Lead-based paint and lead-contaminated dust are common sources of lead poisoning. Other sources include contaminated air, water and soil.
- Lead poisoning can be hard to detect, even people who seem healthy can have high blood levels of lead. It accounts for about 0.6% of the global burden of disease.

**Step Taken to Prevent Lead Poisoning**

- WHO has identified lead as one of 10 chemicals of major public health concern.

- WHO along with the United Nations Environment Programme has formed the “Global Alliance to Eliminate Lead Paint” to promote a phase-out of the manufacture and sale of paints containing lead.
- The Ministry of Environment, Forest and Climate Change, Government of India has passed a notification in November 2016 and has prohibited manufacture, trade, import as well as export of paints containing lead or lead compounds in excess of 90 parts per million (ppm).

### Hornbill Nest Adoption Program (HNAP)

Recently, Hornbill Nest Adoption Program of Arunachal Pradesh celebrated a decade of successful conservation

- The Hornbill Nest Adoption Program (HNAP) is a community-based conservation initiative.
- Through this program tribal villagers protect **nest trees** of hornbills in forests around villages on the fringe of the Pakke Tiger Reserve, Arunachal Pradesh.
- It is led by hunter-turned-protectors from the Nyishi tribe.
- It was started in 2012, in partnership with the Arunachal Pradesh Forest Department and the Ghora-Aabhe Society (a local NGO).

### About Hornbill

- Hornbills are a family of birds found in tropical and sub-tropical Africa, Asia and Melanesia.
- They are characterized by a long, downward-curving bill that is often brightly colored.
- They contribute immensely and play an important role in the process of ecological balance and conservation of ecosystems in the form of dispersal of forest plants. Hornbills are called ‘forest engineers’ or ‘farmers of forest’
- They are at risk of habitat hunting and destruction of large trees that are necessary for them to feed and build nests.
- India is home to nine species of hornbills. The northeastern region of India has the highest diversity of hornbill species. The Hornbill festival celebrated in Nagaland is named after the bird – Hornbill which is the most revered and admired bird for the Nagas.

### Microplastics In Blood

- Researchers have found microplastics in **blood samples** for the first time, as per a study in the Netherlands.
- Previous work had shown that microplastics were 10 times higher in the faeces of babies compared with adults and that babies fed with plastic bottles are swallowing millions of microplastic particles a day.

### Key Findings

- The researchers adapted existing techniques to detect and analyze particles that were as small as **700 nanometers** in size
- About half of these plastic were Polyethylene Terephthalate (PET) plastics, which is used to make food grade bottles.
- The discovery shows the particles can travel around the body and may lodge in organs.
- The impact on health is as yet unknown.
- But researchers are concerned as microplastics cause damage to human cells in the laboratory.
- It can also latch on to the **outer membranes of red blood cells** and may limit their ability to transport oxygen.

### About Microplastics

- These are small plastic pieces less than **five millimetres** in diameter.
- It come from a variety of sources, including from larger plastic debris that degrades into smaller and smaller

pieces. They cause pollution by entering natural ecosystems.

- **Primary microplastics** are small pieces of plastic that are purposefully manufactured. They are commonly used in facial cleansers and cosmetics, or in air blasting techniques.
- On the other hand, **secondary microplastics** are small pieces of plastic obtained from the breakdown of larger plastic debris, both at sea and on land.

### Pacer Initiative

Polar Science and Cryosphere (PACER) scheme has been approved for continuation during 2021-2026.

#### About The Scheme

- The scheme is implemented through **National Centre for Polar and Ocean Research (NCPOR)** an autonomous institute under the **Ministry of Earth Sciences**.
- Scheme comprising the Antarctic program, Indian Arctic program, Southern Ocean program and Cryosphere and Climate program.

#### Major Achievements

- **Expedition to Antarctica:** Executed 39th & 40th Indian Scientific Expedition to Antarctica. 41st Indian Scientific Expedition to Antarctica is ongoing.
- **Ice-sheet dynamics: Ten sediment cores** were collected from the lakes to reconstruct past climates associated with ice sheet dynamics.
- Various glacial and geophysical measurements were carried out in the **coastal Drowning Maud Land (cDML)** to understand the modern ice accumulation patterns surrounding ice rise and the remote contribution to glacial chemical processes.
- **Field-based studies were conducted** in the lakes of Larsemann hills, East Antarctica for understanding of biogeochemical process in supra-glacial environments.
- **Clear-air atmospheric observatories** containing automatic weather stations, a suite of sensors to measure aerosol and greenhouse gas concentrations has been established at **Maitri and Bharati stations**.
- 23 research projects related to glaciology, marine science, polar biology, and atmospheric science were successfully carried out during 2019-20 Arctic Expedition.
- **IndARC mooring system** along with Hydrophone system was successfully retrieved and deployed in Kongsfjorden, Svalbard.
  - Coastal cruises were undertaken in the Arctic Svalbard archipelago to carry out biogeochemical and microbial research in the glacio-marine system.
- **Glaciological field campaigns** were carried out in six benchmark glaciers in Chandra basin of Lahaul-Spiti region of Western Himalaya.
- Two new **Automatic Weather Station (AWS) systems** were installed at Baralacha La, a high elevation site in the arid Spiti region to strengthen infrastructure across the Chandra basin.

### India's Arctic Policy

The Centre released **India's Arctic Policy**, with the aim of enhancing the country's cooperation with the resource-rich and rapidly transforming region.

- India holds one of the 13 positions as the **Observer** in the Arctic Council.
- India's engagement with the Arctic began when it signed the **Svalbard Treaty in 1920** in Paris concerning Spitsbergen. Spitsbergen is the largest island of the Svalbard archipelago, part of Norway, in the Arctic Ocean. Spitsbergen is the only permanently inhabited part of Svalbard.

- India initiated its Arctic research program in 2007 with a focus on climate change

### About India's Arctic Policy

- India's Arctic policy titled '**India and the Arctic: building a partnership for sustainable development**'
- The policy is built on **six central pillars** - science and research, climate and environmental protection, economic and human development, transportation and connectivity, governance and international cooperation, and national capacity building.
- Policy shall be implemented through an action plan, and an effective governance and review mechanism involving the inter-ministerial **Empowered Arctic Policy Group**.

### Significance of This Policy

- It aims to strengthen **national capabilities and competencies** in science and exploration, climate and environmental protection, maritime and economic cooperation with the Arctic region.
- It seeks to strengthen **institutional and human resource capacities** within the government and academic, research & business institutions through inter-ministerial coordination in pursuit of India's interests in Arctic.
- It aims to offer a better analysis of the **implications of ice melting** in the Arctic on global shipping routes, energy security and exploitation of mineral wealth.
- The policy also seeks to **combat climate change** and protect the environment in the region, which is warming three times faster than the rest of the world.
- India also plans to study the impact of climate change in Arctic, to improve response mechanisms across the world.
- The policy further lays down plans to **deploy space technology** to better study the Arctic region.
- It also seeks to **study the linkages between polar-regions and Himalayas** and deepen the cooperation between India and the countries of the Arctic region under various Arctic forums.
- It also seeks to increase **India's participation in the Arctic Council** and improve understanding of the complex governance structures in the Arctic, relevant international laws and geopolitics of the region

### Antarctic Bill

The government has brought in a draft Indian Antarctic Bill-2022 to regulate and monitor activities at its research stations in the frozen continent.

### About The Bill

- The primary aim of the Bill is to bring in **penal provisions** for breaking the law in Antarctica.
- It has a comprehensive list of permitted activities and the prohibitions on the continent.
- The bill lists strict guidelines and a system of permits issued by a **government-appointed committee**, without which no expedition or person will be allowed to enter Antarctica.
- Introduction of animals, birds, plants or **microscopic organisms** that are **not native** to Antarctica are also prohibited.
- There will strict prohibition on damaging native plants, flying or landing helicopters or operating vessels that could disturb birds and seals, using firearms that could disturb the birds and animals, remove soil or any biological material native to Antarctica.
- The Bill further prohibits the drilling, dredging, quarrying or collection of mineral resources or even doing anything to identify where such mineral deposits occur – the exception is for **scientific research with a permit only**.
- The Bill also provides for Indian tour operators to be able to operate in Antarctica after acquiring a permit. There are 40 permanent research stations in Antarctica of which two (Maitri and Bharati) are Indian.

- Once the Bill comes into force, it will apply to Indians, foreign nationals, corporations, firms and joint ventures operating in India and any ship or aircraft that is either Indian or is part of an Indian operation.

### Prakriti

- A **mascot** named 'Prakriti' was launched by the Ministry of Environment, Forest & Climate Change.
- Aim is to spread greater awareness among the people about the small changes that can be sustainably adopted in our lifestyle for a better environment.
- The mascot will also inform people about **various green initiatives** taken by several ministries to ensure **effective plastic waste management (PWM)** in the country.
- The launch of the mascot 'Prakriti' takes another step toward the elimination of **single-use plastic**.
- India generates about 3.5 million tonnes of plastic waste annually and the per capita plastic waste generation has almost doubled over the last five years.

### Familial Forestry

About 2.5 million saplings have been planted in the past 15 years, with active participation of students and desert dwellers under Familial Forestry.

- It starts with **domestication** of trees and goes beyond systematically.
- It relates trees with a family by making them **green members** thus transfer the care of tree and environment so that a tree becomes a part of the family's consciousness.
- It makes an emotional connection with nature and deals with domesticating trees by families to increase green cover, conserve biodiversity, and address food shortage issues.
- The concept of familial forestry was developed by Mr. Shyam Sunder Jyani, Associate Professor in Sociology at Govt. Dungar College, Bikaner in 2006.
- Today, the concept has been replicated by over 4laks Indian families.
- More than 4000 desert villages in north-west Rajasthan have witnessed the planting of over **one million trees**, turning familial forestry into a mass movement.

### Tree City of World

- Mumbai has been recognised as '**2021 Tree City of the World**' by the Food and Agriculture Organisation of the United Nations (UN) jointly with Arbor Day Foundation.
- This is the first time Mumbai has made it to the list.
- **Hyderabad** has been featured on this list for the second consecutive year.

#### Why Mumbai gets the Recognition?

- In 2018, residents of the city fought to save their mangrove forests from decomposing and their efforts saved more than 5,000 mangroves over the years.
- Another example was to save the rich Aarey Forest. The 800-acre land area was under the Metro Car Shed project, but after protests, it was declared a reserve forest and the project was redesigned.
- Sanjay Gandhi National Park acts as the lungs of Mumbai, providing fresh air

#### About Tree City of the World tag

- The programme was started by the UN-FAO and Arbor Day Foundation, an American non-profit organisation.

- The programme provides direction, assistance, and worldwide recognition for communities' dedication to its **urban forest**, and provides a framework for a healthy, sustainable urban forestry programme in a city or a town.

**About Arbor Day Foundation**

- It is a non-profit conservation and education organization established in 1972 in Nebraska, United States. Its approach is to help others understand and use trees to address the challenges we face today, including air quality, water quality, changing climate, deforestation, poverty and hunger.

**About Food and Agriculture Organization**

- It is a specialized agency of the United Nations.
- It was founded in October **1945** and the headquartered is in **Rome, Italy**.
- It acts as a neutral policymaking forum and develops partnerships with **all concerned with food & agriculture** to ensure a world free from hunger.

**Black Sea Biosphere Reserve**

- The Black Sea Biosphere Reserve is located in Ukraine's littoral zone or nearshore of the coast of the northern Black Sea.
- It was established in **1927** and in **1998** UNESCO designated it as a biosphere reserve under the United Nations' **Man and the Biosphere program**.
- It was created to protect nesting, wintering, and migratory birds and to preserve the natural environment.
- The reserve is inhabited by such rare birds as the great bustard, the little bustard, and the white-tailed eagle and smaller animals such as the bobak marmot.

**Human-Animal Conflict**

Standing Committee on Science, Technology, Environment & Climate Change suggested that Environment Ministry must constitute an advisory body of experts to tackle growing instances of human-animal conflict (HAC).

**Key Points of Suggestion**

- An HAC Advisory Committee to be headed by the **Chief Wildlife Warden**, who can consult the committee to act appropriately.
- Advisory body would be packed with official members, exercise all powers of the State Board for Wildlife (SBWL) and take decisions independent of the SBWL itself for faster clearances of projects.
- **Standing Committee** of State Board for Wild Life (**SBWL**): One of the clauses proposed by the Ministry was to have a SBWL to make the functioning of advisory body "more purposive".
  - A **wildlife standing committee** is usually a subset of members that reports to a wider **Wildlife Board**, in the case of States headed by the Chief Minister, and in charge of executing day-to-day matters.

**Pranahita River**

**Maha Harathi** and other special rituals marked the grand finale of the 12-day Pranahita river festival. The mega river festival is dedicated to worshipping the Pranahita

- It is a perennial river, which flows along the border of Maharashtra and Telangana.
- It is the largest tributary of Godavari River.
- The tributaries are Mamda, Nagul vagu, Wil Vagu, Pedda Vagu, Madharam, Bamar, Dongri, Patra.

- Due to its extensive network of tributaries, the river drains a large part of the Vidarbha region in Maharashtra as well as the southern slopes of the Satpura range in southeast Madhya Pradesh.
- Its sub-basin is the seventh largest in India.

### Seafloor Spreading

Study shows the pace of seafloor spreading has slowed down by roughly 35% globally.

#### Key Findings of the Study

- The seafloor is spreading at the rate of around **140 millimeters per year**, down from around 200 millimeters per year compared to 15 million years ago in some places.
- The speed of movements was pronounced at ridges along the eastern Pacific.
- Certain ridges in the region were roughly 100 millimeters per year slower compared to 19 million years ago, lowering the world's average.
- The factor driving the slowdown could be located in subduction zones rather than the ridges.

#### Reasons Behind the Decline of Seafloor Spreading

- Growing mountains on the continents might be one of the factors driving the slowdown as it causes resistance to seafloor spreading.
- As **Pangea** progressively broke apart, new ocean basins formed and eventually, the widely fragmented continents started running into each other.
- Changes in mantle convection could also be playing a role as mantle convection transports heat from the earth's interior to the surface.

### NATPOLREX-VIII

- Defence Secretary inaugurated the 8th edition of the **National Level Pollution response exercise, NATPOLREX-VIII**.
- It was organized by the **Indian Coast Guard (ICG)** from Mormugao Port, Goa.
- The objective was to enhance the preparedness and response capacity of all stakeholders in dealing with **maritime spills**.
- It aims to validate the procedures and guidelines contained in the National Oil Spill Disaster Contingency Plan (NOSDCP) at the national and regional levels under the aegis of the South Asia Cooperative Environment Program (SACEP) MoU, of which India is a member state.
- The event was attended by 50 agencies including 29 observers from 22 friendly countries and international organizations and two Coast Guard ships from Sri Lanka and Bangladesh.

### Long Period Average (LPA)

- The Indian Meteorological Department (IMD) forecasted a '**normal**' southwest monsoon for this year and also **revised the definition** of what constitutes **average rainfall**.
- The agency said, India would get **99%** of the **long period average (LPA) rainfall** — changed from 89 cm to 88 cm in 2018, and in the periodic update in 2022, again revised to 87 cm.
  - The 89-cm average was computed based on a 50-year average from **1951 to 2000**; the 88 cm based on average for the period from **1961 to 2010**
  - The latest LPA of 87 cm is based on the average for the period from 1971 to 2020.

#### About Long Period Average (LPA)

- It is the average rainfall recorded over a particular region for a given interval over a long period of 50 years.

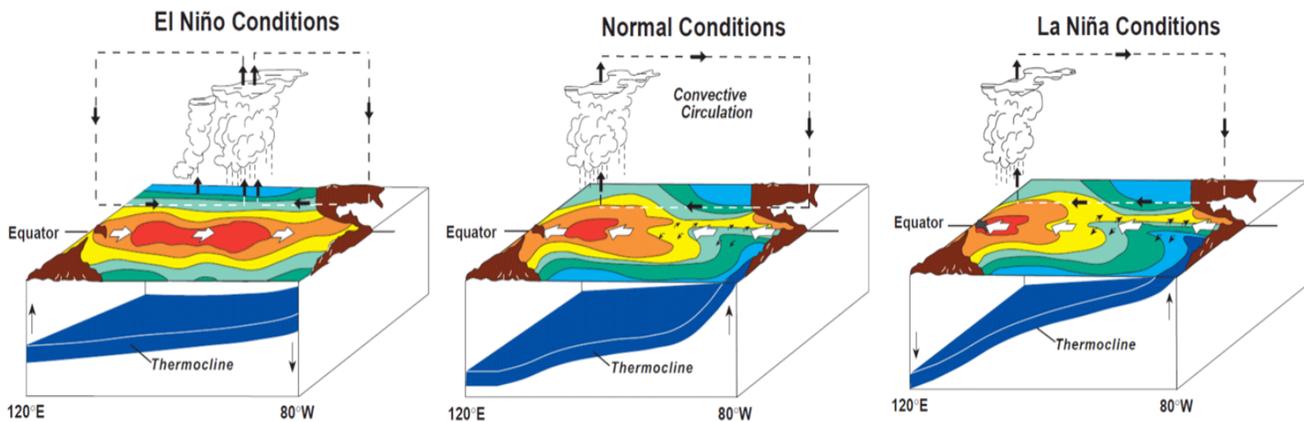
- IMD maintains an independent LPA for every homogeneous region of the country.
- The IMD predicts a “normal”, “below normal”, or “above normal” monsoon in relation to a **benchmark LPA**.

**Range of Normal Rainfall:** The IMD maintains five rainfall distribution categories on an **all-India scale**.

<b>Normal or near normal</b>	• When the percentage departure of actual rainfall is +/-10% of LPA, that is, between 96-104% of LPA.
<b>Below normal</b>	• When departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA.
<b>Above normal</b>	• When actual rainfall is 104-110% of LPA
<b>Deficient</b>	• When departure of actual rainfall is less than 90% of LPA.
<b>Excess</b>	• When the departure of actual rainfall is more than 110% of LPA.

- Over a century, the average rainfall changes every decade with roughly 30 years of a declining trend followed by 30 years of an upswing. Currently, India is at the **end of a dry epoch** and we seem to be **entering a wet epoch**.

**What is ENSO (El Niño and Southern Oscillation)?**



- The formation of an **El Niño [Circulation of Water]** is linked with Pacific Ocean circulation pattern known as the **southern oscillation [circulation of atmospheric pressure]**
- ENSO is one of the most important climate phenomena on earth due to its ability to change the global atmospheric circulation, which in turn, influences temperature and precipitation across the globe.
- **Only El Niño** = [Warm water in Eastern Pacific + Cold water in Western Pacific].
- **Only SO** = [Low Pressure over Eastern Pacific + High Pressure over Western Pacific]
- **ENSO** = [Warm water in Eastern Pacific + Low Pressure over Eastern Pacific] + [Cold water in Western Pacific + High Pressure over Western Pacific].
- Though ENSO is a single climate phenomenon, it has three states, or phases, it can be in:

**El Niño**

- A warming of the ocean surface, or above-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean.
- This accumulation of warm water causes the thermocline to drop in the eastern part of Pacific Ocean which cuts off the upwelling of cold deep ocean water along the coast of Peru. Fishing industry is effected
- It is associated with lower than normal monsoon rainfall in India.

### La Nina

- A cooling of the ocean surface, or below-average SSTs, in the central and eastern tropical Pacific Ocean.
- It is associated with a comparatively better monsoon rainfall in India.

### Neutral

- Neither El Nino nor La Nina.
- Often tropical Pacific SSTs are generally close to average.

### What is Indian Ocean Dipole (IOD)?

- The Indian Ocean Dipole (IOD) is defined by the difference in sea surface temperature between two areas (or poles, hence a dipole) – a western pole in the Arabian Sea (western Indian Ocean) and an eastern pole in the eastern Indian Ocean south of Indonesia.
- In scientific terms, the IOD is a *coupled ocean and atmosphere phenomenon*, similar to ENSO but in the *equatorial Indian Ocean*.
- A '**positive IOD**' — or simply 'IOD' — is associated with cooler than normal sea-surface temperatures in the eastern equatorial Indian Ocean and warmer than normal sea-surface temperatures in the western tropical Indian Ocean.
- The opposite phenomenon is called a '**negative IOD**', and is characterised by warmer than normal SSTs in the eastern equatorial Indian Ocean and cooler than normal SSTs in the western tropical Indian Ocean.

### Does It Impact Southwest Monsoon?

- There is no established correlation between Indian summer monsoon rainfall and IOD.
- However, studies have shown that a positive IOD year sees more than normal rainfall over central India.

### About Indian Meteorological Department (IMD)

- Established in 1875, it is the National Meteorological Service of the country and the principal government agency in all matters relating to meteorology and allied subjects.
- **Concerned Ministry:** Ministry of Earth Sciences ; **Headquarters:** New Delhi

### Functions

- To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like *agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.*
- To warn against severe weather phenomena like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property

## POLITY AND GOVERNANCE

**Supreme Court on Death Penalty**

Supreme Court (SC) commuted the Death sentence of a man, convicted of rape and murder of a seven year old girl to life imprisonment. It may become noteworthy example to the anti-death penalty cause.

**Key Point Of The Judgement**

- SC has said that he shall **not** be entitled to **premature release or remission** before undergoing actual imprisonment for a period of **30 years**. It is unsafe to treat this case as **rarest of rare** category.
- The Court advised trial judges to consider the mitigation factors in favour of life imprisonment.
- SC referred to the evolution of the **principles of penology**. It further explained that penology had grown to accommodate the philosophy of safeguarding of human life.

**Penology:** It is study of punishment of crime and prison management. It is **division of criminology** that is connected to philosophy and practice of society in its effort to repress criminal activities.

**Status of Death Penalty in Indian**

- Prior to the Criminal Procedure (Amendment) Act (Cr PC) of 1955, the death penalty was the rule and life imprisonment an exception in India. The courts were bound to give an explanation for awarding a lighter penalty than death for capital offences.
- After the **amendment of 1955**, courts were at liberty to grant either death or life imprisonment.
- As per Section **354 (3) of the Cr PC, 1973** the courts are required to state reasons **in writing for awarding the maximum penalty**. The situation has been reversed and a **life sentence is the rule and death penalty an exception** in capital offences.
- As per official statistics, 720 executions have taken place in India after it became independent, which is a minuscule fraction of the people who were awarded death penalty by the trial courts. In the last 13 years, only four people have been executed.

**IPC Prescribes 'Death' for Offences such as:**

- Waging war against the Govt of India. (Sec. 121)
- Abetting mutiny actually committed (Sec. 132)
- Giving or fabricating false evidence upon which an innocent person suffers death. (Sec. 194)
- Murder (Sec. 302)

**Some Laws That Provide Death Penalty As A Form Of Punishment**

- **Commission of Sati (Prevention) Act, 1987:** Direct or indirect abetment of sati.
- **SC & ST (Prevention of Atrocities Act), 1989:** Giving false evidence leading to the execution of an innocent member belonging to SC/ ST.
- **Protection of Children from Sexual Offences (POCSO) Act, 2012:** Rape of a minor below 12 years
- **Narcotic Drugs and Psychotropic Substances Act, 1985:** Financing, producing, manufacturing as well as the sale of certain drugs for repeat offenders.
- **Unlawful Activities (Prevention) Act, 1967**
- **Army, Navy and Air Force Acts:** For certain offences committed by members of armed forces.

**International resolution:** In 2007, the *UN General Assembly* passed a resolution calling for a moratorium on the administration of the death penalty. Two-thirds of countries in the world has abolished it. India certainly does not need it as it serves no purpose.

## Women In Indian Judiciary

SC collegium has recently recommended **37 women candidates out of 192 candidates** (19%) for appointment as HC judges. This is an improvement over the percentage of incumbent women judges in high courts, which stands at 11.8%.

### Background

- **Justice Anna Chandy** became the first women judge in any court of India in 1939. Later on, in 1959 she became the first women judge of any High court of India.
- **Justice Fatheema Beevi** became the first women judge in SC of India in 1989.
- Supreme Court since independence witnessed the appointment of **only 11 women judges**.
  - ✓ **Presently there are 4 sitting female judges out of the total 33 judges.**
  - ✓ No woman Judge has ever held the position of Chief Justice of India.
- In 25 High Courts, only 81 women judges are present out of 1078. The HCs of Manipur, Meghalaya, Patna, Tripura, Telangana, and Uttarakhand do not have any women among the sitting judges.
- There are 28% women judges in lower courts of India.
- There is no reservation for women in appointment as judges of SC and HCs. However, some States have reserved the seats for women in lower judiciary.
- According to data from Bar Council of India, only 15% of all enrolled advocates in country are women.
- After 1993, the *collegium* became the ultimate authority to recommend names to SC. This group missed the opportunity to recommend more women judges.

## Deputation Of All India Services

- Department of Personnel and Training (DoPT) has written to States that the Union government proposes to amend **Rule 6** (deputation of cadre officers) of Indian Administrative Service (cadre) Rules 1954.
- DoPT is taking this decision due to shortage of All India Services (AIS) officers in Union Ministries.
- Under this, Union government will acquire for itself **overriding powers** to transfer IAS and IPS officers through Central deputation, doing away with the requirement of taking the approval of the State governments.

### Key Points of Amendment

- If the state government delays posting a State cadre officer to the centre and does not give effect to the central government's decision within specified time, the officer shall stand relieved from cadre from date as may be specified by the central government.
- The Centre will decide the actual number of officers to be deputed to the central government in consultation with the state. The state should make the names of such officer eligible.
- In case of any disagreement between the Centre and the State, the matter shall be decided by the Central government and the State shall give effect to the decision of the Centre.

## New Order For Deputation Of DIG Level IPS Officers

Central government has issued an order on **central deputation** of Deputy Inspector General-level IPS officers. The Department of Personnel and Training (DOPT) has said that IPS officers joining the Union at DIG level would **no longer be required to be empaneled at that level with the Union Government**. The new order makes the entire pool of DIG-level officers in every state eligible for central deputation.

### What Is The Order?

- According to existing rules, a DIG-ranked IPS officer with a **minimum experience of 14 years** could only be deputed to the Centre if the **Police Establishment Board** empaneled them as DIGs at the Centre.

- The board chooses the panel on the basis of officers' career and vigilance records.
- Till now, only Superintendent of Police-level officers does not require empanelment at the Centre.
- The new order makes the entire pool of DIG-level officers in a state eligible for central deputation.
- However, this would not automatically allow DIGs to come to the Centre. Officers would still have to be put on the **offer list for central deputation** which is decided by the states and the Centre in consultation.

### Regulation of NGOs

#### Constitutional Provisions Related To NGOs

- Article 19(1)(c): Right to form association.
- Article 43: Promotion of cooperatives in rural areas.
- Entry 28 of Concurrent List: Management of charitable and religious institution.

#### Types of NGOs in India

- Registered charitable trusts
- Registered Societies
- Cooperatives
- SHG's/ Other informal organizations.

#### Government Initiatives

- **National Policy on Voluntary Sector 2007**
  - ✓ Enabling environment for voluntary organization/NGOs
  - ✓ legitimate financial resource mobilization
  - ✓ System of partnership and network governance between government and Voluntary Organizations/NGOs.
  - ✓ Transparent, accountable, professional and democratic management of NGOs.
- **Foreign Exchange Management Act (FEMA)**: FEMA is regulated by the **Ministry of Finance** and was introduced to consolidate and amend the law relating to foreign exchange with the objective of facilitating external trade and payments
- **Foreign Contribution Regulation Act (FCRA)**: The FCRA 2010 has been enacted under the **Ministry of Home Affairs** to monitor foreign funds donated to NGO's. It ensures that the recipients adhere to the stated purpose for which such contribution has been obtained.
- **Bombay shops & Establishment Act 1948**: NGO registered under the Bombay shops & establishment Act must pay Minimum Wage to the employee irrespective of the strength of employment.
- **Right to Information Act, 2005**: NGOs receiving substantial financing from the government is bound to give information to the public under the RTI Act.

#### Foreign Contribution Regulation Amendment Act 2020 and NGOs

- The FCRA regulates foreign funding to ensure that they don't adversely impact security interest of the country. It was first enacted in **1976**. Later on, it was amended in 2010 and subsequently in 2020 where by new measures were introduced each time.
- All such NGOs who intend to receive foreign funding are required to get registered themselves under FCRA. In **2015**, MHA notified a new rule which requires NGOs to mandatorily give an undertaking that the acceptance of foreign funds is not likely to prejudicially affect the sovereignty and integrity of India or impact friendly relations with any foreign state or communal harmony.
- In **2017**, the government through a **finance act** paved the way for political parties to receive foreign funding outside the ambit of FCRA. This action of government was criticized because it is discriminatory and non-transparent in nature.
- **FCRA Amendment 2020**
  - ✓ Expansion of definition of public servant to bar them from foreign funding.
  - ✓ Prohibition of transfer of foreign contribution from NGO to any other person/organization.
  - ✓ Mandatorily having "FCRA account" designated in SBI branches, New Delhi for receiving foreign contribution.

- ✓ Reduction in use of foreign contribution for administrative expenses from 50% to 20%.
- ✓ As per FCRA 2010, the government may suspend the registration of a person for 180 days in case of non-compliance of FCRA. However, FCRA amendment 2020 adds that such suspension may be extended up to an additional 180 days.
- ✓ Making Aadhaar mandatory for registration, while in case of a foreigner, they must provide a copy of the passport or the Overseas Citizen of India card for identification.
- ✓ Insertion of **Rule 9** – which deals with obtaining registration or prior permission to receive foreign funds
- The Government has come up with new rules **in Nov' 2020**. The new rules made new FCRA registrations more stringent.
  - ✓ Any organisation that wants to register itself under FCRA shall be in existence for three years.
  - ✓ Further, it should have spent a minimum amount of ₹15 lakh on its core activities for the benefit of society during the last three financial years.
  - ✓ However, the rules for declaring an organisation as a “political organisation” have been relaxed, with student, farmer, worker and youth organisations being exempted unless they participate in “active politics or party politics”. Political organisations can't receive foreign funds.
  - ✓ Any organisation seeking prior permission for receiving a specific amount from a specific donor for carrying out specific activities or projects will have to submit a specific commitment letter from the donor indicating the amount of foreign contribution & the purpose for which it is proposed to be given.
  - ✓ If the value of foreign contribution is over Rs 1 crore, it may be given in installments.
- MHA in **January 2021** again laid out a series of guidelines and charter to make NGOs and banks comply with new provisions of the amended FCRA.
  - ✓ The charter for banks says that “donations received in Indian rupees” by NGOs from “any foreign source even if that source is located in India at the time of such donation” should be treated as “foreign contribution”.
  - ✓ Also, it stated foreign contribution has to be received only through banking channels and any violation by the NGO or by the bank may invite penal provisions of FCRA.

### Leveraging Technology For Effective Justice Delivery System

While implementing 'e Court project' need was felt to adopt cutting edge technologies such as Machine Learning (ML) and Artificial Intelligence (AI) to increase efficiency of justice delivery system.

#### Background

- SC of India has constituted **Artificial Intelligence Committee**. Its functions are to identify application of AI technology in translation of judicial documents, process automation and legal research assistance.
- **E-Courts Project**
  - ✓ It was conceptualized by **e-committee of SC** with a vision to **transform** justice delivery system with the help of information and communication technology (ICT). E-committee was constituted in **2004** by the government of India after getting proposal from SC.
  - ✓ It is mission mode pan-India project. It is monitored and funded by the **department of justice** (Government of India).
  - ✓ To deliver, install, and implement decision support system in courts.
  - ✓ Affordable, effective, transparent, predictable, reliable and time bound citizen centric justice delivery system.
- **ICJS (Interoperable Criminal justice System)**
  - ✓ It is a national platform for enabling integration of the ICT for criminal justice system.
  - ✓ It integrates 5 pillars of criminal justice system viz. **police, forensic labs, courts, prosecution and prison**.
  - ✓ Dedicated and secure cloud based digital infrastructure with high-speed connectivity.
  - ✓ **NCRB** with the help of National Informatics Centre (**NIC**) implements the ICJS.

**Examples of Use of Technology in Judiciary**

- **SUVAS (Supreme Court Vidhik Anuvaad Software):** It is an AI system that can assist in the translation of judgments into regional languages.
- **SUPACE (Supreme Court Portal for Assistance in Court Efficiency):** Designed to first understand judicial processes that require automation, it then assists the Court in improving efficiency and reducing pendency by encapsulating judicial processes that have the capability of being automated through AI.

**Demand For inclusion of Bhojpuri In 8<sup>th</sup> Schedule**

Bihar government has said that it would revive its long pending demand for inclusion of Bhojpuri in the 8<sup>th</sup> schedule of constitution.

**Bhojpuri Language**

- > Bhojpuri language is Indo-Aryan language native to the Bhojpur-Purvanchal region of India and Terai region of Nepal.
- > It is chiefly spoken in western Bihar, eastern Uttar Pradesh and north western Jharkhand.
- > It is official language in Fiji as Fiji Hindi.
- > It is recognized minority language in India.

**Eight Schedule**

- It lists the official language of the republic of India. **Part XVII** of Indian constitution deals with the official languages in **Articles 343 to 351**.
- The 8<sup>th</sup> schedule consists of **22 official languages**. Of these languages, 14 were initially included in the constitution.
- There are six classical languages listed in 8<sup>th</sup> schedule - Tamil (declared in 2004), Sanskrit (2005), Kannada (2008), Telugu (2008), Malayalam (2013), and Odia (2014).
- However, there is no fixed criteria for any language to be considered for inclusion in 8<sup>th</sup> Schedule.

Ministry of Culture provides guidelines regarding **Classical languages** which are as given below:

- ✓ **High antiquity** of its early texts/recorded history over a period of 1500-2000 years;
- ✓ A body of ancient literature/texts, which is considered a valuable heritage by generations of speakers.
- ✓ The literary tradition is original and not borrowed from another speech community.
- ✓ The classical language and literature being distinct from modern, there may also be a discontinuity between the classical language and its later forms or its offshoots

**Benefits Of Getting Included in 8<sup>th</sup> Schedule**

- Sathiya Academy will start recognizing the language and the books of the language will be translated in other languages recognised in India.
- Candidate will be able to write the competitive exams like civil services Exam conducted in the All-India level
- Politicians can converse in the languages of 8<sup>th</sup> schedule in assemblies and parliament.

- **Sindhi** was added by 21st Amendment Act of 1967.
- **Konkani, Manipuri, and Nepali** were included by 71st Amendment Act 1992.
- **Bodo, Dogri, Maithili, and Santhali** were added by 92nd Amendment Act of 2003 which came into force in 2004.

**Yuelu Proclamation**, made by UNESCO at Changsha in 2018, says that protection and promotion of linguistic diversity helps to improve social inclusion and partnership.

**Ban On Online Gaming Platform**

Karnataka High Court has **strike down** major portions of the **Karnataka Police (Amendment) Act 2021** which is a new law by state government that bans **online gambling and skill-based gaming** platforms like rummy, poker and fantasy sports.

**Reason For Banning Amendment Act**

- High Court struck down the amendment on three grounds **violating Fundamental Rights of:**

- Law did not distinguish between **game of skill and game of chance**; thus making it arbitrary and irrational.
- **Lack of legislative competence** of state Legislatures to enact laws on online skill-based games.

#### Other States Where Such Laws Were Struck Down

- Apart from Karnataka, a similar law introduced by the Tamil Nadu government was struck down by the Madras High Court in August 2021.
- In September 2021, the Kerala High Court had also quashed a notification issued by the State government specifically banning the game of online rummy when played for stakes.

#### SC's Judgment On Lotteries

Recently, the Supreme Court in a judgement held that a state legislature has the **right to impose tax on lotteries conducted by other States within its jurisdiction**. In 2020, the SC held that lottery, gambling and betting are taxable under the Goods and Services Tax (GST) Act, 2017.

#### Supreme Court's Ruling

- The court observed that 'lotteries' is a "species of gambling activity". Betting and gambling is a genus and includes several types or species of activities such as horse racing, wheeling and other local variations/forms of 'betting and gambling' activity.
- 'Betting and gambling' is part of the **State List in the Seventh Schedule** of the Constitution.
- The power to tax is on all activities which are in the nature of 'betting and gambling' including lotteries.
- State legislatures have the power to tax lotteries under **Entry 62** of the State List. This is because the taxation contemplated under the said Entry is on 'betting and gambling' activities which also includes lotteries, irrespective of the entity conducting the same

#### Central Laws Related to Lottery, Gambling and Betting

- **The Lotteries Regulation Act, 1998**: Lottery is considered legal in India. Lottery should be organised by the state government and the place of Draw should be in that particular state.
- **Indian Penal Code, 1860**: The code has provisions for punishing anyone who to the annoyance of others does any obscene act in a public place or sings, recites or utters any obscene song, ballad or words, in or near any public place. These provisions of the IPC may be attracted if any obscene matter is used for the purpose of **advertising betting and gambling activities**.
- **Prize Competitions Act, 1955**: It defines Prize in Competitions.
- **FEMA, 1999**: Remittance of the income generated from lottery winning, racing/riding is prohibited
- **Information Technology Rules, 2011**: Any internet service provider, network service provider or any search engine will not host any such content which directly or indirectly supports Gambling.
- **Income Tax Act, 1961**: Current taxation policy in India covers all types of Gambling industry directly and indirectly. Thus, it can be said that all regulated & legalised Gambling is supported in GDP of India

#### Hijab Row And Freedom of Religion practices

- The Karnataka High Court is hearing a clutch of petitions challenging **the government order** banning the hijab in Government Educational Institutions.
- Karnataka government passed an order exercising its powers under **Section 133(2) of the Karnataka Education Act, 1983**. The provision grants powers to the state to issue directives for government educational institutions to follow. In 2013, under this provision, the state had issued a directive making uniforms compulsory for education institutions.
- Referring to the 2013 directive, the latest directive specifies that **a headscarf is not part of the uniform**.

**How has Public order been Interpreted by Courts?**

- Courts have broadly interpreted it to mean something that affects the community at large and not a few individuals.
- In **Ram Manohar Lohia vs State of Bihar (1965)**, the Supreme Court held that in the case of ‘public order’, the community or the public at large have to be affected by a particular action.
- One has to imagine three concentric circles, the largest representing ‘law and order’, the next representing ‘public order’ and the smallest representing ‘security of State’

**Marital Rape**

Section 375 of IPC exempts forceful sexual intercourse by a man with his own wife from offence of rape, provided the wife is above 15 years of age. It is also known as marital rape exception.

**Conjugal Rights**

- Conjugal rights are rights created by marriage, i.e. right of the husband or the wife to the **society of the other spouse**.
- The law recognises these rights— both in **personal laws** dealing with **marriage, divorce** etc, and in **criminal law** requiring **payment of maintenance and alimony** to a spouse.
- **Section 9 of the Hindu Marriage Act 1955** and **Section 22 of the Special Marriage Act 1954** empower a husband or a wife to move the local district court, complaining that the other partner has “withdrawn” from the marriage without a “**reasonable cause**”.
- For restitution of conjugal rights and the court, on being satisfied of the truth of the statements made in such a petition and that there is no legal ground why the application should not be granted, may decree restitution of conjugal rights accordingly.

**SC & ST Quota In Promotion**

Supreme Court **refused** to lay down the “**yardstick**” for determining the **inadequacy of representation** for granting reservation in promotion for schedule caste (SC)/scheduled Tribe (ST) candidates in government jobs.

**Key Points Of The Judgements**

1. It held “**cadre**” and not class, group or the entire service as the **unit** for the purpose of **collection of quantifiable data** for giving promotion quotas.
2. With the recognition of ‘cadre’ as the unit for collection of quantifiable data, the court set aside its earlier judgement in the **B.K. Pavithra case (2019)**.
3. The question of **adequate representation** of an SC/ST community ought to be left to the **respective States** to determine and Supreme court can’t lay down any yardstick for determining the inadequacy of representation.
4. The Supreme Court ordered that a **review had to be conducted regarding the data** for the purpose of determining the inadequacy of representation in promotions. Court left it to the Union government to fix a “reasonable” time for the States to conduct the review.

**Statehood Demand by Puducherry**

Chief Minister of Puducherry has demanded to grant statehood for the Union Territory of Puducherry. It is believed that statehood is important for survival of the region.

**Reason Behind Demand For Statehood**

The government in Puducherry claims that they are unable to generate employment potential by inviting more industries. There is a limitation in creating tourism infrastructure and there are developmental halts due to its status as a UT.

**Background**

When the Constitution of India was adopted in 1949, the Indian federal structure included:

- **Part A:** Former British India provinces that had a Governor and a legislature.
- **Part B:** The former Princely States that were governed by a Rajpramukh.
- **Part C:** Chief Commissioners' provinces & some princely states that were governed by Chief Commissioner.
- **Part D:** Territory of Andaman and Nicobar Islands that was governed by a Lieutenant Governor who was appointed by the Central Government.

After the States Reorganisation Act of 1956, Part C and Part D states were combined into a single category of 'Union Territory'. The concept of the UT was added by the Constitution (Seventh Amendment) Act, 1956. Puducherry was transferred to India from French in 1962. It was formed as UT in the same year.

**Constitutional Provision**

- As per **Article 2** of the Indian Constitution, *Parliament may by law* admit into the Union, or establish, new States on such terms and conditions.
- **Article 3** of the constitution provides union government power to form a state, increase or decrease the size of any state and alter the boundaries or name of any state.

**Union Territory**

India currently has eight Union territories. Union Territories are administered by the Lieutenant Governors appointed by President. Puducherry, Jammu and Kashmir, and Delhi are exceptions as they have elected legislature.

Pondicherry (now Puducherry) was formed out of the **four former colonies** of French India:

- **Puducherry and Karaikal** along India's southeastern Coromandel Coast, **Yanam**, farther north along the eastern coast, and **Mahe**, lying on the western Malabar Coast, surrounded by Kerala state.
- It originated as a French trade centre in 1674, when it was purchased from a local ruler.
- The colony of Pondicherry was the scene of frequent fighting between the French and Dutch in the late 17th century, and it was occupied several times by British troops. However, it remained a French colonial possession until it was transferred to India in 1962.

**Assam Cattle Preservation Act 2021**

The Assam Cattle Preservation Act, 2021 was made more stringent through an amendment in Winter Session of the Assam Assembly.

**Background**

The legislation has been passed in August 2021 replacing Assam Cattle Preservation Act, 1950. Assam cattle Preservation 1950 lacked sufficient legal provisions to regulate the slaughter, consumption and transportation of cattle.

**Objective**

1. To check cattle smuggling to Bangladesh, prohibits interstate transport of cattle to and from Assam without valid documents.
2. To remove certain prevailing restrictions with the aim of facilitating the utilization of cattle for animal husbandry and agricultural purposes.

**Provisions In Amendment**

1. The original legislation had prohibited the inter-district movement of cattle within Assam without valid documents.  
 The amendment **allows movement of animals from one district to another**, provided these do not border Bangladesh & those transporting the cattle are registered under the Animal Husbandry and Veterinary Department, having permits to transport the cattle for bonafide agricultural or animal husbandry purposes or for trade.
2. The amendments **empower the police to enter the house of an accused, search and seize properties** if they have a “prima facie reason to believe” that the properties have been acquired in the last six years with money earned from the illegal cattle trade.
3. It allows for the sale of seized vehicles, boats and vessels through “**public auction**” after being produced before the appropriate court.

**India’s Oldest Dam Needs Repair**

According to CAG report, **Gandhi Sagar dam on Chambal River in Madhya Pradesh** needs immediate attention. Problems like non-functioning instruments, irregular checks and clogged drains are reasons of plaguing the dam for years.

**Issues With The Dam As Highlighted In Report**

- Erratic rainfall in recent years has left the dam vulnerable as the dams are very old and built according to rainfall pattern.
- Storage capacity of dam reduced as the dam is aging.
- State dam safety organisation did not comply with the recommendation of Central Water Commission and Dam Safety Pane on remedial measures.

**About large dams**

- India has currently 5745 large dams and is third in world after China and USA.
- 75% of dams are more than 20-year-old.
- Most of dams are constructed and maintained by states. Some bigger dams are managed by autonomous bodies such as Bakhra Beas management board for Bakhra-Nangal project.

**Gandhi Sagar Dam**

- It is one of the five water reservoirs of national importance. It was constructed in 1960 to provide drinking water to several districts of Rajasthan and generate 115 megawatts of electricity.
- It has been breached several times in recent years, causing flooding in downstream areas.

*{For more on Dam safety Act 2021 refer Quick revision part 1, Page 119}*

**Language Of Courts In India**

Recently Gujarat High Court has asked a journalist facing contempt of court proceedings to speak only in English. English is the language of higher judiciary.

**Constitutional Provision**

- Constitution recognises English as primary language of Courts.
- **Article 348 (1)(a)** says that unless Parliament by law provides otherwise, all proceedings before the Supreme Court and in every High Court shall be conducted in English.
- **Article 348 (2)** states that Governor of state may with the previous consent of the President, authorise the use of Hindi or any other Language used for any official purpose, in proceeding of the High Court. Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh have authorised the use of Hindi language in proceedings.

**Background Post-independence**

- **Article 343** provides that official language of the **Union** shall be **Hindi in the Devanagari** script.
- However, it mandated that the English language will continue to be used for all **official purposes** of the **Union** for **15 years** from the commencement of the Constitution of India.
- It further provides that the **President** may, during the said period, by order authorise the use of the Hindi language for any official purpose of the Union, other than the English language.

**Official Languages Act 1963**

- It makes no mention of the Supreme Court, where **English is the only language** in which proceedings are conducted.
- It empowers the Governor of a state to, with previous consent of the President, authorise the use of **Hindi/official language of the state**, in addition to English, for the purpose of any judgement, decree or order passed by the High Court of that state.
- It further provides that where any judgement/decree/order is passed in any such language it shall be accompanied by a **translation of the same in English**.
- Read with the constitutional provisions, it is clear that **primacy is given to English** even by this Act.

**Language of Subordinate Courts**

- The state government has the power to declare any **regional language** as an alternative for the proceedings of the court.
- However, judgments, orders, and decree **may be** passed by the magistrate in **English**.
- The recording of the evidence shall be done in the prevailing language of the state.
- In case of a pleader being unacquainted with English, a translation into the language of the court shall be supplied to him on his request and the court shall bear such costs.

**Feasible Criteria For EWS Reservation**

Government committee report told Supreme Court that Rupees 8 lakh is feasible criterion for EWS reservation.

**About The Report**

The committee has said that RS 8 lakh criteria ensures that most low income people who are not required to pay income tax are not excluded and at the same time it is *not* be so high that it becomes over inclusive by including many income tax –paying middle and high income families into EWS, thus striking a fine balance.

- **Rejected Notion of Emulation of OBC Criterion:** It rejected that the Centre had “mechanically adopted” Rs 8 lakh as a number because it was also used for the OBC creamy layer cut-off.
- **Income Criterion more Stringent for EWS:** Despite being the same cut-off number, their composition is different

EWS's Income Criteria	Creamy Layer In OBC Category Income Criterion
✓ It relates to the financial year prior to the year of application	✓ It is applicable to gross annual income for three consecutive years.
✓ The Rs 8 lakh criteria for EWS include all sources, including farming.	✓ Income from salaries, agriculture and traditional artisanal professions are excluded from the consideration

**About EWS Quota**

- It provides reservation in **jobs** and **education institutes** for EWS.
- 10% EWS quota was introduced under the 103rd Constitution (Amendment) Act, 2019. It inserted Article 15 (6) and Article 16 (6).

To be eligible for the EWS certificate, one has to satisfy **all the conditions** mentioned below

Should be a 'general' candidate

Family's gross annual income should be below Rs. 8 lakhs. This includes income from all sources such as agriculture, salary, business, etc. for the financial year before you apply

Family should not own **agricultural land of size 5 acres or more.**

Family should not own a **residential flat of area 1000 square feet or more.**

Family should not own a **residential plot (in notified municipalities)** of area 100 sq yards or more.

Family should not own a residential plot (**other than in notified municipalities**) of area 200 sq. yards or more.

### Consumer Protection Rule 2021

Central Government has notified the Consumer Protection (Jurisdiction of the District Commission, the State Commission and the National Commission) Rules 2021. The rules are exercised under provision given under Consumer Protection Act 2019. New rules **revised pecuniary jurisdiction** for entertaining consumer complaints.

#### New Rules

1. **District commission** will have jurisdiction to entertain complaints having value of the goods or services paid that does not exceed 50 lakh rupees (Earlier less than 1 crore).
2. **State commission** shall have jurisdiction to entertain complaints that has value of goods or services paid that exceeds 50 lakh rupees but does not exceed to 2 crore rupees (Earlier 1 crore to 10 crore).
3. **National commission** will have jurisdiction to entertain complaints that has value of the good or services paid that exceeds more than 2 crore rupees (earlier more than 10 crore).

#### Consumer Protection Act 2019

- It promulgates a **three- tier quasi-judicial mechanism** for redressal of consumer disputes namely district commission, state commission and national commission.
- Product Liability: A **manufacturer or product service provider or product seller** will be held responsible to compensate for injury or damage caused by defective product or deficiency in services.
- It provides provision to take strict action against the advertiser in the case of misleading advertisements.
- It brings **e- commerce under their jurisdiction.**
- It is swift and less time taking in comparison to older Consumer Protection Act 1986.
- The Act stipulates that every complaint shall be disposed of as expeditiously as possible and endeavour shall be made to decide the complaint within a period of **3 months** from the date of receipt of notice by the opposite party.
- To facilitate consumers in filing their complaint online, the Central Government has set up the **E-Daakhil Portal.**

#### Consumer Protection (Direct Selling) Rules, 2021

Centre has notified Consumer Protection (Direct Selling) Rules, 2021 for the direct selling industry. It prohibits promotion of **pyramid schemes** and participation in money circulation schemes. It has been notified in exercise of the powers conferred by the Consumer Protection Act, 2019.

#### Key Points

The existing direct selling companies will need to ensure they comply with the rules within 90 days. However, direct sellers as well as the direct selling entities using e-commerce platforms for sale shall comply with the

requirements of **Consumer Protection (e-Commerce) Rules, 2020**.

- **Applicability of the Rules**
  - ✓ All goods and services bought or sold through direct selling.
  - ✓ All models of direct selling, all direct selling entities offering goods and services to consumers in India.
  - ✓ All forms of unfair trade practises across all models of direct selling.
  - ✓ Direct selling entities not established in India, but offers goods/ services to consumers in India.
- **Grievance Redressal Mechanism:** Every direct selling entity will have to appoint a nodal officer who shall be responsible for ensuring compliance with the provisions of the Act and the rules.
- **Incorporation under Some Act:** Like Companies Act 2013 or if a partnership firm, be registered under the Partnership Act, 1932, or if a limited liability partnership (LLP), be registered under LLP Act, 2008.
- **Have a Physical Location:** A minimum of one physical location as its registered office within India
- **Self-declaration:** Entities will have to make self-declaration to the effect that Direct Selling Entity has complied with the provisions of the Direct Selling rules

### Protecting Vulnerable Witness

Supreme Court expanded the meaning of vulnerable witnesses to include people with **mental illness** and people with **speech and hearing impairment**.

#### Background

In 2018, Supreme Court approved the **Witness Protection Scheme 2018** that aimed at enabling a witness to depose fearlessly and truthfully. While the scheme is pending in the Parliament, SC has ordered to imply the scheme immediately in all the states and would be the law of the land.

#### Key Points Of Judgement

- Right to witnesses to testify freely in court is part of Article 21(Right to Life).
- The court said that the scheme will be the law under Article 141/142.
- The bench has also asked all States and UTs to set up **vulnerable witness deposition complexes**, these rooms will be equipped with facilities to prevent the accused and witness coming face to face.

#### Key Points

Vulnerable witnesses will not be limited to mean only child witnesses. It will also include:

1. Age neutral victims of sexual assault.
2. Gender neutral victims of sexual assault under **section 377 IPC** (unnatural offences).
3. Witnesses suffering from mental illness as defined in **Mental Healthcare Act 2017**.
4. Witnesses with threat perception and any speech or hearing impaired individual or person suffering from any other disability.

**Vulnerable witness Deposition centre (VWDC):** The SC directed that all High Court's (HC) adopt and notify a VWDC within period of two months. VWDC should be established in close proximity to Alternate Dispute Resolution (ADR) centres.

**Training programme:** The SC urged former Chief Justice of J&K HC Justice Gita Mittal to act as **Chairperson of a committee** for designing and implementing an **All India VWDC training program**.

- The SC also directed the **Chairperson of the committee** to engage with **National and State Legal Services Authorities** to provide an effective interface for schemes of training.
- It also asked the Union Ministry of Women and Child Development to designate a **nodal officer** for coordinating logistical support to the Chairperson.

**India Skill 2021**

India biggest skill competition, India Skills 2021 was concluded recently. India Skill competition is held every **two years** with support of state government and industry.

- National Skill Development Corporation (**NSDC**) working under Ministry of Skill Development and Entrepreneurship (MSDE) leads and organizes skill competitions.
- The winners of India Skills 2021 Nationals will get a chance to represent the country at WorldSkills International Competition to be held in Shanghai, China in October 2022.

**Objective:** It offers young generation from grass root level to showcase their talent at national and international level.

**Highlights of India Skill 2021**

1. 30 states and UTs participated in 54 skill competition. **Odisha** won highest number of medals
2. Three new skills **Yoga, Shoe making (leather) and garment making (leather)** were included.
3. It featured **Abilympics**, a demonstration of skills by Persons with Disabilities in 16 skills.
4. Seven new age skills introduced: Robot system integration, additive manufacturing, digital construction, industry 4.0, renewable energy, mobile applications development and industrial design technology
5. Women participation in plumbing and heating skill for the first time was showcased.

**Universal Accessibility Guidelines**

**Central Public Works Department (CPWD)** has released the new **Harmonised Guidelines and Standards** for universal Accessibility in India 2021.

- It is revision of the **Harmonised Guidelines and Space Standard for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons**, released in 2016.
- Earlier, the guidelines were for creating a barrier-free environment (removing physical barriers), but revised guideline is focused on universal accessibility.

**Key Points**

- It is drafted by a Team of the Indian Institute of Technology-Roorkee and National Institute of Urban Affairs of Ministry of Housing and Urban Affairs.
- The guidelines also focus on people other than differently abled people. For example, Parent pushing child's pram, women wearing sarees etc.
- The guidelines are not just for Persons with Disabilities (PwD), but for those involved in planning projects, from the construction of government buildings to master-planning cities.
- **Nodal Ministry:** Ministry of Housing and Urban Affairs (MoHUA)

**Constitutional and Legal Provisions**

1. Article 14 says that state shall not deny to any person equality before the law or the equal protection of the laws within the territory of India. Person with disability should get equal rights.
2. India is signatory to **UN Convention the Right of Persons with Disabilities** that came into force in 2007.
3. **Accessible India campaign** also known as the **Sugamya Bharat Abhiyaan** focuses on enabling persons with disabilities to gain universal access and equal opportunity to develop.
4. **Right of the person with disability Act, 2016** provides comprehensive legislation concerning persons with disabilities. It recommends creating barrier –free environment by removing all types of discrimination against person with disabilities.

**Lok Adalat**

Technology advancement like E-Lok Adalat has helped Lok Adalats to reach grass root level.

**Key Points**

- Lok Adalats means People’s Court. It is based on Gandhian principles.
- It is one of the components of the **Alternative Dispute Resolution (ADR)** system.
- The first Lok Adalat camp was organised in Gujarat in 1982 as a voluntary and conciliatory agency.
- It is given statutory status under the **Legal Service Authorities Act, 1987**. The Act makes provisions relating to the organisation and functioning of the Lok Adalats.

**Powers of Lok Adalat**

1. Lok Adalats have same power as are vested in a Civil Court under the Code of Civil Procedure (1908).
2. All the proceeding before Lok Adalat shall be deemed to be judicial proceedings within the meaning of the Indian Penal Code (1860)
3. Every award made by a Lok Adalat shall be **final and binding** on all the parties to the dispute.
4. **No appeal shall lie** to any court against the award of the Lok Adalat.

Organisation	Jurisdiction
<ol style="list-style-type: none"> <li>1. National Legal Service Authority (NALSA) along with other legal Services Institutions conduct Lok Adalats. NALSA was constituted under the Legal Services Authorities Act, 1987 which came into force on 9th November 1995.</li> <li>2. District/ State Legal Service Authority or the Supreme Court/High Court/Taluk Legal Service Committee may organise LokAdalat at such intervals and places and for exercising such jurisdiction and for such areas as it thinks fit.</li> <li>3. Every Lok Adalat organised for an area shall consist of such number of serving or retired judicial officers and other persons of the area as may be specified by the agency organising.</li> <li>4. Usually, Lok Adalat consists of a <b>judicial officer as a chairman</b> and a lawyer (advocate) and a social worker as members.</li> </ol>	<ol style="list-style-type: none"> <li>1. Any case pending before the court can be referred to Lok Adalat for settlement if                         <ol style="list-style-type: none"> <li>a) Parties agree to settle the dispute in the Lok Adalat</li> <li>b) One of the parties applies for referral of the case to the Lok Adalat</li> <li>c) Court is satisfied that the matter can be solved by the Lok Adalat.</li> </ol> </li> <li>2. Matters such as matrimonial/family disputes, criminal (compoundable offences) cases, land acquisition cases, labor disputes, bank recovery case etc. are being taken to Lok Adalat.</li> <li>3. Lok Adalat shall have no jurisdiction in respect of any case or matter relating to an offense <b>non-compoundable</b> under any law.</li> </ol>

**Benefits of Lok Adalat**

- There are **no court fees** so it helps people for low socio economic to get legal service and justice.
- It delivers informal, cheap and expeditious justice to the common people.
- There is procedural flexibility. The parties to the dispute can directly interact with the judge
- **Lack of confidentiality:** Lok Adalat proceedings are held in the open court and any member of public may witness these proceedings. Thus, the element of confidentiality is also lacking
- **Needs consent of both the parties:** It cannot be forced on any party that the matter has to be decided by the Lok Adalat.

**Election Expenditure & Deregistration Of Parties**

- The election expenditure of **Lok Sabha** constituencies was increased from RS 54 lakh –RS 70 lakh (depending on the state) **to RS 70 lakh – to RS 95 lakh** by the Election Commission of India.

- Further, the spending limit for Assembly constituencies was hiked from Rs 20 lakh-Rs 28 lakh to **Rs 28 lakh-Rs 40 lakh** (depending on states)
- In 2020, ECI has formed a committee to study the election spending limit. It noted that last major revision in spending limits for candidates were carried out in 2014, while there has been increase in the **number of electors** and **cost inflation Index** since 2014. So, there has been demand from political parties across the country to revise the limit.
  - ✓ Cost Inflation Index = **75% of the average rise in the Consumer Price Index (urban)** for the immediately preceding year.

### Election Expenditure Limit

1. It is mentioned under **section 77** of the Representation of the People Act (RPA) that every candidate shall keep a separate and correct account of all the expenditure incurred between the date on which they have been nominated and the date of declaration of the result.
2. All candidates are required to submit their expenditure statement to the ECI within **30 days** of the completion of the election.
3. An incorrect account or expenditure beyond the cap will disqualify the candidate by ECI for up to **three years** under section **10A of RPA**
4. However, there is **no cap on a political party's expenditure**, which is often exploited by candidates of the party. Nevertheless, all registered political parties have to submit a statement of their election expenditure to the ECI within **90 days** of the completion of the elections

### Deregistration of Parties

- There are over two thousands **registered unrecognised parties**, and the EC has sought the power to deregister (Cancel registration) **inactive parties** over fears of such entities misusing income tax exemption law.
- **Section 13A of the Income Tax Act, 1961** has given 100% exemption to political parties on its income from house property, income from other sources, capital gains and voluntary contributions received from any person however, subject to certain conditions.
- **Power of Deregistration:** ECI has the power to register parties under the RPA 1951, but it does not have the power to deregister parties that are inactive.
- A party can only be de-registered if its **registration was obtained by fraud**; if it is **declared illegal** by the Central Government; or if a party **amends its internal Constitution and notifies ECI that it can no longer abide by Indian Constitution.**

## POLL SYMBOL

**Election symbols (Reservation and Allotment) order, 1968** authorises the election commission to recognise political parties and allot symbols to them. Election commission is only authority to decide issues on a dispute. It was upheld by Supreme Court in **Sadiq Ali and other vs ECI in 1971**.

### Types of election symbol

There are two types of election symbol. I.e. Reserved and Free. Reserved symbol is a symbol which is reserved for a **recognised political party** for exclusive allotment to contesting candidates set up by that party. Free symbol is a symbol other than a reserved symbol.

### Procedure of symbol allocation

- Firstly, a party candidate has to provide list of **three symbols** from the EC's free symbols list at the time of filing nomination papers.
- Secondly one symbol is allocated to the party/candidate on a **first-come first-serve basis**. But when a recognised political splits, the election commission takes the decision on assigning the symbol.

**Reorganization Of A Party As National Or State Party**

- Aam Aadmi party has recently won the assembly election of Punjab. AAP is the only regional party to be in power in two states/UTs. There is emerging question of the party being considered as national party.
- The classifications of political parties are mentioned in **section 6 of the Election Symbols (Reservation and allotment) order, 1968** of election commission of India. This order was brought in exercise of power conferred to ECI by **Article 324** of Indian Constitution and **Section 29A of RPA 1951**.

**Types Of Political Parties**



**Can AAP Claim To Be A National Party?**

Not yet. For a party to be recognised as a ‘national party’ it needs to meet one of the three criteria – and the AAP doesn’t meet any of those.

Perks of being a national party	Perks of being a state party
<ul style="list-style-type: none"> <li>• Reserved election symbol across the India.</li> <li>• Gets land/buildings for party offices.</li> <li>• They can have 40-star campaigners during election campaign.</li> <li>• Free air time on Door-Darshan and All India radio. Free of cost supply of electoral rolls.</li> </ul>	<ul style="list-style-type: none"> <li>• Reserved election symbol across that state.</li> <li>• Gets subsidies land/buildings for party offices.</li> <li>• They can have 20-star campaigners during election campaign.</li> <li>• Free air time on Doordarshan and All India radio. Free of cost supply of electoral rolls.</li> </ul>

**Desh Ke Mentor Programme: Delhi Government**

National Commission for Protection of Child Rights (NCPCR) suggested that the Delhi government suspend its flagship ‘Desh ke Mentor Programme’.

- Launched in October 2021, it aimed at connecting students in **classes 9<sup>th</sup> to 12<sup>th</sup>** with voluntary mentors.
- People between the **ages of 18 and 35** can sign up to be mentors through an app created by a team at the Delhi Technological University and will be connected with students based on mutual interest.
- The mentorship entails regular phone calls for a minimum of two months, which can optionally be carried on for another four months

**Concern Raised by NCPCR**

1. Assigning children to a mentor of same gender does not necessarily assure their safety from abuse.
2. It has also expressed concern over the lack of Police verification of the mentor.
3. It has also stated that limiting interactions to phone calls also does not ensure the safety of Children.

*{For more about NCPCR refer Quick Revision part 1, Page 116}*

**Vote Through Postal Ballot**

ECI has allowed **media persons (Journalist)**, authorised by the poll body, to exercise their franchise using postal ballot facility.

**Key Points**

1. The person who wants to vote through postal ballot has to make an application to the returning officer in Form -12D. The application has to be verified by the nodal officer appointed by the organisation concerned.
2. Any voter opting for postal ballot facility would not be able to cast a vote at the polling station.
3. Postal voting centres (PVCs) will open for three consecutive days in all the constituencies before the date fixed for the state assembly polls.

**Postal Voting**

It is a facility given to restricted set of voters. Through this facility, a voter can cast the vote remotely by recording her/his preference on the ballot paper and sending to the election officer before counting. Following voter can avail the facility.

1. Service voters (armed forces, armed police force of a state & government servants posted abroad)
2. Voters on election duty
3. Voter above 80 years of age or person with disabilities (PwD)
4. Voter who are under preventive detention.

**Voting Rights to Overseas Electors**

Union Minister for Law and Justice stated that the government is exploring the possibility of allowing **online voting for NRIs**.

**Background**

- In 2020, the Election Commission of India (ECI) in a proposal to the Law Ministry proposed to extend the facility of postal ballots to eligible NRIs for the various State Assembly elections to be held in 2021.
- The postal ballots were to be sent to NRIs electronically after which they will send the ballots back, after choosing their candidate, via post.

**Current process**

- Representation of people (Amendment) Act 2010 provided right to vote to NRIs who had stayed abroad beyond 6 months but only in person at the polling station where they have been enrolled as an **overseas electors**.
  - Prior to 2010, an Indian citizen who is an eligible voter and was residing abroad for more than six months, would not have been able to vote in elections. This was because the NRI's name was deleted from electoral rolls if he or she stayed outside the country for more than six months at a stretch.
- An NRI can vote in the constituency in his/her place of residence, as mentioned in the passport
- He/She can only vote in person and will have to produce her passport in original at the polling station for establishing identity

**Electronic Transmitted Postal Ballot System(ETPBS)**

- The service voters in India can use online voting system through ETPBS (**Electronic Transmitted Postal Ballot System**) from 2016.
- The conduct of election rules, 1961 was amended to allow service voters to vote through ETPBS.
- Under this system, postal ballots are sent electronically to registered service voters. The service voters can then mark their mandate on the postal ballot by taking a print out of it and send it back via ordinary mail.

**Draft National Air Sport Policy**

Ministry of Civil aviation has released a draft National Air Sports Policy (NASP).

**Objective:** The idea of the policy is to make India one of the *top air sports national by 2030*. It visualises to promote the country's air sports sector by way of making it safe, affordable, accessible, enjoyable and sustainable.

**Key Points**

- The policy proposes **two-tier** governance structure for air sports in the country. It will include an apex governing body called the **Air Sports Federation of India (ASFI)**. The ASFI will be an autonomous body under the Ministry of Civil Aviation.

- Popular air sports attractions in the country such as Bir Billing in Himachal Pradesh, Gangtok in Sikkim, Hadapsar in Maharashtra and Vagamon in Kerala can be declared as “control zone” for air sports. It will ensure safety of other manned aircraft.
- It will cover activities like aerobatics, aero modelling, experimental aircraft, ballooning, drones, gliding, hang gliding, vintage aircraft etc.
- Each air sports association will lay down its safety standards for equipment, infrastructure, personnel and training and specify the disciplinary actions.

### One District One Product

- 6 one district one Product (ODOP) brands are launched under Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) scheme.
- The Ministry of Food Processing Industries has signed an agreement with NAFED for developing ten brands of selected ODOPs under the **branding and marketing component of PMFME scheme**. Out of ten, following six brands were launched.

Name of Product	Name of District
1. Amrit Phal (Amla Juice)	Gurugram (Haryana)
2. Cori Gold (Coriander Powder)	Kota ( Rajasthan)
3. Kashmir Mantra (Kashmiri lal Mirch)	Kulgam, (Jammu and Kashmir)
4. Madhu Mantra (Honey)	Saharanpur (Uttar Pradesh)
5. Whole wheat cookies	Dilli Bakes (Delhi)
6. Brand Somdana (Ragi flour)	Thane (Maharashtra)

### One District One Product (ODOP) Approach:

- It will provide the framework for value chain development and alignment of support infrastructure. There may be more than one cluster of ODOP products in one district.
- There may be a cluster of ODOP products consisting of more than one adjacent district in a State.
- The States would identify food products for districts keeping in view the existing clusters and availability of raw material.
- The ODOP could be a perishable produce based or cereal based or a food item widely produced in an area. E.g. mango, potato, pickle, millet based products, fisheries, poultry, etc.

#### Other Focus Areas

- Waste to wealth products, minor forest products and Aspirational Districts.
- Capacity building and research: Academic and research institutions under MoFPI along with State Level Technical Institutions would be provided support for training of units, product development, appropriate packaging and machinery for micro units.

#### Marketing and Branding Support

- It would be provided to groups of FPOs/SHGs/ Cooperatives or an SPV of micro food processing enterprises for: Quality control, developing a common brand and packaging standardisation. Marketing tie-up with national and regional retail chains.

#### Financial Support

- Existing individual micro food processing units desirous of upgrading their units can avail credit-linked capital subsidy at 35% of the eligible project cost with a maximum ceiling of Rs.10 lakh
- Support is for development of common infrastructure including common processing facility, lab, warehouse, etc. through FPOs/SHGs/cooperatives or state owned agencies or private enterprise.
- A seed capital of Rs. 40,000- per SHG member would be provided for working capital and purchase of small tools.

#### Funding

- It is a centrally sponsored scheme. The expenditure would be shared in 60:40 ratio between Central and State Governments, in 90:10 ratio with North Eastern and Himalayan States, 60:40 ratio with UTs with legislature and 100% by Centre for other UTs.

### Rural Area Development Plan 2021

Ministry of Panchayati Raj has revised Rural Area Development Plan Formulation and Implementation (RADPFI) guidelines 2017.

- RADPFI 2021 guidelines is a continuation to the Ministry's efforts towards promotion of Spatial rural planning and would create pathways for rural transformation by developing a perspective for long term planning in villages.

#### Key Points

1. It includes Village Planning Scheme (VPS) on the lines of Town Planning Schemes in urban areas.
2. Provisions linking **Gram Panchayat Development Programme (GPDP)** with Spatial Land Use Planning.
3. It will take effort to boost local infrastructure, other developmental requirements, employment opportunities and resource base of Panchayats.
4. It will augment development of vibrant economic cluster in rural areas
5. It will supplement the efforts of the Central Government such as the SVAMITVA scheme and RURBAN Mission.

#### SVAMITVA Scheme

- As an initiative of **Ministry of Panchayati Raj**, it aims to provide rural people with the right to **document their residential properties** so that they can use their property for economic purposes.
- The scheme is for surveying the land parcels in rural inhabited area using Drone technology.
- **Objectives**
  - ✓ To bring financial stability to the citizens in rural India by enabling them to use their property as a financial asset for taking loans and other financial benefits.
  - ✓ Creation of accurate land records for rural planning.
  - ✓ Determination of property tax, which would accrue to the GPs directly in States where it is devolved or else, add to the State exchequer.

### Digital Initiative Of Gujrat High Court

Supreme Court e- committee chairperson inaugurated two digital services for Gujarat High Court- a '**Justice Clock**', and **electronic payment of court fee**.

#### Justice clock

1. Placed in high court premises, it is a Led display of 7 feet by 10 feet.
2. The clock will exhibit vital statistics of the justice delivery system in Gujarat to maximise outreach and transparency of the work done by the state judiciary.

### Tenure Extension Of National Commission For Safai Karamchari

Union Cabinet has approved extension of the tenure of National Commission for Safai Karamchari (NCSK) for 3 years beyond 31st March, 2022.

#### National Commission for Safai Karamchari (NCSK)

- It was established in the year 1993 as per the provisions of the NCSK Act 1993.
- The NCSK has been giving recommendations to Government regarding specific programmes for welfare programme for Safai Karamcharis.
- The NCSK Act ceased to have effect from 29th February, 2004. After that the tenure of the NCSK has been extended as a non-statutory body from time to time through resolutions.
- As per provision of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, the NCSK has been assigned the work to monitor the implementation of the Act.

**Prohibition of Employment of Manual Scavengers and Their Rehabilitation Act 2013.**

- It prohibits employment of manual scavengers, manual cleaning of sewers & septic tanks without **protective equipment**. It seeks to rehabilitate manual scavengers & provide for their alternative employment.

**Statistics**

- 2019 saw the highest number of manual scavenging deaths (110 workers) in past 5 years. This is a 61% increase as compared to 2018.
- ~30000 people are engaged in manual scavenging in Uttar Pradesh (highest in any State)

**Democracy And Empower City**

RBI’s report “State Finances, study of Budget of 2021-22” has mentioned that the functional autonomy of civic bodies must increase and their governance structure should be strengthened.

**Key Points Of The Report**

- The report emphasised on 15<sup>th</sup> finance commission’s recommendation to strengthened city governance structure and financial empowerment.
- It highlights the financial strains faced by third tier governments during pandemic.
- Limited collection of property tax has strained revenue collection of municipal government.

**Reservation In Local Body Polls**

Supreme Court decided to “recall” its December 2021 order, which stayed 27% reservation for Other Backward Classes (OBCs) in local body elections.

**Background**

- In March 2021, SC asked Maharashtra government to comply with triple conditions (2010 judgement)

**2010 Judgement**

- The 5-judge Constitution Bench decision in K. Krishnamurthy (Dr.) v. Union of India (2010) wherein the SC had interpreted **Article 243D (6) and Article 243T (6)**, which permit reservation by enactment of law for backward classes in panchayat and municipal bodies respectively, to hold that **barriers to political participation are not the same as that of the barriers that limit access to education and employment.**
- SC asked the state government to comply with triple conditions:
  - Setting up a **dedicated commission** for collecting **empirical data on the OBC population,**
  - Specifying the **proportion of reservation**
  - **Ensuring that the cumulative share of reserved seats don’t breach 50% of total seats.**

- Following the SC order, the government appointed the dedicated commission for empirical data of OBCs and also promulgated an ordinance to give upto 27% reservation to the OBCs in local bodies without exceeding the 50% ceiling limit of the reservation.
- However, the apex court stayed it in December 2021, saying it cannot be implemented without the empirical data, and asked the State Election Commission (SEC) to convert the OBC seats into the general category and hold the elections.

- The Supreme Court’s latest order said that it is mandatory to follow principle laid down by the Court for providing reservation to OBCs in local bodies.
- The Supreme Court has entrusted the **Backward Classes Commission** with the responsibility of giving political reservation to OBC in the upcoming local body election in Maharashtra.

- Maharashtra is not the only state where OBC reservation in local bodies was stayed. In December 2021, the top court passed a similar order for the Madhya Pradesh government, directing the OBC seats to be notified as general category for failing to comply with the three-test criteria (as stated in the 2010 judgement).

### CVC Modified Criteria

Central Vigilance commission (CVC) has again modified the criteria for **nomination** of Independent External Monitors (IEM).

#### Background

In June 2021 the Commission had issued the revised guidelines for adoption and implementation of the '**Integrity Pact**' specifying the eligibility criteria for nomination of IEMs.

**Key points:** The zone of consideration for empanelment as IEMs has been revised. It now includes:

1. The officers who held the post of **Additional Secretary** to the Government of India or Persons of equivalent/higher pay scale at the time of retirement at Centre and State.
2. Chairman-cum- Managing Directors (CDM) of Schedule 'A' public sector enterprises or were equivalent/higher to Additional Secretary to the Central government at the time of retirement.
3. CMDs/MDs and Chief Executive Officers (CEOs) of public sector banks, insurance companies and other financial institutions at the time of retirement;
4. Officers of the armed forces who were in a pay scale equivalent to or higher than that of Additional Secretary at the time of retirement, are also eligible.

### Independent External Monitor

Independent External Monitor reviews independently and objectively, whether and to what extent parties have complied with their obligation under the pact. They may submit their report to the chief executive of the organisation concerned or directly to the Chief Vigilance Officer (CVO) and the CVC.

### Integrity pact

It is vigilance tool that envisages an agreement between the prospective vendors/ bidders and buyer, committing both the parties not to exercise any corrupt influence on any aspect of the contract.

### Attorney General's Consent

Attorney General gave consent to Mumbai- based activist to initiate **criminal contempt of court** proceeding against controversial priest of Haridwar conclave. The Priest was one of key organiser of the three –day conclave held last month in Haridwar where several hate speeches were made targeting minority group. The Priest also attempted to lower the authority of the Supreme Court.

### Contempt of Court

- The expression 'contempt of court' has not been defined by the Constitution.
- However, Article 129 of the Constitution conferred on the Supreme Court the power to punish for contempt of itself. Article 215 conferred a corresponding power on the High Courts.
- According to Contempt of Court Act, 1971, contempt of court can either be civil or criminal.

#### Civil Contempt

•It means wilful disobedience of any judgement, decree, direction, order, writ or other process of a court, wilful breach of an undertaking to a Court.

#### Criminal Contempt

•It means publication whether by words, spoken or written, or by signs or by visible representations or otherwise that scandalises or tends to scandalise, or lowers or tend to lower the authority of any Court.  
•It refers to behaviour which disobeys, offends or disrespects the authority or dignity of the Court

- Cognisance of criminal contempt is taken by Supreme Court and High Court.

#### **Procedure of Criminal contempt is initiated in three manners**

- By the Advocate General or Attorney General
- By any other person with the consent in writing by the Attorney General and Advocate General.
- By the Supreme Court or High Court, itself.

#### **Exception With Regard To Contempt Of Court**

- Truth is a valid defence, if in public interest and Bonafide in nature.
- Innocent publication and distribution of matter are not contempt.
- Fair and accurate reporting of judicial proceedings is not contempt.
- Judicial criticism is not contempt.

#### **Dilution Of Lokayukta Power In Kerala**

Kerala Cabinet has recommended to the Governor to promulgate an ordinance amending Kerala Lok Ayukta Act, 1999. The amendment aims at giving powers to the government to either **accept or reject** the verdict of the Lokayukta, after **giving an opportunity of being heard**.

#### **Lokayukta**

- **Section 3 of the Lokayuktas Act 2013** states that “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.
- 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.
- It is statutory body and performs function of an **ombudsman**.

#### **The Lokpal and Lokayuktas Act, 2013**

- It provides for establishing a Lokpal headed by a Chairperson, who is or has been a **Chief Justice of India**, or is or has been a **judge of Supreme Court**, or an **eminent person** who fulfills eligibility criteria as specified.
- Of its other members, not exceeding eight, **50% are to be judicial members**, provided that not less than **50% belong to the SCs, STs, OBCs, minorities, or are women**.
- 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**, which comprises Prime Minister as its 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.
- **Lokpal jurisdiction**: To inquire into allegations of corruption against anyone who is or has been Prime Minister, or a Minister in the Union government, or a Member of Parliament, as well as officials of the Union government under **Groups A, B, C and D**.
  - ✓ Covers chairpersons, members, officers and directors of any board, corporation, society, trust or autonomous body either established by an **Act of Parliament** or **wholly or partly funded by Centre**.
  - ✓ Covers any society or trust or body that receives **foreign contributions above Rs10 lakh**.
  - ✓ It has powers to superintendent and give direction to CBI. If it has referred a case to the CBI, the investigating officer in such a case cannot be transferred without approval of Lokpal.
  - ✓ Powers to authorize CBI for search and seizure operations connected to such cases.
  - ✓ Lokpal has powers of confiscation of assets, proceeds, receipts and benefits arisen or procured by means of corruption in special circumstances
  - ✓ It has power to recommend transfer or suspension of public servants connected with allegations of corruption.
  - ✓ Lokpal has power to give directions to prevent destruction of records during preliminary inquiry
- Lokpal was appointed in March 2019 and it started functioning since **March 2020** when its rules were

### Director of Inquiry

Lokpal is yet to get a director of inquiry. CVC (Central Vigilance Commission), in an answer to a RTI query, has revealed that though Director of Inquiry has not been appointed by Government of India, cases are being received in the commission for conducting preliminary inquiries.

### Director of Inquiry

- According to section 10(2) of Lokpal Act – “There shall be a **Director of Inquiry** and a **Director of Prosecution not below the rank of Joint Secretary** to the Government of India or equivalent, who shall be appointed by the Chairperson from a panel of names sent by the Central Government”.
- As per provisions contained under Section 20 (1) (b) of Lokpal and Lokayuktas Act, 2013, complaints in respect of public servants belonging to groups A, B, C or D are referred by the Lokpal to CVC for a preliminary inquiry.
- The director of inquiry shall conduct preliminary inquiry into graft complaints referred to CVC.
- The Inquiry wing of the Lokpal has been vested with powers of a civil court.

### Digital Sansad App

- Lok Sabha secretariat has launched a new app called Digital Sansad.
- It will make it easier for people as well as the lawmakers to follow proceedings in Parliament.
- **Live broadcast** of the proceedings of both the Houses of Parliament, information about the **day-to-day business** of the Houses, **discussion on the budget since 1947, House discussions from 12th Lok Sabha to 17th Lok Sabha** along with the letter to be laid on the Table of the House are also available on the app.
- In addition, it will also help members of parliament access services such as checking **personal updates** like status of their notices, House bulletins, etc.
- As MPs are barred from using laptops inside the House, the app comes handy for parliamentary information for MPs during a debate in the House.
- In future, the MPs can log in for attendance, give questions for the Question Hour or submit notices for debates or adjournment motions.

### Section 498 (A) Misuse

- Section 498 (A) of IPC 1860 was passed by the Indian Parliament in **1983**.
- It is a **criminal law**. It is defined that if husband or the relative of the husband of a woman, subjected such woman **towards cruelty**, then they would be punished with imprisonment for term which might extend to 3 years and may be liable for fine.
- The fact that Section 498-A is a **cognizable and non-bailable offence** has lent it a place of one of progressive rescue for **violence against woman**. However, it is important to stop the misuse of procedure of law and use this provision to shield and not as weapon.

### Acts of Domestic Violence

Physical violence

Sexual violence

Emotional  
(psychological)  
abuse

Controlling behaviors

- **Malimath Committee Report, 2003** on reforms in the criminal justice system. It noted that the "general complaint" of Section 498A to be a subject to gross misuse.

## Television Content Regulation

Information and broadcasting Ministry (I&B) **cancelled broadcast license** of Malayalam- language news channel through an order. The order mentioned that **Home Ministry** denied security clearance to the channel.

### Background

Union Government amended the Cable Television Network Rules, 1994. The amendment brings in a statutory mechanism in the form of **Cable Television Networks (Amendment) Rules, 2021** for three tier redressal of grievances /complaints of citizens

- A viewer can successively approach the channel, then a self-regulatory body of the industry, and finally the I&B Ministry, which can issue a show cause notice to the channel, and then refer the issue to an Inter-Ministerial Committee (IMC).
- For content on OTT platforms too, there is a similar structure.

### Power of I&B

- In Feb' 2021, the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021** extended its regulatory powers over internet content, Over the top platform (“OTT”) etc.
- **Films Related: Central Board of Film Certification (CBFC)** has power to withhold a rating unless the filmmaker agrees to its suggestion. While it isn't the CBFC's mandate to censor a film
- **TV channels related:** The Ministry also has the **Electronic Media Monitoring Cell** that tracks channels for any violations of the programming and advertising codes mentioned in the **Cable TV Network Rules,1994**.
- **Print Media and Website Related:** The Ministry acts on the recommendation of **Press Council of India**, the government can suspend its advertising to a publication.

The content on any of these platforms has to follow the free speech rules of the country. Article 19(1) of the Constitution, while protecting freedom of speech, also lists certain “reasonable restrictions” including content related to:



### Do Other Agencies Play a Role

- There is **no direct involvement**, as the powers to regulate content rest only with the I&B Ministry. However, the Ministry relies on **inputs from other ministries, as well as intelligence agencies**.
- For Example: In the recent case, the license was revoked because Home Ministry had denied it security clearance, which is essential as part of the policy.
- There is also a new mechanism that I&B Ministry adopts. It has used emergency powers under the new IT Rules to block certain **YouTube channels and social media accounts** based on inputs from intelligence agencies. The recourse available to anyone whose channel or account has been banned would be to go to the courts.

## Anti-Conversion Bill 2022

Haryana Cabinet approved the draft of Haryana Prevention of Unlawful Conversion of Religious Bill 2022. It is aimed to prohibit religious conversion that are forceful or allurements or by any fraudulent.

### Provision Of The Bill

- The bill provides for greater punishment for above mentioned conversions in respect of minors, women, Schedule caste and Schedule tribe.
- Every individual converting from one religion to another has to submit to the prescribed authority a declaration that the conversion affected through was not by any fake means.
- The burden of proof that conversion is not being through above mentioned means is on the accused.

### Existing Laws on Anti Conversion

There is no central law on conversion. However, many states like Uttar Pradesh, Arunachal Pradesh, Karnataka, Uttarakhand, Himachal Pradesh, Gujarat, Madhya Pradesh, Orissa Chhattisgarh have anti conversion laws.

*{For more on religious conversion refer Quick revision Part1, Page 90}*

### Fundamental Duties

Supreme Court has issued a notice to the Centre and states to respond to a petition **to enforce** the Fundamental Duties of citizens, including patriotism and unity of the nation, **through comprehensive, well-defined laws.**

#### Fundamental Duties

- Fundamental Duties were incorporated by **44th Constitutional Amendment Act** in the year **1976** on the recommendation of **Swaran Singh Committee**.
- There were 10 in number. In 2002 one more Fundamental duty was added through 86<sup>th</sup> Constitutional amendment Act.
- Unlike fundamental rights, fundamental duties are **not enforceable (non-justiciable)** in Courts.
- It is intended to be reminder to every citizen to observe certain basic norm.
- The characteristic of Fundamental Duty is of two types - moral and civic.

#### Laws To Give Effect To Fundamental Duties

- **Prevention of Insult to National Honour Act (1971)** prevents disrespect to the constitution of India, the National Flag and the National Anthem.
- **Wildlife Protection Act and Forest Conservation Act 1980.**
- **Right to Education Act 2009** specifies the duties and responsibilities of parents in providing free and compulsory education.

### First Information Report

First Information Report (FIR) is the **written** document prepared by the Police after verifying the facts of the complaint.

#### Key Point of First Information Service

- The term FIR is **not defined** in the Indian Penal Code (IPC), Code of Criminal Procedure (CrPC), 1973, or in any other law. It is defined in **Police regulations and rules** as Information recorded under section **154 of CrPC**.
- Section 154 (Information in **cognizable cases**) says that “every information relating to the commission of a cognizable offence, if given on to an officer in charge of a police station shall reduce to writing by him or under his direction”.
- A copy of the information as recorded shall be given forthwith, free of cost to the informant.

**Important Element of an FIR:** There are three important elements of an FIR

- The information must relate to the commission of a cognizable offence.
- It should be given in writing or orally to the head of the Police station.
- It must be signed by the informant and the key points should be recorded in a daily diary.

#### Cognizable Offence

A cognizable offence is one in which the police may arrest a person without warrant. Police is authorised to start investigation into a cognizable case on their own and do not require any order from the Court to do so.

#### What If The Police Refuse To Register An FIR

- Under Section 154(3) CrPC, if any person is aggrieved by the refusal on the part of the officer in charge of a police station to register an FIR, he can send the complaint to the Superintendent of Police/DCP concerned.
- Who, if satisfied that such information discloses the commission of a cognizable offence, will either investigate the case, or direct an investigation by a subordinate police officer.

- If no FIR is registered, the aggrieved persons can file a complaint under Section 156(3) CrPC before a concerned court which, if satisfied that a cognizable offence is made out from the complaint, will direct the police to register an FIR and conduct an investigation.

**Zero FIR**

- If a police station receives a complaint regarding alleged offence that has been committed in the jurisdiction of another police station, then it registers Zero FIR and transfers it to the concerned police station for further investigation.
- No regular FIR number is given. After receiving Zero FIR, the concerned police station registers a fresh FIR and starts the investigation.

**Legislation for Refugees**

NHRC had a discussion on Protection of the basic human rights of refugees and asylum seekers in India

**Highlight of Discussion**

- Refugees and asylum seekers are entitled to the rights charted in **Article 14** (Right to Equality), **Article 20** (Protection with respect to conviction of offenses), and **Article 21** (Right to Life) of the Constitution.
  - ✓ Article 21 encompasses the *right of non-refoulement*, the principle under international law which states that a person fleeing persecution from his own country should not be forced to return to his own country.
- NHRC has drafted model law on asylum and refugees a decade ago but was never implemented by Government.

**National Human Right Commission**

- It is statutory body established in 1993.
- It has four members with a chairman who has to be a retired Chief Justice of India.

**Concerns Regarding Refugees in India**

- India has not signed the **1951 Refugee Convention** which leads to legal insecurity of refugees' status and difficulty to access in terms of refugee rights.
- Due to the absence of specific laws, refugees and asylum seekers are regulated under the **Foreigners Act, 1946**. As a result, these people are treated similar to tourist, illegal immigrants, and economic immigrants.
- Absence of uniform law leads to unequal treatment towards refugee groups. This is reflected in how refugees from Tibet are well received compared to refugees from Myanmar in India.

Refugee	Asylum Seeker	Migrant
Refugee is a person who has fled his / her country due to risk of serious human right violations and persecution there. E.g. Rohingya Refugees	An asylum-seeker is a person who has left their country and is <b>seeking</b> protection from persecution and serious human rights violations in another country. E.g Dalia Lama in 1959  An asylum seeker is someone who is <u>seeking international protection but whose claim for refugee status has not yet been determined.</u>	Migrants are people staying outside their country of origin who are not refugees or asylum seekers. Migration can be legal or illegal. Illegal migration is bunched with Refugees. E.g Bangladesh migrants

**Importance of Caste Data**

SC upheld the 27% quota for OBC in the All-India quota seats for the NEET and ruled that reservation for backward classes were not an exception but an extension of the principle of equity under Article 15(1)

**Need of SECC**

- **Lack of data on OBC:** Even though data concerning the Scheduled Castes and Scheduled Tribes have been included in the Census, there is no similar data on OBCs.
- SECC provides statistical justification for **caste based affirmative actions**.

- Legal imperative to have **quantifiable data** as per the judgment of the SC in Indira Swahney Case and M. Nagraj Case.
  - ✓ The National Commission for Backward Classes Act, 1993 provides under Section 11 that the Central government may every 10 years revise lists with a view to exclude those classes which have ceased to be backward and include new backward classes. This exercise has not been done to date
- It will enable independent research and help in identifying poor households and devising positive actions.

**{For more about SECC and its concerns' refer Quick Revision Part 1, Page 144}**

### Summoning of State Assembly

- State Assembly of West Bengal was summoned post-midnight. The Governor returned the recommendation of the Chief Minister to summon the State Assembly.
- The Governor mentioned that he is returning the recommendation to summon assembly because the Council of Minister was not consulted, and he is to act on aid and advice of Council of Minister, not the Chief Minister alone.

### Procedure To Summon State Assembly

There are two provisions in the Constitution that deal with Governor's power to summon, prorogue and dissolve an assembly

- **Article 174** of the constitution mentions that Governor of the State will summon, dissolve and prorogue the legislative State assembly. The provision also puts on the Governor the responsibility of ensuring that the House is summoned at least once every six months.
  - ✓ Article 174 (2) (a) says a Governor may from "time to time" prorogue the House and 174 (2) (b) allows her or him to dissolve the Legislative Assembly.
- **Article 163** says that the Governor acts on the aid and advice of the Council of minister. So, when the Governor summons the House under Article 174, this is not of his or her own will but on the aid and advice of the Cabinet.
- But it also adds that she or he would not need their advice if the Constitution requires her or him to carry out any function at her/his discretion. It can be challenged in court.
- Usually, the two Articles 174 and 163 are read together to outline the Governor's powers in summoning, proroguing or dissolving the House.
- In conclusion, Governor does not possess any discretionary power to summon the state assembly except when Chief Minister has lost the support of the House.

### Representative of Rajya Sabha from UT of Chandigarh

Chandigarh Municipal Corporation has approved the proposal that its councilor should be allowed to send a representative to Rajya Sabha by amending the **Article 80 of the Constitution**.

- An amendment has also been sought to the Fourth Schedule of the Constitution with 'Entry 32, Chandigarh.'
  - The fourth Schedule contains provisions as to the allocation of seats in the Council of States.
  - It contains the number of seats represented in the Council of states (Rajya Sabha) from each State and Union Territory.
- Chandigarh is a Union Territory (UT) without any legislative assembly. Chandigarh has a seat of Member of Parliament (MP) in the lower house (Lok Sabha) and the residents of the UT elect an MP every five years through direct voting.

### UTs And Its Representation In Rajya Sabha

- UT's of Puducherry, Jammu and Kashmir and Delhi have representation in the Rajya Sabha. These are UTs with legislative assembly.
- Ladakh, Chandigarh, Dadra & Nagar Haveli, Daman and Diu, Andaman and Nicobar Islands and Lakshadweep are unrepresented.

## Guardianship of Minors

Public Interest Litigation (PIL) in Madras High Court sought all documents must also require the mother's name to be mentioned along with fathers.

### Background

- There has been change in rules regarding passport and PAN card that allows an applicant to furnish their mother's name if she is single parent. Ministry of external affairs liberalised its rule in 2016
  - ✓ The new passport application form also does not require the applicant to provide the name of her or his spouse when they are divorced and neither are they required to provide the divorce decree
- Central board of Direct taxes amended Income tax Rules, 1962 in 2018 to remove the compulsory mentioning of Father's name on documents when a mother was a single parent.
  - ✓ The new PAN application form also seeks the mother's name alongside the father's.
  - ✓ Applicants can also choose whether they want their father's name on the PAN card or their mother's name.
- But school certificates and lot of other documents insists father's name as guardian.

## Fundamental Rights To Foreigner

Government of India appealed to Supreme Court to help lay down a law with a long lasting implication for the country on the subject of Foreigner's Right to approach local courts for relief after violating their visa condition.

### Requirement of Law

- There is no remedy for visa violation as it is sovereign function.
- Article 19 of Indian constitution is not applicable to foreigners and in case of visa violation foreigners cannot go to Court.
- India relies on the **Registration of Foreigners Act, 1939, and the Foreigners Act, 1946** to govern the entry, stay and exit of foreigners in India. The majority of these laws are archaic in nature and do not stand the test of principles of natural justice. Moreover these laws grant the central government unfettered and arbitrary powers.
- **Section 3, subsection 2, clause (e)** of the Foreigner's Act (1946), contains a list of **nine orders** embodying government regulations from imposing restriction on movement, prohibiting from association with persons of a prescribed/specified description to requiring foreigners to reside in a particular place. (**Article 19-FR not available to Foreigners**)

### Fundamental Rights Available Only To Citizens And Not To The Foreigners

- ✓ **Article 15:** Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth.
- ✓ **Article 16:** Equality of opportunity in matters of public employment.
- ✓ **Article 19:** Protection of six rights regarding freedom of (speech and expression, (ii) assembly (iii) association, (iv) movement (v) residence and profession
- ✓ **Article 29:** Protection of language, script and culture of minorities
- ✓ **Article 30:** Right of minorities to establish and administer educational institutions.

- There are provisions of, Powers of house arrest, detention, solitary confinement and summary removal from India under these Acts, which clearly infringe upon the fundamental rights of life and personal liberty guaranteed (**Article 21-FR available to foreigners**)

- **Passport (Entry into India) Act, 1920** and **Foreigners Act, 1946** permit the removal or the deportation of a person from India without providing any forum or procedure for the determination of the question of the nationality of the foreigner or giving any statutory rights in this process. This is a violation of the principle of natural justice
- Under Indian Law, all persons who are not citizens have deemed foreigners including refugees, international migrants, tourists, etc. Currently, **Section 2 of The Foreigners Act (1946)** and **Registration of Foreigners Act**

**(1939)** provides the definition of “foreigner”. But this definition has proven to be insufficient in distinguishing between various non-citizens such as refugees or even illegal immigrants.

### Sealed Cover Jurisprudence

Chief Justice of India while hearing a criminal appeal against Bihar Government said that the Court will not accept sealed cover file reports submitted by Government and its agencies.

#### Background

Sealed cover jurisprudence has been frequently employed by court in the recent past. For example Rafale Fighter Jet Deal 2018, Bhima Koregaon case 2018, BCCI Reforms Case 2014 etc.

#### Sealed Cover Jurisprudence

- It is practice used by SC and lower courts of accepting information from government entities in sealed envelopes that only judges can access.
- SC draws its authority to apply it from **Rule 7 of Order xiii** of the SC Rules and **section 123 of the Indian Evidence Act of 1872**.

#### Supreme Court outlook on Sealed Cover Jurisprudence

- In 2019 judgement in the case of **P. Gopalakrishnan vs The State of Kerala**, the SC has said that disclosure of documents to the accused is constitutionally mandated, even if the investigation is ongoing and documents may lead to a breakthrough in the investigation.
- In the **INX Media case 2019**, the SC had criticised Delhi High Court for basing its decision to deny bail to the former union minister on documents submitted by the Enforcement Directorate (ED) in a sealed cover.

#### Reasons for Sealed Covers

- ✓ Matter pertained to Official Secrets Act.
- ✓ To maintain public confidence in the Government agency.
- ✓ Delicate international negotiations or those relate to sensitive aspects of security,
- ✓ Details about survivors of sexual assaults or child abuse which may affect their future life and bring unnecessary shame affecting the Right to Live with Dignity.
- ✓ Disclosure sometimes affects the ongoing investigation.

#### Rule 7 of Order XIII of the Supreme Court Rules

If the chief Justice or court directs certain information to be kept under seal cover, no party would be allowed access to the content of such information, except if the chief justice himself allowed accessing it. Information can be kept confidential if its publication is not considered to be in the interest of the public.

#### Section 123 of Indian Evidence Act of 1872

Official unpublished documents relating to state affair are protected and a public officer cannot be compelled to disclose such documents.

- Other instances where information may be sought in secrecy or confidence are when its publication impedes an ongoing investigation, such as details which are part of a police case diary.

### NPPA And Its Role

The pharmaceutical companies are seeking a **10% increase** in price for schedule drugs listed under **National List of Essential Medicine (NLEM)**. The consumers may have to pay more for medicines and medical devices if NPPA allows a price hike of over 10% in the drugs and devices listed.

#### Pricing Mechanism in India

- **Scheduled Drugs or Drugs listed under NLEM** are under price regulation. According to the **Drugs (Prices) Control Order 2013**, scheduled drugs (about 15% of pharma market) are allowed an increase in price by the government as per **WPI (Wholesale Price Index)**. The annual change is controlled and rarely crosses 5%. The ceiling price is fixed or revised by the NPPA as notified in the gazette of India from time to time.

- Non-schedule Drugs are about 85% of the pharma markets and allowed an automatic increase of 10% annually.

**National Pharmaceutical Pricing Authority (NPPA)**

- It was setup in **1997** to fix or revise the prices of controlled bulk drugs and formulations.
- It also enforces price and availability of medicines in the country under the **Drugs (Prices) Control order, 1995-2013**. It monitors the availability of drugs, identify shortages and take remedial measures.
- It is also mandated to collect and maintain data on production, export, import, market share of individual companies etc. for bulk drugs and formulations.
- It also undertakes or sponsor relevant studies with regard to pricing of drugs and devices.

**Strengthening of Pharmaceutical Industry Scheme**

- Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers released guidelines for **Strengthening of Pharmaceutical Industry (SPI)** scheme, with an outlay of Rs 500 crore, from FY 21-22 to FY 25-26.
- Its objective is to strengthen the existing infrastructure facilities in order to make India a global leader in the pharma sector.

**Components:** The Scheme has 3 components /sub-schemes:

**Assistance to Pharmaceutical Industry for Common Facilities (APICF)**

- Strengthen the existing pharmaceutical clusters' capacity by providing financial assistance to create common facilities with the focus on R&D Labs, Testing Laboratories, Effluent Treatment Plants, Logistic Centers and Training Centres in this order of priority with an outlay of 178 Cr is proposed.

**Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS)**

- It will facilitate MSMEs of proven track record to meet national and international regulatory standards (WHO-GMP or Schedule-M).
- It will provide support through a maximum of 5% per annum (6% in case of units owned and managed by SC/STs) of **interest subvention** or through **credit linked capital subsidy** of 10%. In both cases, the loan supported is up to a limit of 10 crores.
- An outlay of 300 Cr has been earmarked for sub scheme for the scheme period of five years.
- **Good Manufacturing Practices (GMP)** is the aspect of **quality assurance** which ensures that medicinal products are produced consistently under appropriate quality standards. The first WHO draft text on GMP was adopted in 1968.
- More than 100 countries have incorporated the WHO-GMP provisions into their national medicine laws. Schedule M of drugs & cosmetics rules define GMP requirements for pharmaceutical industry in India.

**Pharmaceutical & Medical Devices Promotion and Development Scheme (PMPDS)**

- It will facilitate growth and development of pharmaceutical and medical devices sectors through study/survey reports, creation of database, and promotion of industry.
- Further, knowledge and awareness about the pharma and MedTech industry will be promoted.

**Bonafide Plea of Juvenility**

Supreme Court observed that Truthfulness is an important ingredient to raise "plea of juvenility" thereby dismissing an appeal challenging an order passed by the Punjab and Haryana High Court.

- The Court said that if a document of dubious nature is relied on to seek juvenility, the accused cannot be treated to be juvenile keeping in view that the law is a beneficial legislation.
- Under Section 7 A of the JJ Act, an accused person can raise the 'claim of juvenility' before "any court, at any stage, even after the final disposal of the case".

### Evolution of Juvenile justice

- Juvenile justice system concerns children who have conflicted with the law and need care and protection. Person below 18 years of age is considered juvenile. In India, any child below the age of 7 years cannot be convicted of any crime because of the doctrine of **Doli incapax** which means incapable of forming intent to commit a crime.
- **Under Children Act 1960** imprisonment of children in any circumstances is prohibited. It encourages for rehabilitation of children & provides care, welfare, training, education, maintenance and protection.
- **Juvenile Justice Act 1986** provided uniformity of the children Act and set the standard for protection of juvenile as per the **1959 United Nations declaration of the child**.
- **Juvenile justice Act 2000** defined terminology such as 'conflict with the law' and 'need care and protection'.
  - Juveniles who have a conflict with law are handled by the **juvenile justice board** and juveniles who need care and protection are handled by the **child welfare committee**.
  - In 2006 Amendment was made in the Juvenile Act to make clear that juvenility is considered from the date when a crime is committed
- **Juvenile Justice (care and protection of children) Act 2015**: It replaced the Juvenile Act 2000. It allowed juveniles involved in the heinous crimes age group between 16-18 are treated as adults.
  - The Act gives a clear definition of orphaned, abandoned, surrendered children and provides an organized system for them.
- **Juvenile Justice (care and Protection) Amendment Act 2021** strengthened the provision of protection and adoption of children

### States' Power to identify minorities

- Union government has told the Supreme Court (SC) that state governments can now grant minority status to any religious or linguistic community, including Hindus.
- The SC had sought the Union government's response in a plea that sought directions for **framing of guidelines** identifying minorities at the state level.
- The expression "minorities" appears in some Articles of the Constitution, but is not defined anywhere

### Background

- A petition was filed in Supreme Court that Central government has uncontrolled power to declare a community as minority under National Commission for Minorities Act 1992.
- The plea contended that Hindus are in a 'minority' in six states and three UT's of India but was allegedly not able to avail themselves of the benefits of schemes meant for minorities.
- Plea Showed as per **2011 census** Hindus have become a minority in Lakshadweep (2.5%), Mizoram (2.75%), Nagaland (8.75%), Meghalaya (11.53%), J&K (28.44%), Arunachal Pradesh (29%), Manipur (31.39%), and Punjab (38.40%).
- They should be given minority status in these states in accordance with the principle laid down by the SC in its **TMA Pai Foundation (2002)** and **Bal Patil Case ruling (2005)**.
- The petition claimed that NCMEI (National Commission for Minority Education Institution) Act 2004 gives unbridled power to the Centre and is "manifestly arbitrary, irrational, and offending

**Key Points Of Submission Of Union Government**

- The concerned state governments are competent to issue guidelines for identification of religious and linguistic minorities at state level and ensuring protection of their religious and cultural rights under **Article 25-30** of Indian constitution. Ex. Maharashtra recognises 'Jews' as religious minority group within the state.
  - Karnataka had notified Urdu, Telugu, Tamil, Malayalam, Marathi, Tulu, Lamani, Hindi, Konkani and Gujarati as minority languages.
- The Parliament and the state legislatures have **concurrent powers** to enact law to provide for the protection of minorities and their interests.
- The **Article 246** of the constitution read with **Entry 20**, 'Economic planning and social planning', of the **concurrent list of 7<sup>th</sup> schedule** to enact laws to promote and protect the interests of minorities.
- The central government has defended the **Section 2(c)** of the National Commission for Minorities Act of 1992 and **Section 2(f)** of the National Commission for Minority Educational Institutions Act 2004 and submitted that both Acts came into existence out of Parliament's intentions to safeguard minority interests as per entry 20 of concurrent list of 7<sup>th</sup> schedule.

**Power of central government to notify minority group**

- The Central government notified **six** communities, namely Muslims, Christians, Sikhs, Buddhists, Parsis and Jains, as minorities under **Section 2(c)** of the **National Commission for Minorities Act of 1992**.
  - Jains were also notified as a minority community in 2014
- Under **Section 2(f)** of the National Commission for Minority Educational Institutions Act, 2004 'minority' means a **community notified as such by the Central government**
- **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.

**Modernization of Prisons' Project**

The Union home ministry has asked to states and Union Territories to implement 'Modernization of Prisons' Project. This project will provide five-year **grant-in-aid** (2021-26) to states/UTs for modernization of prisons with modern day security equipment for enhancing the security of jails.

**Components of Project**

- Video conferencing infrastructure
- Body worn cameras
- Door frame/metal detector/security poles etc. to strengthen the search procedure of inmates
- Baggage scanner/search/Jamming solutions etc. to prevent smuggling of prohibited items inside prisons.
- Correctional programs for inmates for reformation and rehabilitation

The 'modernization of prisons' project is in line with the recommendation regarding leveraging technologies of **Justice Amitava Roy committee** for prison reforms.

**Merger of Film Bodies Under National Film Development Corporation**

**Ministry of Information and broadcasting** announced the merger of **four film media units** including Film Division, Directorate of Film Festivals, National Film Archive of India and Children Film society of India with the **National Film Development Corporation (NFDC)**.

- The ownership of the assets available with these units will, however, remain with the Government of India

**National Film Development Corporation**

- It is **Public Sector Undertaking** working under Ministry of Information and Broadcasting.
- It was established in **1975** to promote and organise an integrated development of the Indian Film Industry and to foster excellence in Cinema.

- Its job was to finance, produce, and distribute feature films.

**Film Division**

- It was established in 1948 and the oldest of the Four Unit.
- It was created to produce **documentaries and news magazines** as publicity for **government programmes** and to keep cinematic record of Indian history

**Directorate of Film Festivals**

- It was set up under Ministry of Information and Broad casting in 1973 and it is entrusted with the objective of **promoting Indian films**.
- It also promotes **inter cultural understanding** through film- based cultural exchanges.

**National Film Archive of India**

- Established in 1964 with objective of acquiring & **preserving Indian cinematic heritage**.
- It is a source of thousands of films, books, scripts posters, photographs dating back to the 1910s and actively promotes film research and scholarship on Indian and South Asian cinema.

**Children film Society of India**

- It has started in 1955 as autonomous body under Ministry of Information and Broadcasting.
- CFSI promotes films that provide **healthy and wholesome entertainment for children** to broaden their outlook and encourage them to get exposure of world around.

The merger will not only serve the public purpose effectively but it will also open more avenues of employment in entertainment industry as suggested by **Bimal Julka committee (2020)**.

**De-notified, Nomadic and Semi Nomadic Tribe Report In Parliament**

Standing committee on **Social Justice and Empowerment** showed concern about the functioning of the development programme for de- notified, nomadic and semi nomadic tribes.

- At present 269 such De-notified, nomadic and semi nomadic are specified and not placed under SC/ST category yet by the **Development and welfare Board for De- notified Nomadic and Semi Nomadic Communities (DWBDNC)**.
  - ✓ These tribes somehow escaped the attention of our Constitution makers and thus got deprived of the Constitutional support unlike SCs/STs.
  - ✓ While most DNTs are spread across SC, ST and OBC categories, some DNTs are not covered in any of the SC, ST or OBC categories.

**De-notified tribe, nomadic and semi nomadic tribes**

- De-notified tribe are communities that are **notified as being born criminal** during the British regime under a series of law stating with the **criminal Tribes Act of 1871**.
  - These Acts were repealed by the Independent Indian Government in **1952**, and these communities were "De-Notified.
  - Semi nomadic and nomadic tribes are defined as those who move from one place to another rather than living at one place all the time.
- **National Commission for De- notified, Nomadic and Semi- nomadic tribes (NCDNT) was constituted in 2006** . It was headed by **Balkrishna Sidram Renke** and submitted its report in 2008. It estimated that there are about **10.74 crore population** based on census 2001

**Development and welfare Board for De- notified Nomadic and Semi Nomadic Communities (DWBDNC).**

- Government of India set up the DWBDNC under societies Registration Act 1860 under the aegis of **Ministry of Social Justice and Empowerment** for the purpose of implementing welfare programmes.
- It has been setup in February 2019 and is permanent commission under the chairmanship of **Bhiku Ramji Idate**.

**Protection and Enforcement of Interests in Aircraft Objects Bill, 2022**

The Ministry of Civil Aviation has proposed a new legislation '**Protection and Enforcement of Interests in Aircraft Objects Bill, 2022**' that will help international aircraft leasing companies to **repossess and transfer planes out of India** in case of a financial dispute with an Indian airline.

- The proposed legislation comes more than **14 years** after India acceded to **Cape Town Convention**

**Background**

- India has acceded to **Cape Town Convention on International Interests in Mobile Equipment and Protocol on Matters Specific to Aircraft Equipment** which was adopted at a conference in Cape Town in 2008.
- The convention is related to registration of contracts of sale, security interests, leases, conditional sales contracts, financing agreements such as repossession and transfer of mobile equipment/movable property.
- The domestic legislation related to financial agreements such as the **Companies Act, 2013** and the **Insolvency and Bankruptcy Code, 2016** is in conflict with Cape Town Treaty.

**Provisions Of The Bill**

- The provisions of this Act shall apply to



a debator who is situated in India



a seller who is situated in India



an aircraft object, having an international interest, which is located in India or pertains to an aircraft registered in India

- The Bill implements the provisions of the **Convention on International Interests in Mobile Equipment and Protocol on Matters Specific to Aircraft Equipment** which was adopted at a conference in **Cape Town** in 2001.
- These provide default remedies for the creditor and create a legal regime for disputes.
  - ✓ The proposed law provides remedies such as repossession of an aircraft object, or its sale or lease or collection of income from its use as well as de-registration and export of planes.
  - ✓ It also suggests remedies **pending final adjudication** of a claim as well as **safeguards a debtor's claim** during insolvency proceedings against its Indian buyer.

**About Cape Town Convention & Protocol**

- The **Convention on International Interests in Mobile Equipment** was concluded in Cape Town in November **2001**, as was the **Protocol on Matters Specific to Aircraft Equipment**.
- **83 countries**, including India, have signed and ratified the Convention & the Protocol.
  - India acceded to the Convention and the Protocol in March, 2008 which after a waiting period of three months became effective in July, 2008.
- **Objective:** The primary aim of the Convention and the Protocol is to resolve the problem of obtaining certain and opposable rights to high-value aviation assets, namely airframes, aircraft engines and helicopters which, by their nature, have no fixed location.
- The convention & the protocol was jointly adopted by International Civil Aviation Organization (ICAO) and International Institute for the Unification of Private Law (UNIDROIT).
  - **ICAO**, a specialized agency of the UN, changes the principles and techniques of international air navigation and fosters the planning and development of international air transport to ensure safe and orderly growth.
  - **UNIDROIT** is an intergovernmental organization whose objective is to harmonize international private law across countries through uniform rules, international conventions, and the production

**Central Administrative Tribunal**

Central Administrative Tribunal (CAT) is conducting a special drive across all the **19 Benches** of the Tribunal for disposal of cases of most vulnerable section of applicants like the senior citizens and pensioners from 18th to 22nd April to celebrate 'Azadi ka Amrit Mahotsav'.

**CAT**

- CAT, a quasi-judicial body, was established in 1985 under **Article 323 -A** of the Constitution to adjudicate disputes and complaints relating to '**service matters**' of employees of Union or other authorities under the control of the Union Government.
- CAT doesn't entertain matters related to Armed Forces, employees of Judiciary and legislatures.
- The **Administrative Tribunals Act, 1985** provides for establishment of CAT. The act further provides that Union government may notify establishment of State Administrative Tribunal (SAT) upon receiving a request from the state.
- **Compositions:** It has a chairman and such number of Judicial and Administrative members as the Union government may deem fit. The Jurisdiction, powers and authority of the Tribunal is exercised by benches. A bench consists of at least one judicial and one administrative member.
- **Appointment:** The Chairman and every other member shall be appointed after consultation with the CJI by the President.
- **Qualification for Appointment:**
  - Chairman: He is, or has been, a judge of HC.
  - Judicial Member: He is or qualified to be a judge of a HC; or held a post of secretary in the Dept. of Legal Affairs of GOI or the legislative department or law commission of India for at least 2 years; or held a post as Addl. Director in departments mentioned above for at least 5 years.
  - Administrative Member: He held a post of secretary in any department of GOI for at least 2 years; or held a post as Addl. Director in any department of GOI for at least 5 years.

**Appointment of Vice Chancellor**

The TN Assembly passed **two bills** that seek to transfer the Governor's power in appointing VCs of 13 State Universities to the **State Government**. Currently, the Governor, in his capacity as the Chancellor of state universities, has the power to pick a VC from the shortlisted names.

- The Bills also seek to empower the state government to have the final word on the removal of VCs, if needed. Removal will be carried out based on inquiries by a retired High Court judge or a bureaucrat who has served at least as a Chief Secretary
- States are bringing their own legislation to give power to state government to appoint VCs. Recently, WB, Kerala, Gujarat, Maharashtra & Telangana have come out with similar legislations

**About Vice-Chancellor**

- Vice chancellors lead the university's academic and administrative departments.
- As per the University Grants Commission (UGC) Guidelines, the Visitor/Chancellor shall appoint the Vice Chancellor out of the **panel of names recommended by the search-cum-selection committee**.
  - The Governor of the state is the honorary chancellor of all **State owned universities**.

**Role of University Grants Commission**

- Although Education comes under the Concurrent List, but entry 66 of the Union List — “coordination and determination of standards in institutions for higher education or research and scientific and technical institutions” — gives the Centre substantial authority over higher education.
- According to the UGC Regulations, 2018, the “Visitor/Chancellor” — mostly the Governor in states — shall appoint the VC out of the panel of names recommended by search-cum-selection committees.
- Higher educational institutions, particularly those that get UGC funds, are mandated to follow its regulations.
- These are usually followed without friction in the case of **central universities**, but are sometimes resisted by the states in the case of state universities.

### 91<sup>st</sup> Constitutional Amendment Act, 2003

A PIL has been filed in Bombay HC challenging the unprecedented move of the Goa government to accord the life time status of the rank of Cabinet Minister to Ex CM of Goa, Partap Singh Rane.

- The PIL has contended that Goa has a 12-member Cabinet, and the conferment of Cabinet status on Rane results in the number of Cabinet ranks rising to 13, which exceeds the ceiling mandated by the Constitution.
- The move is violation of the 91<sup>st</sup> Constitutional Amendment Act, 2003.

### 91<sup>st</sup> Constitutional Amendment Act 2003

The Act inserted **1A in Article 164** of the Constitution, which says that the total number of ministers including CM shall not exceed 15% of total number of MLAs of that state, provided that the number of ministers in a state shall not be less than 12.

#### Other Provisions Of The Act

- The total number of ministers, including the Prime Minister, in the Central Council of Ministers shall not exceed 15% of the total strength of the Lok Sabha.
- A member of either house of Parliament/state legislature belonging to any political party who is disqualified on the ground of defection shall also be disqualified to be appointed as a minister or for any remunerative post.
- The provision of the Tenth Schedule (anti-defection law) pertaining to exemption from disqualification in case of split by two-third members of legislature party.

### Dual Degrees And Joint Degrees Norms Of UGC

UGC has proposed easing the rules for academic collaboration between **Indian and Foreign Universities**. Now Indian universities with minimum academic standard will not need UGC’s permission to offer joint and dual programmes with foreign universities. In this regard **UGC (Academic Collaboration between Indian and Foreign Higher Education Institutions to offer Joint Degree, Dual Degree, and Twinning Programmes) Regulations, 2022**, will be notified.

#### Highlights of the Proposed Change

The collaborating institutes will be allowed to offer three kinds of programmes

- **Twinning Programmes:** Under this arrangement, a student can study a programme **partly in India and partly in a foreign university**. However, the degree will be awarded just by the Indian university. Students will have to complete up to 30% of the course’s credits at the foreign institution by means of an exchange programme.
- **Joint degrees:** Under this arrangement, students will have to complete at least 30% of their course credit at the foreign institution. The degrees awarded by both the Indian and foreign institutions will indicate the credits earned at the respective institutions.

- **Dual degrees:** Under this arrangement, the curriculum is designed jointly by the collaborating institutions, and the **degree is awarded by the Indian university**. The collaborating foreign university, on the other hand, will offer a **certificate bearing the logo of both institutions** upon completing the programme. Both the partner institutions will have to sign a MoU for developing course content jointly. Students from India will be required to complete more than 30% of their course credit at the foreign institution.

### Municipal Corporation Amendment Act 2022

President Ram Nath Kovind has **signed into law** the Delhi Municipal Corporation (Amendment) Bill, 2022.

- It seeks to amend the Delhi Municipal Corporation Act 1957.
- The bill replaces the **3 Municipal Corporation by merging the capital's three municipal corporations- South, North and East** with one Corporation named the Municipal Corporation of Delhi.

### Provision of Municipal Corporation Amendment Bill 2022

- Powers of the Delhi Government: The Act, as amended in 2011, empowers the Delhi government to decide various matters under the Act. The Bill instead empowers the Central government to decide these matters.
- It provides that the central government may appoint a **special officer** to exercise powers of the corporation until the first meeting of the corporation is held after the commencement of the bill.
- The total number of seats in the new corporation should not exceed more than 250.
- It omits the provision for a director of local bodies to assist the Delhi government and discharge certain functions which were provided by 2011 Act.
- The bill adds that obligatory function of the new corporation will include **establishment of an e- governance system** for the citizen services on anytime- anywhere basis for better accountable and transparent administration.

### Municipal Corporation

- There are eight types of urban local government and Municipal Corporation is the one governing metro Politian city having population of more than one million people.
- 74<sup>th</sup> constitutional Amendment Act 1992 has added a new **Part IX –A** to the constitution of India. It entitled as “The Municipalities” and consists provisions from Article **243-P to 243 –ZG**. It has added **12<sup>th</sup> schedule** to the constitution.
- Municipal Corporation in India relies heavily on **property tax revenue** to fund their operations.
- It is established by Act of parliament in Union Territories and in states by the Acts of the state legislature.

### History of Municipal Corporation

- The first municipal corporation was established in India in 1687-88 at Madras.
- Lord Rippon’s resolution of 1882 has been hailed as the Magna Carta of the local self-government. He is known as Father of local –self government
- Under the provincial autonomy scheme introduced by the government of India Act of 1935, local self-government was declared a provincial subject.

### Criminal Procedure (Identification) Act 2022

President of India has given his assent to the **Criminal Procedure (Identification) Bill, 2022** which empowers **police and prison officers** to obtain **physical and biological samples** of convicts and those accused of crimes.

### Provisions Of The Bills

- **The Identification of Prisoners Act, 1920** is repealed. The ‘measurements’ included only finger impressions and foot-print impressions in the old act.

- The bill empowers police and prison official to take "measurements" that includes finger-impressions, palm-print impressions, foot-print impressions, photographs, iris and retina scan, physical, biological samples and their analysis, behavioral attributes including signatures, handwriting or any other examination referred to in **section 53 or section 53A of the Code of Criminal Procedure, 1973**.
- The Act provides to take measurements of -
  - Any **arrested person** in connection with an offence punishable under any law for the time being in force or detained under **preventive detention** law
  - Of convicts and "other persons" for identification and investigation in criminal matters
    - On the order of Magistrate, from any person (not just an arrested person) to aid investigation
- The NCRB shall collect, store, process and destroy the record of measurement at national level in the interest of prevention, detection, investigation and prosecution of any offender under any law. It shall also share such records with any law enforcement agency.
- The record of measurements shall be retained in **digital or electronic form** for a period of **seventy-five** years from the date of collection of such measurement.
- The records are to be destroyed in case any person, who has not been previously convicted of an offence punishable under any law with imprisonment for any term and had his/her measurements taken according to the provisions of this Act, is **released without trial** or **discharged or acquitted by the court**, after exhausting all legal remedies
- **Resistance to or refusal to** allow the taking of measurements under this Act shall be deemed to be an offence under **section 186 of IPC**.
- No suit or any other proceeding shall lie against any **government servant** for anything done, or intended to be done in good faith under this Act.

### All India Service Rules Relating To Resignation Of An Officer

IAS Officer from UT of J&K, Shah Faesal, who resigned from the service in Jan 2019, has been reinstated.

#### To Whom Must The Resignation Of An IAS Officer Be Submitted

- An officer serving in a cadre (state) must submit his/her resignation to the chief secretary of the state.
- An officer who is on central deputation is required to submit his/her resignation to the secretary of the concerned Ministry or Department.
  - ✓ The Ministry/Department then forwards the officer's resignation to the concerned state cadre, along with its comments or recommendations.

#### What Happens After The Resignation Is Submitted?

- The state checks to see if **any dues are outstanding** against the officer, as well as the **vigilance status** of the officer or whether any cases of corruption etc. are pending against him/her.
  - ✓ In case there is such a case, the resignation is normally rejected.
- Before forwarding the resignation to the central government, the concerned state is supposed to send information on the issues of dues and vigilance status, along with its recommendation.
- The resignation of the officer is considered by the competent authority, i.e., the central government, only after the recommendation of the concerned cadre has been received.
- The competent authorities are:
  - For **IAS** - Minister of State at the Department of Personnel & Training (DoPT),
  - For **IPS** - Minister for Home Affairs, and
  - For **IFoS** - the Minister for Environment, Forest and Climate Change in respect of the Forest Service.

SOCIAL ISSUES

PM Care Schemes for Children

Centre Government extended the PM Cares for Children Scheme till 28<sup>th</sup> February 2022. The scheme was launched in May 2021 to support the children who lost both parents or surviving parent(s), legal guardian/ adoptive parents or single adoptive parent to Covid 19.

Features of Scheme

- The scheme offers a corpus of Rs.10 Lakh to each of these children from PM CARES fund.
- This corpus will be used to **give monthly stipend from 18 years of age** for the next five years and on reaching the age of 23 years, he or she will get the corpus amount as one lump-sum for personal and professional use.
- The education expenses of younger children are supported by way of admission to Kendriya Vidyalayas and private schools up to higher secondary level.
- These children are also supported during their higher education through either a scholarship equivalent to the tuition fees or educational loans where the interest on the loan will be paid by the PM-CARES fund
- All children will be enrolled as a beneficiary under **Ayushman Bharat Scheme** with a health insurance cover of Rs. 5 lakh. The premium amount will be paid by PM-CARES till a child turns 18.

PM-CARES Fund

- It is set up by Government to deal with any kind of emergency or distress situation posed by Covid – 19 pandemics.
- The fund is a **public charitable trust** with the Prime Minister as its chairman. Other members include Defence Minister, Home Minister and Finance Minister.
- Contribution to PM- CARES Fund Qualifies as CSR (Corporate Social Responsibility) expenditure.

Pradhan Mantri Matru Vandana Yojana (PMMVY)

The government has recently announced that for the **revamped PMMVY** under Mission Shakti, the maternity benefit amounting to ₹5000 is also to be provided for **second child only if it is a girl**. This is to discourage pre-birth sex selection and promote the girl child.

**About PMMVY:** It is a maternity benefit programme that was rolled out by Government of India in 2017.

<b>Objective</b>	<ul style="list-style-type: none"> <li>• To provide partial compensation for the wage loss in terms of <b>cash incentives</b> so that the woman can take adequate rest before and after delivery of the <b>first living child</b>.</li> </ul>
<b>Beneficiaries</b>	<ul style="list-style-type: none"> <li>• All Pregnant Women and Lactating Mothers (PW&amp;LM), <b>excluding</b> <ul style="list-style-type: none"> <li>✓ PW&amp;LM who are in <b>regular employment</b> with Central or State Governments or PSUs.</li> <li>✓ Those who are in receipt of similar benefits under any law for the time being in force.</li> </ul> </li> <li>• A beneficiary is eligible to receive benefits under the scheme <b>only once</b>.</li> <li>• In case of <u>miscarriage or still birth</u>, the beneficiary would be eligible to claim the remaining installment(s) in event of any future pregnancy.</li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>• Cash incentive of Rs <b>5000 in three instalments</b></li> <li>• <b>1st transfer</b> (at pregnancy trimester) of ₹1,000 requires the mother to:                     <ul style="list-style-type: none"> <li>✓ Register pregnancy at Anganwadi Centre (AWC) whenever she comes to know about her conception.</li> <li>✓ Attend at least one prenatal care session and taking <b>Iron-folic acid</b> tablets and TT1 (tetanus toxoid injection).</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>✓ Attend at least one counselling session at the AWC or healthcare centre.</li> <li>• <b>2<sup>nd</sup> transfer</b> (six months of conception) of ₹2,000 requires the mother to:             <ul style="list-style-type: none"> <li>✓ Attend at least one prenatal care session and TT2</li> </ul> </li> <li>• <b>3<sup>rd</sup> transfer</b> (three and a half months after delivery) of ₹2,000 requires the mother to:             <ul style="list-style-type: none"> <li>✓ Register the birth</li> <li>✓ Immunize the child with OPV and BCG at birth, at six weeks and at 10 weeks.</li> <li>✓ Attend at least two growth monitoring sessions within three months of delivery.</li> </ul> </li> <li>• Additionally, the scheme requires the mother to:             <ul style="list-style-type: none"> <li>✓ Exclusively breastfeed for six months and introduce complementary feeding as certified by the mother.</li> <li>✓ Immunize the child with OPV and DPT.</li> </ul> </li> </ul>
<b>Additional cash incentive</b>	The eligible beneficiaries would receive the incentive (Rs 1000) given under the <b>Janani Suraksha Yojana (JSY) for Institutional delivery</b> . So, on an average a woman gets Rs 6000
<b>Implementing authority</b>	Ministry of Women and Child Development is the nodal implementing authority. The scheme is implemented using the platform of <b>Anganwadi Services scheme</b> of <u>Integrated Child Development Services (ICDS)</u> .

Recently, Government has clarified that **Aadhaar of Husband** is not mandatory under PMMVY, to facilitate the inclusion of single mothers and abandoned mothers.

All major schemes of Ministry of Women & Child Development have been classified under **3 umbrella schemes**.

Saksham Anganwadi & POSHAN 2.0	Mission VATSALYA	Mission Shakti (Mission for Protection and Empowerment for Women)	
<ul style="list-style-type: none"> <li>• Umbrella ICDS – Anganwadi Services</li> <li>• Poshan Abhiyan</li> <li>• Scheme for Adolescent Girls</li> <li>• National Creche Scheme</li> </ul>	<ul style="list-style-type: none"> <li>• Child Protection Services</li> <li>• Child Welfare Services</li> </ul>	SAMBAL	SAMARTHYA
		<ul style="list-style-type: none"> <li>• One Stop Centre</li> <li>• Mahila Police Volunteer</li> <li>• Women’s Helpline /Swadhar/Ujjawala /Widow Homes etc</li> </ul>	<ul style="list-style-type: none"> <li>• Beti Bachao Beti Padhao</li> <li>• Creche</li> <li>• Pradhan Mantri Matru Vandana Yojana</li> <li>• Gender Budgeting /Research</li> </ul>

### Padhe Bharat

Union Education Minister launched a **100 days reading campaign** 'Padhe Bharat' in alignment with the **National Education Policy (NEP) 2020** which emphasises on promotion of joyful reading culture for children by ensuring availability of age appropriate reading books for children in local/mother tongue/regional/tribal Language.

- Campaign will focus on children studying in **Balvatika to Grade 8**. The reading campaign will be organised for 100 days (14 weeks) starting from 1st January 2022 to 10th April 2022.
- The campaign aims to have participation of all stakeholders at national and state level including children, teachers, parents, community, educational administrators etc.
- **One activity per week per group** has been designed with the focus on making reading enjoyable and build lifelong association with the joy of reading.
- This campaign has also been aligned with the vision and goals of **foundational Literacy and Numeracy mission**.
- **21st February**, which is celebrated as International Mother Tongue Day, has also been integrated with this campaign.

- This day will be celebrated with the activity of Kahani Padho Apni Bhasa Main (Reading story in own language) across the country by encouraging children to read in their mother tongue/local language.

**International Mother Tongue Day**

- UNESCO declared 21st February as International Mother Language Day in 1999 and the World has been celebrating the same since 2000.
- It commemorates a long struggle by Bangladesh to protect its mother language Bangla.
- It was suggested by Rafiqul Islam, a Bangladeshi living in Canada. He proposed the said date to commemorate the 1952 killings in Dhaka during the Bangla Language Movement.

**Anaemia Mukht Bharat (AMB)**

According to WHO, women in the reproductive age group and having **haemoglobin levels** lower than **12 grams per decilitre (g/dL)**, children under five with lower than **11.0 g/dL**, and men with less than **13 g/dl** are considered anaemic.

**About AMB Strategy**

AMB strategy was launched in 2018 with the target to reduce anaemia in vulnerable age groups such as women, children and adolescents in **life cycle approach** by providing preventive and curative mechanisms through **6X6X6 strategy** for all stakeholders to implement the strategy.

6 population groups	6 interventions	6 institutional mechanisms
<ul style="list-style-type: none"> <li>• Children (6-59 months)</li> <li>• Children (5-9 years)</li> <li>• Adolescents girls and boys (10-19 years)</li> <li>• Pregnant women</li> <li>• Lactating women</li> <li>• Women of Reproductive Age (WRA) group (15-49 years)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Prophylactic Iron and Folic Acid Supplementation</b></li> <li>• Deworming</li> <li>• Intensified year-round Behaviour Change Communication (BCC) Campaign and delayed cord clamping</li> <li>• Testing of anaemia using <b>digital methods and point of care treatment</b>,</li> <li>• Mandatory provision of Iron and Folic Acid fortified foods in Government funded health programmes</li> <li>• Addressing <b>non-nutritional causes of anaemia</b> in endemic pockets with special focus on malaria, hemoglobinopathies and fluorosis and the six institutional mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Inter-ministerial coordination</li> <li>• National AnemiaMukt Bharat Unit</li> <li>• <b>National Centre of Excellence and Advanced research on Anemia Control</b></li> <li>• Convergence with other ministries</li> <li>• Strengthening supply chain and logistics</li> <li>• AnemiaMukt Bharat Dashboard and Digital Portal-one-stop shop for Anemia</li> </ul>

**Measures Taken By The Government To Make AMB Programme More Effective**

- i) Development of **AMB Training Toolkit** for capacity building of health care providers and recent launch of Anaemia Mukht Bharat **e-Training Modules** to facilitate training of the health care providers through virtual platform.
- ii) **Health Management Information System & Mother Child Tracking System** being implemented for reporting and tracking the cases of anaemic and severely anaemic pregnant women.
- iii) **Universal Screening of Pregnant Women for Anaemia**: It is a part of Ante-Natal Care (ANC) and all pregnant women are provided **iron and folic acid tablets** during their ante-natal visits.
- iv) **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)**: It has been launched to focus on conducting special ANC check up on **9th of every month** with the help of Medical officers to detect and treat cases of anaemia.
- v) **Operationalization of Blood Bank** in District Hospitals and Blood Storage Unit in sub district facilities

**Smart Cities and Academia Towards Action & Research (SAAR)**

Ministry of Housing and Urban Affairs (MoHUA) has launched “Smart cities and Academia Towards Action & Research (SAAR)” program, a joint initiative of MoHUA, National Institute of Urban Affairs (NIUA) and leading Indian academic institutions of the country.

- Under the program, **15 premier architecture & planning institutes** of the country will be working with Smart Cities to document landmark projects undertaken by Smart Cities Mission.
- The documents will capture the learnings from best practices, provide opportunities for engagement on urban development projects to students, and enable real-time information flow between urban practitioners and academia.
- The first activity envisaged under SAAR is to prepare a compendium of **75 landmark** urban projects distributed **across 47 Smart cities** under the Smart City Mission. These 75 urban projects are innovative & multi-sectoral. The program marks the 75th anniversary of India’s independence.
- The compendium (completed by June 2022) will act as a first point of reference for future research in the field, help disseminate learnings from projects under the Mission, act as a repository for Urban Projects and contribute to dissemination of best practices and peer-to-peer learning.
- The partner institutes documenting the projects include *inter alia* Indian Institute of Technology, Roorkee, Center for Environment Planning and Technology, Ahmedabad, Jamia Milia Islamia, Delhi, and School of Planning and Architecture, Bhopal.

**National Institute of Urban Affairs (NIUA)**

- Located in New **Delhi**, it was established in **1976** as an autonomous body under Societies Registration Act.
- It is an institute for research, training and information dissemination in urban development and management.
- The Institute is supported by **Ministry of Housing and Urban Affairs**, Government of India, State Governments, urban and regional development authorities and other agencies concerned with urban issues

*{For more about smart city mission refer Quick Revision Part 1, Page 111}*

**Visas for AYUSH Therapy**

PM Modi announced addressing the inaugural session of the **Global AYUSH Investment and Innovation Summit 2022** that a **special visa category** will be created soon for those who want to travel to the country to avail of AYUSH therapies.

- AYUSH stands for **Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy.**

**Steps Taken By India To Promote AYUSH**

- **New Ministry Formed:** In 2014, the Union government established the Ministry of AYUSH, a separate ministry dedicated to traditional medicine and treatment.
- **National AYUSH Mission:** Department of AYUSH, Ministry of Health and Family Welfare had launched National AYUSH Mission (NAM) in 2014. The basic objective of NAM is to promote
  - ✓ AYUSH medical systems through cost effective AYUSH services,
  - ✓ Strengthening of its educational systems,
  - ✓ Facilitate the enforcement of quality control of Ayurveda, Siddha and Unani & Homoeopathy (ASU &H) drugs
  - ✓ Sustainable availability of ASU & H raw-materials.
- **Recent Steps**
  - ✓ The new category 'AYUSH Aahar' introduced by the FSSAI in its regulations will help the producers of **herbal nutritional supplements.**

- ✓ An **incubation centre** developed by the **All-India Institute of Ayurveda** was inaugurated by the Ministry of AYUSH. This will encourage start-up culture in the field of traditional medicine.
- ✓ NITI Ayog has suggested 100% colocation of AYUSH facilities in district hospitals.
- ✓ India will soon launch 'AYUSH mark' which will provide authenticity to AYUSH products made in India. The mark will be given to products vetted using the latest technology.

### Challenges Regarding To Traditional Medicine

- Threat to Biodiversity and Sustainability: 40% of approved Pharmacy products today derive from natural substances.
  - ✓ Aspirin – Bark of willow tree
  - ✓ Contraceptive Pill – Roots of wild Yam plant
  - ✓ Child Cancer Treatment – Rosi Periwinkle

### Guidelines Under POSH Act

A petition has been filed in the Supreme Court **challenging guidelines** issued by the Bombay High Court in cases under **Protection of Women from Sexual Harassment (POSH) Act, 2013**

- These guidelines include a blanket bar on parties and advocates from sharing records, including orders and judgments, with the media. The guidelines were formed to protect the identities of parties in a case under POSH Act
- However, in Swapnil Tripathi v Supreme Court of India case 2018, the court recommended that the proceedings of the court to be broadcast live. Live streaming proceedings are a part of the right to access justice under Article 21

#### Vishaka Guidelines

- The Supreme Court in a landmark judgement in the Vishakha and others v State of Rajasthan 1997 laid down specific guidelines on the prevention of sexual harassment of women at the workplace.
- These defined sexual harassment and codified preventive measures like the formation of the complaints committee
- All employers both public and private sector should take appropriate steps to prevent sexual harassment.
- Victims of sexual harassment should have the option to seek transfer of the perpetrator or their own transfer.
- The guidelines were superseded by the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.

#### Sexual Harassment of Women at Workplace (prevention, prohibition and redressal) Act, 2013

- The Act defines sexual harassment in the workplace. The Act creates a mechanism for redressal of complaints. It also provides safeguards against false or malicious charges.
- Every workplace is required to constitute an Internal Complaints Committee (ICC). The ICC is mandatory at each office or branch with 10 or more employees.
- These ICCs have the powers of civil courts for gathering evidence.
- Penalties have been prescribed for employers. Non-compliance with the provisions of the Act shall be punishable with a fine. Higher penalties and cancellation of license or registration to conduct business is also mentioned if violations are repeated.
- Further Section 354A was added to the Indian Penal Code through the Criminal Law (Amendment) Act, 2013 to provide enough punishment for sexual harassment to women at the workplace.
- Responsibility of Administration: The State Government will notify the District Officer in every district, who will constitute a Local Complaints Committee (LCC) so as to enable women in the unorganised sector or small establishments to work in an environment free of sexual harassment.

#### SHe-Box

- Ministry of Women & Child Development has launched Sexual Harassment electronic Box (SHe-Box).
- It is an effort to provide a single window access to every woman, irrespective of her work status, whether working in **organised or unorganised, private or public sector**, to facilitate the registration of complaint related to sexual harassment.

**Transgender To Get Separate Jail Wards**

Transgender inmates will soon get a separate enclosure/ward in prisons to ensure their right to privacy and dignity.

- In an **advisory** sent to the Heads of Prisons in States and UTs, the Union Ministry of Home Affairs said a person recognized as a transgender (transmen and transwomen) has **right to the self-perceived gender identity** under **Transgender Persons (Protection of Rights) Act, 2019**.
- At all times in admission procedures, medical examination, search, lodging, clothing, treatment and care, the jail officials should facilitate their access to the **identity certificate** by helping them apply/register on the national portal for them.
- In event of the court warrant not mentioning the **self-identified gender or if the gender is disputed** by the person, the Jail Superintendent should, with the help of legal services authorities, assist the person in making an application for a change in gender identity.
- According to a National Crime Records Bureau, there were **70 transgender prisoners** in jails across the country in 2020
- As per 2011 Census, the total population of Transgender is 4.88 lakhs, the highest being in Uttar Pradesh followed by Andhra Pradesh, Maharashtra and Bihar.

**Prisons Act 1894 related to trans-persons**

- It is the **central legislation** regulating the administration of prisons which majorly differentiates prisoners convicted under **civil law** from those convicted under **criminal law**.
- It does not even recognise sexual minorities based on **Sexual Orientation and Gender Identity (SOGI)**
  - It only separates prisoners into the categories of gender-binary (men/women), young offenders, undertrials, convicts, civil prisoners, detenues and high-security prisoners.
- The NALSA judgment, while extending constitutional protection to trans-persons under Articles 14, 15, and 21, directs states to make policies on their legal and socio-economic rights. This extends to **trans-prisoners** as well, since prison is a state subject.

**NEAT Initiative**

Ministry of Education has announced a new **National Educational Alliance for Technology (NEAT 3.0)** to use technology for better learning outcomes in Higher Education.

- 12 Lakh NEAT ed-tech **free course coupons** worth Rs 253.72 crore were also provided to socially and economically disadvantaged students.
- Union Minister has urged AICTE to integrate courses in NEAT programme with **skill India**. This will help in stimulating employability by finding opportunities in emerging areas of skill and prepare youth for future.
- In 2019, the Ministry of Human Resource Development had announced the NEAT programme.

Implementing Agency	Model of NEAT Scheme	Objective	Target Areas	Modus Operandi
<ul style="list-style-type: none"> <li>• All India Council for Technical Education (AICTE).</li> </ul>	<ul style="list-style-type: none"> <li>• PPP model between Government and Ed-Tech companies of India</li> </ul>	<ul style="list-style-type: none"> <li>• To bring best <b>technological solutions</b> in education pedagogy on a single platform for the convenience of Economically and Socially weaker sections of society.</li> </ul>	<ul style="list-style-type: none"> <li>• Technology solutions using Artificial Intelligence for <b>customized learning or e-content</b> in niche areas having highly employable skills</li> </ul>	<ul style="list-style-type: none"> <li>• Government plans to distribute <b>free coupons</b> for an array of courses offered by ed-tech companies</li> </ul>

**Intensified Mission Indradhanush (IMI) 4.0**

Ministry of Health virtually launched **Intensified Mission Indradhanush (IMI) 4.0**. Let's see the chronology of schemes related to immunization of child.

<b>Universal Immunisation Programme</b>	<ul style="list-style-type: none"> <li>The Immunization Programme in India was introduced in <b>1978</b> as '<b>Expanded Programme of Immunization (EPI)</b>' by the Ministry of Health and Family Welfare.</li> <li>In <b>1985</b>, the Programme was modified as 'Universal Immunization Programme (UIP)'. UIP prevents mortality and morbidity in <b>children and pregnant women against 12 vaccine-preventable diseases (VPD)</b> i.e. diphtheria, Whooping cough, tetanus, polio, tuberculosis, hepatitis B, meningitis and pneumonia, <u>Haemophilus influenzae type B infections</u>, <u>Japanese encephalitis (JE)</u>, rotavirus vaccine, pneumococcal conjugate vaccine (PCV) and measles-rubella (MR).</li> <li>Vaccination against Japanese Encephalitis and Haemophilus influenzae type B is being provided in selected districts of the country.</li> </ul>
<b>Mission Indradhanush</b>	<ul style="list-style-type: none"> <li>But in the past, it was seen that the increase in immunization coverage had slowed down and it increased at the rate of 1% per year between 2009 and 2013.</li> <li>To accelerate the coverage, Mission Indradhanush was envisaged and implemented <b>since 2015</b> to rapidly increase the full immunization coverage to 90%.</li> <li>It was also identified as one of the flagship schemes under Gram Swaraj Abhiyan and Extended Gram Swaraj Abhiyan.</li> </ul>
<b>IMI</b>	<ul style="list-style-type: none"> <li>It was launched in <b>2017</b> with <i>greater</i> focus on <b>urban areas</b> which were one of the gaps of Mission Indradhanush.</li> <li>It focused to improve immunisation coverage in <b>select districts and cities</b> to ensure full immunisation to more than 90% by December 2018 instead of 2020.</li> </ul>
<b>IMI 2.0</b>	<ul style="list-style-type: none"> <li>It was a nationwide immunisation drive to mark the <b>25 years of Pulse polio programme</b> (2019-20).</li> <li>It had targets of full immunization coverage in 272 districts spread over 27 States.</li> <li>It aimed to achieve at least 90% pan-India immunisation coverage by 2022.</li> </ul>
<b>IMI 3.0</b>	<ul style="list-style-type: none"> <li>Launched in <b>2021</b>. Focus of IMI 3.0 was <b>children and pregnant women</b> who had missed their vaccine doses during the Covid-19 pandemic.</li> <li>Beneficiaries from <b>migration areas</b> and <b>hard to reach areas</b> were targeted as they might have missed their vaccine doses during Covid-19.</li> </ul>
<b>IMI 4.0</b>	<ul style="list-style-type: none"> <li>It will ensure that <b>Routine Immunization (RI)</b> services reach <b>unvaccinated and partially vaccinated children and pregnant women</b>.</li> <li><b>Children up to 2 years</b> will be covered in this drive.</li> <li>While the pace of routine immunisation has slowed down due to Covid-19 pandemic, IMI 4.0 will immensely contribute in filling the gaps and make lasting gains towards universal immunisation.</li> <li>Three rounds of IMI 4.0 will be conducted in 416 districts, including 75 districts identified for Azadi ka Amrit Mahotsav across 33 States/UTs.</li> <li>These districts have been identified based on vaccination coverage as per the latest <u>NFHS-5 report</u>, <u>Health Management Information System (HMIS) data</u> and burden of vaccine-preventable diseases.</li> </ul>

- The immunization coverage has shown a considerable improvement as per the latest reports of National Family Health Survey-5 (2019-21) as compared to NHFS-4(2015-16).

- The Full Immunization Coverage among children aged 12-23 months of age has increased from 62% (NFHS-4) to 76.4% (NFHS-5).

### Nai Roshni Scheme

Government stated that during the last three years, funds to the tune of Rs. 26 crores have been sanctioned under Nai Roshni scheme through which around **one Lakh women** have been trained.

- It is a **Central Sector scheme** which aims to empower and enhance confidence in women by providing knowledge, tools and techniques for Leadership Development of Women. It was started in **2012-13**.
- It is a six-day non-residential/five-day residential training programme conducted by selected Programme Implementing Agencies for the **women belonging to minority community** including their neighbours from other communities living in the same village/locality, in the age group of **18 to 65 years**.
- The training programme cover areas related to programmes for women, health and hygiene, legal rights of women, financial literacy, digital literacy, Swachh Bharat, Life Skills, and advocacy for social and behavioural changes, etc.
- The scheme provides for hand-holding of all the beneficiaries for a period upto **12 months** after the training.

### Pradhan Mantri Jan Arogya Yojana & NFSA Integration

Union Health Ministry said that **National Health Authority (NHA)** is working to integrate the database of **Socio-Economic Caste Census (SECC) 2011 beneficiaries** with the **National Food Security Act (NFSA) portal** so that beneficiaries can seek information regarding their entitlements under the **AB PM-JAY using their ration card number**.

#### About The Integration

- NHA is mandated with the implementation of Ayushman Bharat Pradhan Mantri-Jan Arogya Yojana (AB PM-JAY).
- NHA is also working on a proposal to use **Fair Price Shops or ration shops** for providing information related to the scheme and entitlement under the scheme to eligible beneficiaries.
- This will provide an additional avenue to beneficiaries along with the existing Common Service Center for card creation.
- **Common Identity Enabler:** Aadhaar being a common identity across the majority of government databases will enable this integration. Further, Aadhaar also ensures certainty regarding beneficiary identification through e-KYC. e-KYC enables paperless delivery of services in a targeted manner.

#### AB-PMJAY

- The AB-PMJAY offers health insurance to 10.74 crore poor, rural families and identified occupational categories of urban workers' families.
- The project offers an annual health cover of ₹5,00,000 per family per year (on a family floater basis). It covers medical and hospitalisation expenses for several secondary care and tertiary care procedures.
- The households included are based on the deprivation and occupational criteria of SECC 2011 for rural and urban areas respectively.
- The Rashtriya Swasthya Bima Yojana had a family cap of five members. However, based on learnings from those schemes, AB-PMJAY has been designed in such a way that there is no cap on family size or age of members. In addition, **pre-existing diseases** are covered from the very first day.

### Accelerate Vigyan Scheme

Science and Engineering Research Board (**SERB**) has invited applications under '**ABHYAAS**', a program of 'Accelerate Vigyan' scheme, for summer season.

SERB is an autonomous body of Department of Science & Technology (DST), Ministry of Science & Technology.

**About Accelerate Vigyan (AV) Scheme**

- It strives to provide a big push to high-end scientific research and prepare a scientific workforce, which can venture into research careers and a knowledge-based economy.
- AV aims to expand the research base in the country, with three broad goals — **consolidation / aggregation of all scientific training programs, initiating high-end orientation workshops and creating opportunities for training and skill internships.** It was launched in June 2020
- **Implementation:** By an Inter-Ministerial Overseeing Committee (IMOC) involving all the scientific ministries/departments constituted for the purpose of supporting SERB

**Components**

<b>ABHYAAS</b>	<ul style="list-style-type: none"> <li>• It is an attempt to boost R&amp;D in the country by enabling and grooming potential <b>postgraduate / PhD students</b> by developing dedicated research skills in selected areas / disciplines / fields.</li> <li>• This is especially important for researchers with limited opportunities to access such learning capacities / facilities / infrastructure</li> <li>• It has two components:                             <ul style="list-style-type: none"> <li>✓ High-End Workshops i.e. <b>KARYASHALA</b></li> <li>✓ Training and Research Internships i.e. <b>VRITIKA.</b></li> </ul> </li> </ul>
<b>SAMMOHAN</b>	<ul style="list-style-type: none"> <li>• It marks the beginning of Accelerate Vigyan.</li> <li>• It aims to encourage, aggregate and consolidate all scientific interactions in the country under one common roof</li> <li>• It has been sub-divided into two components                             <ul style="list-style-type: none"> <li>✓ <b>SAYONJIKA</b> is an open-ended program to catalogue capacity building activities in science &amp; technology supported by all <b>government funding agencies</b> in the country.</li> <li>✓ <b>SANGOSHTI</b> is a pre-existing program of SERB for the organisation of workshops to facilitate the scientific community to establish an interaction with other individuals and research groups to enhance knowledge exchange.</li> </ul> </li> </ul>

**Operation AAHT**

- **Railway Protection Force** has launched a nationwide operation to **curb human trafficking.** As part of “Operation AAHT”, special teams will be deployed on all long-distance trains/routes with focus on rescuing victims, particularly women and children, from the clutches of traffickers.
- National Crime Records Bureau registers about 2,200 cases of Human Trafficking cases on an average each year. RPF could act as a bridge cutting across States to assist local police in mission to curb menace.
- The Railways is the most reliable mode of transportation for the traffickers. RPF has rescued more than more than 2,000 women and children between 2017-21 from the clutches of traffickers.
- Cyber cells would start patrolling the web/social media to look for digital footprints of Human Trafficking and the focus should be more on trains originating from districts bordering Nepal, Bangladesh and Myanmar.

**Vigyan Jyoti Programme**

Second phase of Vigyan Jyoti programme commenced on February 11, 2021 on the occasion of International Day of Women and Girls in Science. Recently, it was extended to **100 districts** in its second phase.

**Key Points of Vigyan Jyoti Programme**

- It was launched by Department of Science & Technology (DST), **Ministry of Science and Technology** to create a level playing field for meritorious girls to pursue Science, Technology, Engineering, and Mathematics (STEM). It aims to address under representation of women in different fields of STEM.
- As a first step, the “Vigyan Jyoti” has been introduced in year 2019-20 at the school level wherein meritorious girl students of **Class 9-12** are being encouraged to pursue higher education & career in STEM field.
- It envisaged hand-holding and interventions right from the school level i.e., Class IX and which will continue till the **PhD level** to encourage girls to pursue a career in underrepresented areas of STEM.
- Vigyan Jyoti activities include student-parent counselling, visit to labs and knowledge centres, partners role model interactions, science camps, academic support classes, resource material distribution and tinkering activities. Online academic support to students includes streaming of video classes, study materials, daily practice problems and doubt clearing sessions.
- **Navodaya Vidyalaya Samiti (NVS)**, an autonomous organisation of the Ministry of Education, is implementation partner.
- **New Education Policy** and the **Science Technology and Innovation Policy** could make use of the demographic dividend to progress long in short time to help increase number of women in science.

**DST runs other women-oriented programmes like:**

- ✓ **Women Scientists Scheme** to help women with career-break
- ✓ **Indo-US Fellowship for Women in STEMM (WISTEMM)** program where women scientists can work in research labs of USA
- ✓ **Consolidation of University Research for Innovation and Excellence in Women Universities (CURIE)** programme for improving R&D infrastructure and establishing state-of-the-art research facilities in order to create excellence in S&T in women universities
- ✓ **Gender Advancement for Transforming Institutions (GATI)** program to develop a comprehensive Charter and a framework for assessing Gender Equality in STEM.
- ✓ Further, DST has also additionally established **Artificial Intelligence (AI) labs** in women universities with the goal to foster AI innovations and to prepare skilled manpower for AI-based jobs in future.

**New India Literacy Programme**

Government approved a new scheme “**New India Literacy Programme**” for the period of 2022-2027.

**Aim:** It will cover all aspect of Adult Education to align with National Education Policy 2020. It will impart not only foundational literacy and numeracy but also to cover other components:

<b>Critical life skills</b>	•Including financial literacy, digital literacy, commercial skills, health care and awareness, child care and education, and family welfare
<b>Vocational skills</b>	•With a view towards obtaining local employment
<b>Basic education</b>	•Including preparatory, middle, and secondary stage equivalency
<b>Continuing education</b>	•Including engaging holistic <b>adult education courses</b> in arts, sciences, technology, culture, sports, and recreation, as well as other topics of interest or use to local learners, such as more advanced material on critical life skills

**Salient Features Of The Scheme**

- The term ‘**Adult education**’ is replaced with ‘**Education for All**’
- The scheme will be implemented by Ministry of Education through **online volunteerism**. The training, orientation, workshops of **volunteers**, may be organized through **face-to-face mode**. All material and resources shall be provided digitally so that registered volunteers can easily access them via digital channels such as radio, television, portals and mobile phone-based free open-source apps.

- The scheme will cover non-literate of the age of 15 years and above in all state/UTs.
- The target is 5 crore learners @ 1.00 crore per year by using “Online Teaching, Learning and Assessment System (OTLAS)” in collaboration with National Informatics Centre, NCERT and NIOS
- It is centre sponsored scheme. The estimated total outlay of the scheme is Rs.1037.90 crore which includes Central share of Rs. 700 crore and State share of Rs. 337.90 crore respectively for the FYs 2022 -27
- Schools will be **unit for implementation** of the scheme.
- Use of technologies to impart Adult Education for wider coverage.

### National Merit Scholarship

Ministry of Education has appropriated the continuation of National Means-cum-merit scholarship (NMMSS) over the 15<sup>th</sup> Finance Commission cycle for a period of five years i.e. from 2021-22 to 2025-26.

#### Key Points

- It is **central sector scheme** launched in **2008-2009**.
- It aimed to award scholarship to laudable students of economically weaker sections to reduce drop-outs in class 8<sup>th</sup>. It encourages students to continue the study at the secondary stage.
- The scheme envisages award of one lakh fresh scholarship every year to selected students from class 9<sup>th</sup> and their continuation/renewal in classes X to XII
  - ✓ 22.06 lakh scholarships have been sanctioned till 2020-21 involving an expenditure of Rs. 1783.03 crore.
- **Eligibility:** Students whose parental income from all sources is not more than Rs 3,50,000/ per annum and students who are not studying in Kendriya Vidyalaya, Jawahar Navodaya Vidyalayas, Residential schools run by state Government institutions and private schools are not eligible for the scholarship.
  - ✓ At the time of selection for the award of scholarship, the candidate must have scored at least 55% marks or equivalent grade in Class VIII examination. There will be 5 % relaxation for SC/ST
- **Details of the Scholarship:** Scholarship of Rs. 12000/- per annum (Rs.1000/- per month) per student is awarded to selected students every year for study in classes from IX to XII.
  - ✓ The selection of students awarded the scholarships is made through an examination conducted by the State Governments.
  - ✓ Scholarships are disbursed by SBI directly into bank accounts of students on a quarterly basis.

### SAMRIDH Initiative

**NITI Aayog, Atal Innovation Mission** and U.S. Agency for International Development (**USAID**) have announced a new partnership under the **Sustainable Access to Markets and Resources for Innovative Delivery of Healthcare (SAMRIDH)** initiative.

#### Objective

Launched in 2020, it aims to improve access to affordable and quality healthcare for vulnerable populations in **tier-2 and tier-3 cities and rural and tribal region**.

#### Key Point Of The Initiative

- Bringing innovation, affordability, accessibility and availability in health care system by reimagining Indian health care system through **blending philanthropic capital, public sector resources and research work**.
- -This new partnership will enhance SAMRIDH’S efforts to reach vulnerable population—leveraging AIM’s expertise in innovation and entrepreneurship.
- This initiative is implemented by a Technical Support Unit managed by IPE Global.
- The SAMRIDH healthcare initiative is important to achieve sustainable goal no 3 and cost effective health care system in under develop regions.

#### How Is It Different From SAMRIDH Programme?

- Ministry of Electronics & Information Technology (MeitY) launched ‘**Start-up Accelerators of MeitY for Product Innovation, Development & growth (SAMRIDH)**’ programme in August 2021.

- It was launched to create a conducive platform to Indian Software Product start-ups to enhance their products and secure investments for scaling their business.

### Jan Aushadhi Diwas

**Pharmaceuticals & Medical Devices Bureau of India (PMBI)**, under the aegis of Department of Pharmaceuticals, celebrated **4<sup>th</sup> Jan Aushadhi Diwas** by organizing week-long (1<sup>st</sup> March-7<sup>th</sup> March) celebrations at different locations across the country covering all States/UTs. This will generate awareness about the usages of generic medicines and benefits of **Jan Aushadhi Pariyojana**.

#### Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)

- PMBJP is a campaign launched by Department of Pharmaceuticals in 2008 under the name **Jan Aushadhi Campaign**.
- The campaign was **revamped** as PMBJP in 2015-16.
- **Bureau of Pharma PSUs of India (BPPI)** which works under Ministry of Chemicals & Fertilisers is the implementation agency for PMBJP.
  - BPPI has also developed the **Janaushadhi Sugam Application**.
  - BPPI supports **Janaushadhi Kendras** as a part of PMBJP.
- A medicine is priced on the principle of maximum 50% of average price of the top 3 branded medicines. Thus, the prices of Jan Aushadhi Medicines are cheaper by at least 50% and in some cases, by 80% to 90% of the market price of the branded medicines.



#### Objectives of PMBJP

- To make available quality medicines, consumables and surgical items at affordable prices for all and reduce out of pocket expenditure.
- To popularise generic medicines and dispel the notion that low priced generic medicines are of inferior quality or are less effective.
- To ensure easy availability of menstrual health services (Janaushadhi 'Suidha' sanitary napkins).
- Generate employment by engaging individual entrepreneurs in the opening of PMBJP Kendras.

- Product basket of PMBJP comprises of **1451 drugs and 240 surgical instruments**.
- Further, new medicines and **nutraceuticals** products like protein powder, malt-based food supplements, protein bar, immunity bar, sanitizer, masks, glucometer, oximeter, etc. have been launched.
- At present three IT enabled warehouses of PMBJP are functional at Gurugram, Chennai & Guwahati and fourth one is ready to start operations at Surat.

### Minimum Assured Return Scheme (MARS)

Pension Fund Regulatory and Development Authority (PFRDA) has proposed a guaranteed return scheme, **Minimum Assured Return Scheme (MARS)**, which will provide savers/ people from the salaried class an option for their investments. This will be the **first scheme** from the pension regulator that will offer a guaranteed return to investors.

#### Proposal Under MARS

- To have a separate scheme that can offer a **guaranteed minimum rate of return** to NPS (National Pension System) subscribers, especially those who are risk averse.
- The actual returns will depend on the market conditions. **Any shortfall will be made good by the sponsor**, and the surplus will be credited to the subscribers' account.

### National Pension System (NPS)

- About**
- Central Government introduced NPS from January 2004 for government employees (except for armed forces). NPS is implemented and regulated by PFRDA.

- National Pension System Trust (NPST) established by PFRDA is the registered owner of all assets under NPS.
- Opening an account with NPS provides a Permanent Retirement Account Number (**PRAN**)
- NPS provides seamless portability across jobs and across locations, unlike all current pension plans, including that of the EPFO.
- Individuals can switch over from one investment option to another or from one fund manager to another subject, of course, to certain regulatory restrictions. The returns are totally market-related.

**Structure** NPS is structured into two tiers:

- **Tier-I account:** This is the non-withdrawable permanent retirement account into which the accumulations are deposited and invested as per the option of the subscriber.
- **Tier-II account:** This is a voluntary withdrawable account which is allowed only when there is an active Tier I account in the name of the subscriber. The withdrawals are permitted from this account as per the needs of the subscriber as and when claimed.

**Beneficiaries**

- NPS was made available to **all Citizens of India** from **May 2009**.
- Any individual citizen of India (**both resident and Non-resident**) in the age group of **18-65** years can join NPS.
- OCI (Overseas Citizens of India) and PIO (Person of Indian Origin) card holders and Hindu Undivided Family (HUFs) are **not eligible**

**Achievements**

- Of 4.24 crore accounts, over 3.02 crore accounts are part of the **Atal Pension Yojana (APY)**, a government-backed scheme for workers in **unorganised sector** that assures a fixed pension payout after retirement. The rest constitute voluntary savings from private sector employees and self-employed individuals

**Changes Introduced**

- PFRDA has recently announced that NPS will no longer compel investors to convert 40% of their accumulated retirement corpus into an annuity, as poor yields on annuities and high inflation are translating into negative returns.
- It has also announced that the retirees will be able to take out the entire Rs.5 lakh savings in the NPS against Rs. 2 lakh at present.

**Other Pension Scheme Related News**

Government has approved the continuation of the **Swatantrata Sainik Samman Yojana (SSSY)** and its components beyond 31.03.2021 for the Financial Years 2021-22 to 2025-26. The proposal for continuation of the SSSY was received from the **Ministry of Home Affairs**.

**Background**

- In 1969: Government of India introduced the '**Ex-Andaman Political Prisoners Pension Scheme**' to honor the freedom fighters who had been incarcerated in the Cellular Jail at Port Blair.
- In 1972, to commemorate the 25th Anniversary of Independence, a regular scheme for grant of freedom fighters' pension was introduced.
- Since 1980, a liberalized scheme, namely the 'Swatantrata Sainik Samman Pension Scheme' has been implemented.
- The amount of pension has been revised from time to time and Dearness Relief is also given since August 2016.
- From the financial year 2017-18 onwards, the nomenclature of the Scheme has been changed as 'Swatantrata Sainik Samman Yojana'.

**About the Scheme**

- It provides for a monthly Samman Pension to freedom fighters, as a token of respect for their contribution in the national freedom struggle.
- On their demise, pension is provided to their eligible dependents viz. spouses and thereafter, unmarried and unemployed daughters and dependent parents, as per prescribed eligibility norms and procedure.
- It is implemented by the Ministry of Home Affairs (Freedom Fighters Division).

### Bahini scheme

Sikkim government is set to announce a scheme to install vending machines to provide 100% access to free sanitary pads in all its **secondary and senior secondary government schools** across the state. This is the first time that a state government has taken a decision to cover all girls studying in **Classes 9-12**

- It aims to curb dropout of girls from schools and raise awareness about menstrual hygiene.
- There are about 18,665 adolescent girls studying in government schools in Sikkim.
- The scheme is based on an experiment the state government initiated in 2018, in collaboration with **Sulabh International**, where vending machines were installed in some schools.

### Data on Menstrual Health in India

- The percentage of women using menstrual products did improve significantly across the country, especially in Daman and Diu and Dadra and Nagar Haveli, West Bengal and Bihar, as estimated in the first phase of the recently released **NFHS-5**.
- **Menstrual Hygiene Scheme (2011)** and **Rashtriya Kishor Swasthya Karyakram (2014)** have been launched to promote menstrual hygiene amongst adolescent girls in the age group of 10 to 19.
- Through **Suvidha initiative**, government distributed more than 5 crore brand sanitary pads at Rs 1 from 6,000 Jan Aushadhi Kendras

### SVANidhi se Samridhhi

The Ministry of Housing and Urban Affairs (MoHUA) launched the 'SVANidhi se Samridhhi' program in additional 126 cities across 14 States/ UTs. **Quality Council of India (QCI)** is the implementing partner for the programme.

### SVANidhi se Samridhhi

- 'SVANidhi se Samridhhi', an additional program of PMSVANidhi, was launched in January 2021.
- It was started to provide **social security benefits** to street vendors for their holistic development and socio-economic upliftment.
- It was launched in 125 cities in **Phase 1**, covering approximately 35 Lakh Street vendors and their families.
- Under the program, socio-economic profiling of PMSVANidhi beneficiaries and their families is conducted to assess their eligibility for **8 Government of India's welfare schemes** and facilitate sanctions of eligible schemes. These schemes include-
  - ✓ Pradhan Mantri Jeevan Jyoti Bima Yojana
  - ✓ PM Suraksha Bima Yojana
  - ✓ Pradhan Mantri Jan Dhan Yojana
  - ✓ Registration under Building and other constructions workers (Regulation of Employment and Conditions of Service) Act (BOCW),
  - ✓ Pradhan Mantri Shram Yogi Maandhan Yojana
  - ✓ National Food Security Act (NFSA) portability benefit – One Nation One Ration Card (ONORC)
  - ✓ Janani Suraksha Yojana
  - ✓ Pradhan Mantri Matru Vandana Yojana (PMMVY).

- Vendors are entitled to avail a capital loan of up to ₹10,000. This loan can be repaid with monthly installments within a year. On timely/early repayment of the loan, an interest subsidy of 7% per annum will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer (DBT) on six-months basis.
- There will be no penalty on early repayment of loan.

### Midday Meal Scheme

Karnataka is set to provide eggs under the Midday Meal Scheme for school children. MDMS is amongst the largest initiatives in the world to enhance nutrition levels of school-going children through hot cooked meals. The Mid-Day Meal Scheme has been renamed as '**PM Poshan Shakti**'.

- From the next academic session, Karnataka is likely to become the **13th state to provide eggs under MDM scheme**.
- The government, however, has rolled out the scheme partially in seven districts of Karnataka, which according to the National Family Health Survey were reporting high malnutrition and anemia levels among children.
- For students who do not consume eggs, the government has decided to distribute bananas.

### Streets for People Challenge

Ministry of Housing and Urban Affairs (MoHUA) announced 11 winning cities for the **Streets for People Challenge** and 10 winning cities for the pilot stage of the **Nurturing Neighbourhoods Challenge**.

#### Streets for People Challenge

- It is a city-led **design competition** to develop a unified vision of streets for people in consultation with stakeholders and citizens.
- Each city would launch their own design competition with specific details on site, timeline, and awards.

#### Nurturing Neighborhoods Challenge

- It is a **3-year initiative** that will support cities to develop, pilot and scale solutions that enhance the quality of life of young children, their caregivers and families in the public realm.
- It will be open to all **smart cities**, other cities with **more than 5,00,000 population, and capitals of states and UTs**
- Cities will receive technical assistance and help in capacity-building to Re-imagine parks and open spaces, Improve access to early childhood facilities, Create accessible, safe, walkable streets for young children and families.

### SeHAT

Ministry of Defence (MoD) has launched services for **home delivery or Self Pickup** of Medicines for *veterans and serving military personnel services* under an online medical consultation platform named **Services e-Health Assistance and Teleconsultation (SeHAT)**

#### About SeHAT

- It is the **tri-services teleconsultation service** of the MoD designed for all entitled personnel and their families. As a part of the Government's commitment to Digital India and e-Governance, Defense Minister has launched SeHAT in May 2021.
- **SeHAT stay home OPD** is a patient-to-doctor system where the patient can consult a doctor remotely through the internet using his Smartphone, laptop, Desktop or Tablet. The consultation occurs through video, audio and chats at the same time.
- The user **does not need to pay anything** to seek teleconsultation & can simply access the services by visiting the website, or by using the SeHAT apps.

**eSanjeevani** is a similar free OPD service run by the MoHFW (Ministry of Health and Family Welfare) for all citizens.

- Since its launch, there have been more than 10,000 successful teleconsultations on SeHAT, with a strong team of 2000 plus doctors onboard.

### Shared Parenting

Shared parenting is when children are brought up with the love and guidance of both parents following a separation. However, it is *not* an option in India

#### Best Interests of The Child

- India is a signatory to the **United Nations Convention on Rights of the Child (UNCRC)**.
- The definition of “best interests of the child” has been incorporated from the UNCRC in the **Juvenile Justice (Care and Protection of Children) Act, 2015**.
- It means “the basis for any decision taken regarding the child, to ensure fulfilment of his basic rights and needs, identity, social well-being and physical, emotional and intellectual development”

#### Indian Laws Determining Custody of Children

Hindu Minority and Guardianship Act (HMGA), 1956

It states that the natural guardian of a **Hindu minor boy or unmarried girl** shall be the **father and mother**, provided that custody of a minor who has not completed 5 years of age shall ordinarily be with mother.

However, HMGA **does not** contain any independent, legal or procedural mechanism for deciding **custody rights or declaring court-appointed guardians**.

Guardian and Wards Act of 1890 (GWA)

This deals with the appointment of a person as a ‘guardian’ to a child, both with respect to the **child & property**.

**Child custody, guardianship and visitation issues *between parents*** are determined under GWA, if a natural parent wants to be declared as an **exclusive guardian** to his/her own child.

Upon disputes between parents in a petition under GWA, read with HMGA, **guardianship and custody can be vested with one parent with visitation rights to other parent**.

### Swachhata Start-Up Challenge

Ministry of Housing & Urban Affairs (**MoHUA**), in partnership with the Department of Promotion of Industry and Internal Trade (**DPIIT**) and French Development Agency (**AFD**) launched the Swachhata Start-Up Challenge under **Swachh Bharat Mission-Urban 2.0**. AFD will provide seed funding to the tune of **25 lakh rupees** and one year of customised support to each of the **10 selected start-ups**.

#### About

- Aim: To provide an impetus to innovative start-ups to come forward and drive catalytic transformation in sanitation and waste management sector.
- The Challenge invites solutions across four thematic areas viz.



- With the appetite for risk and spirit of innovation at its core, the start-up space holds immense potential to revolutionise India’s waste management sector.
- It is in line with Atmanirbhar Bharat and Make in India.
- This initiative comes at a time when France and EU are looking to work closely with India on the international stage to negotiate a global treaty on plastic pollution.

**Innovations and Good Practices in Educational Administration**

- Ministry of Education presented the 5<sup>th</sup> National Award for Innovations and Good Practices in Educational Administration (IGPEA).
- **National Institute of Educational Planning and Administration (NIEPA)** has instituted the National Award for IGPEA for **District and Block** Level Education Officers.
  - ✓ NIEPA, under Ministry of Education, is a premier organization dealing with capacity building and research in planning and management of education **not only in India but also in South Asia**.
- It was launched by NIEPA in **2014** with an aim to encourage innovations and good practices in educational administration at grassroot level
- **Objective:** To recognize innovative ideas and practices adopted by the district and block level education officers for effective management of educational administrative system

**Bhasha Certificate Selfie**

Ministry of Education launched a campaign Bhasha Certificate Selfie under **EK Bharat Shreshtha Bharat (EBSB)**.

**Highlights of Campaign**

- Bhasha certificate selfie initiative is encouraging people to upload their **selfie with the certificate** from their social media account. It is launched to encourage cultural diversity and to endorse multi linguicism.
- It aims to ensure that people acquire basic conversational skills in Indian languages.
- It works to promote the **Bhasha Sangam mobile app** developed by Ministry of Education and My Gov.
  - ✓ In 2021, Ministry of Education launched the Bhasha Sangam initiative under EBSB. It is an initiative developed by NCERT to teach basic sentences of everyday usage in 22 Indian languages (Eighth Schedule languages). It is available on DIKSHA, ePathshala and through 22 booklets.

**EK Bharat Shreshtha Bharat initiative**

It is an initiative of Ministry of Education started in 2015 to promote engagement amongst the people of different states /UTs to enhance mutual understanding and bonding between people of diverse cultures.

**Kanya Shiksha Pravesh Utsav**

- The government launched a nation-wide campaign '**Kanya Shiksha Pravesh Utsav**' on the eve of International Women's Day by ensuring enrolment of an estimated **four lakh out-of-school adolescent girls in 11-14 years** age group.
- The campaign is being steered by the ministry of women and child development in partnership with the ministry of education.
- **Aim:** The project aims to work on a complete system for out-of-school girls by building on existing schemes and programmes such as Schemes for Adolescent Girls (SAG), Beti Bachao Beti Padhao (BBBP), and National Education Policy (NEP).
- The campaign will be implemented as part of the BBBP project. Over 400 districts across all states will be funded under the BBBP Scheme for grassroots level outreach and awareness generation to sensitise communities and families to enroll adolescent girls in schools.
- Further, funding from Samagra Shiksha Abhiyan, and Anganwadi workers (AWWs) will be incentivised for counseling and referring out of school adolescent girls
  - The campaign will be largely driven by the Anganwadi system in close partnerships with education officers at district and block levels. The Anganwadis will do a mapping of existing out-of-school girls.

- Data on out-of-school girls are based on their visits to anganwadi centres for nutrition, nutrition education and skilling.

The need for the shift has also arisen because the **Scheme For Adolescent Girls (SAG)**, which initially took care of out-of-school girls, was getting less and less traction mainly because of the success of the education system in bringing all these girls in the 11 to 14 age group into the formal school system

### New Guidelines On Abortion Care

WHO presented new guidelines on abortion care. These, it claimed, would prevent more than **25 million** unsafe abortions annually.

#### New Guidelines

WHO has released more than 50 recommendations that include clinical practice, health care delivery and law and policy interventions to support quality abortion care. The new guidelines include recommendations on many simple interventions at the primary care level that improve the quality of abortion care.

- Evidence shows that restricting access to abortions does not reduce the number of abortions that take place. In fact, restrictions are more likely to push women and girls into unsafe practices.
- In countries where abortion is most restricted, only one in four abortions are safe, compared to almost nine out of 10 in countries where the procedure is mostly legal.

#### Steps Taken by Indian Government for Safe Abortions

<b>Medical Termination of Pregnancy (MTP) Amendment Act, 2021</b>	Notified new rules under which the gestational limit for medical termination of pregnancy has been increased from 20 to 24 weeks for certain categories of women
<b>Comprehensive Abortion Care (CAC) Services</b>	For women in health facilities under <b>RMNCH+A</b> (Reproductive, Maternal, Newborn, Child and Adolescent Health) program of <b>National Health Mission</b>
<b>Capacity Building</b>	Of Medical officers in Safe Abortion Techniques and of Auxiliary Nurse Midwife workers, Accredited Social Health Activist (ASHA) and other functionaries
<b>Certification</b>	To private and NGOs sector facilities to provide quality CAC services.
<b>Nischay Pregnancy detection kits</b>	Supply to sub-centers for early detection of pregnancy

### Maternal Mortality

Registrar General of India's Sample Registration System (SRS) released the latest special bulletin on **Maternal Mortality** in India (2017-19).

- **WHO definition:** Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management.
- Maternal Mortality Ratio (MMR) is defined as the number of maternal deaths during a given time per 1,00,000 **live births** during the same time.

#### India Stat's on MMR

- MMR has declined by **10 points** from 113 in 2016-18 to 103 in 2017-19 (**8.8 % decline**).
- Progressive reduction in the MMR from 130 in 2014-2016, 122 in 2015-17, 113 in 2016-18, and to 103 in 2017-19.

National Health Policy (NHP) target of  
100/lakh live births by 2020

United Nations SDG target of 70/ lakh live births  
by 2030

- India’s neighbours — Nepal (186), Bangladesh (173) and Pakistan (140) — have a higher MMR. However, China and Sri Lanka are way ahead with MMRs of 18.3 and 36 respectively.
- **Top positions:** Many developed countries have successfully brought down MMR to single digits. Italy, Norway, Poland and Belarus have the lowest MMR of 2, while it is 7 in both Germany and UK, 10 in Canada and 19 in the US.

**State Specific Findings**

- **States that have achieved the SDG target** has now risen from 5 to 7:



- **Achieved MMR target set by NHP:** 9 States which include above 7 + Karnataka (83) & Haryana (96)
- Kerala has recorded the lowest MMR which puts Kerala way ahead of the national MMR of 103. Kerala’s Maternal MMR has dropped by 12 points. The last SRS bulletin (2015-17) had put the State’s MMR at 42.
- **MMR in between 100-150:** Uttarakhand (101), West Bengal (109), Punjab (114), Bihar (130), Odisha (136) and Rajasthan (141)
- **MMR above 150:** Chhattisgarh (160), Madhya Pradesh (163), Uttar Pradesh (167) and Assam (205).

**Legal Aid Clinic**

In a move to make legal aid more accessible for women, **National Commission for Women (NCW) in collaboration with Delhi State Legal Services Authority (DSLSA)** has launched a **legal aid clinic** which will act as a single-window facility for resolving grievances of women by offering them free legal assistance.

- The legal aid clinic will focus on protecting women’s rights and providing them with a one-stop centre for seeking legal counseling and help.
- Under the new legal aid clinic, counseling will be provided for walk-in complainants, women in distress will be given legal assistance, advice and information on various schemes of the National Legal Services Authority (NALSA)/ DSLSA, assistance in mahila jansunwai, free legal aid, hearings in matrimonial cases and other complaints registered with the Commission
- NCW is also planning to set up similar legal services clinics in other State Commissions for Women.

**National Strategy and Roadmap for Medical and Wellness Tourism**

Ministry of Tourism has formulated a **National Strategy and Roadmap for Medical and Wellness Tourism**.

- **Mission:** To create a robust framework and synergy amongst the Central Government Ministries, State Governments and Private Sector for promoting India as a Medical and Wellness Tourism destination.
- For this Ministry of Tourism has constituted a **National Medical and Wellness Tourism Board** with the Minister (Tourism) as its Chairman.

**Key Strategic Pillars:** The Strategy has identified the following key pillars:



**Steps taken for promotion**

- Ministry of Tourism, releases global print, electronic and online media campaigns in important and potential markets overseas, under the ‘Incredible India’ brand-line, to promote various tourism destinations and products of the country. Digital promotions are also regularly undertaken through the Social Media accounts of the Ministry on different themes including the theme of Medical Tourism.
- ‘**Medical Visa**’ has been introduced, which can be given for specific purpose to foreign travellers coming to India for medical treatment. ‘E- Medical Visa’ and ‘E-Medical Attendant Visa’ have also been introduced for 156 countries.
- Ministry of Tourism provides financial Assistance under **Market Development Assistance Scheme** to Medical Tourism Service Providers accredited by **National Accreditation Board for Hospitals & Healthcare Providers (NABH)** for participation in Medical/ Tourism Fairs, Medical Conferences, Wellness Conferences, Wellness Fairs and allied Road Shows.

Recently, the Government has prepared the **Draft National Tourism Policy** focusing on **Green, and digital tourism** and has been sent to the industry partners, state governments, other allied ministries for feedback.

**Key Points of the Draft Policy**

<b>Industry Status to Tourism</b>	• Document mentions granting of industry status to the sector to promote investment, along with formally granting infrastructure status to hotels
<b>Relief Measures and Taxation Breaks</b>	• The industry had sent multiple representations to the government for relief measures as well as taxation breaks.
<b>5 Key Areas</b>	• These would be given significant focus in the next 10 years — <b>green tourism, digital tourism, destination management, skilling the hospitality sector and supporting tourism-related to MSMEs.</b>
<b>Offers Framework Conditions</b>	• The draft policy doesn’t deal with specific operational issues, but offers framework conditions to help the sector & improve the experience of tourists, foreign as well as local., especially in the wake of the pandemic

**Draft Bill For New National Public Health Law**

Union Ministry of **Health and Family Welfare** and other Government departments have started the process of finalising various provisions of the draft Bill for a new **National public health law**. Once the draft is ready, it will be placed in the public domain for consultation before being sent to the Union Cabinet.

**Background**

- In 2017, the Union Health Ministry had released the draft of the Public Health (Prevention, Control and Management of Epidemics, Bio-terrorism and Disasters) Act, 2017 and, once enacted, will replace the **125-year-old Epidemic Diseases Act, 1897**.
- In September, 2020, the then Union Health Minister announced in Parliament that the Government would formulate a **National public health law**.

**Expected Proposals Of The Draft Bill**

- 4-tier health administration architecture
- Creation of Public Health Cadres
- Definition of Isolation, Quarantine and Lockdown
- Declaring Public Health Emergency

**Hattis In Himachal Pradesh**

The central government is planning to take decision on Himachal Pradesh government's request to provide **tribal status** to Hatti community in the state.

**About Hattis**

- They are a community of close-knit people who got their names from their tradition of selling homegrown vegetables, crops, meat and wool etc. in small markets called 'haat' in towns.
- They live in the Kamrau, Sangrah, and Shilliai areas. As it is located in topographically rough terrain, it lacks in education and employment.
- The two clans have similar traditions, and inter-marriages are commonplace.
- There is a rigid caste system among them -The Bhat and Khash belong to the upper castes, while the Badhois are below them.
- Inter-caste marriages are traditionally opposed in their culture.
- Like the khaps of Haryana, Hattis are governed by a traditional council called Khumbli

**Darlong community**

Lok Sabha has passed the **Constitution (Scheduled Tribes) Order (Amendment) Bill, 2022**.

**About the bill**

- It seeks to **amend** the **Constitution (Scheduled Tribes) Order, 1950** for inclusion of certain communities in the list of Scheduled Tribes in relation to the State of **Tripura**.
- It proposes the "Darlong" community as a **sub-tribe of "Kuki"** in the list of Scheduled Tribes.

**Kuki**

- It is a word pronounced by outside people to refer to a group of tribes like **Darlong and Lusai**
- The Lusai of Tripura used to live in Jampui and Shakan Hills of North Tripura.
- They call them Mizos. They never call them Lusai as the word 'LU' means Head and 'SAI' means cutting (Head Hunter). Though once they were treated as headhunters.
- Darlong is another tribe known as Kukis. All together Kukis are 11,674 persons in Tripura.
- They live in hill tops and maintain their livelihood through Jhum Cultivation and producing fruits. Nowadays they are also accustomed with plain land cultivation and rearing of animals.
- Kukis are fond of music and dance.
- They do not arrange any marriage alliances outside their community.
- Tradition-ally they were not Christian. They had faith in lord Shiva beside different deities and spirits. But for the last fifty years the majority of them have embraced Christianity.
- They have their own customary laws and village council. LAL is a term to denote village chief. This is the reason for which Darlong uses Lal before their name.
- Kukis are presently a small tribe in the state and socio-economically more advanced.
- The community has a high prevalence of education and cultural activities and members of the community serve in senior positions in the local administration.
- For example, a tribal musicologist and Rosem (a tribal instrument) maestro Thanga Darlong was awarded the prestigious Padma Shri a few years ago for his contributions to culture

**Assamese Muslims As A Distinct Community**

A panel set up by the Assam Government has recommended a **notification** for identifying Assamese Muslims as a **distinct, indigenous community**.

- The panel was divided into seven sub-committees to enable a broad discussion on wide range of topics affecting the socio-economic conditions of this community.
- There are government schemes for indigenous communities in Assam like the Bodos, Koch Rajbongshis, Sootas, Ahoms. Just like those are indigenous groups, so are Goriyas and Moriyas. It is important to identify indigenous Assamese Muslims, so that they can benefit from the various developmental schemes in Assam

## Assamese Muslim community

- Under the umbrella of the indigenous Assamese Muslim community, fall three main groups: the Goriyas, the Moriyas (from Upper Assam) and the Deshis (from Lower Assam).
  - Deshis are 13th-century converts from indigenous communities such as Koch Rajbongshi and Mech, Goriyas and Moriyas trace their lineage to converts as well as soldiers, artisans, etc. who came to the region during the **Ahom rule**.
    - Smaller groups such as Julha Muslims also fall under this category.
- These groups consider themselves distinct from the Bengali-speaking Muslims who migrated from **East Bengal or Bangladesh**.

### • Steps For Their Political Empowerment

- The five sub-groups of Assamese Muslims – Syed, Goriya, Moria, Deshi and Julha – should be clearly mentioned in the government notification.
- A provision similar to the **Article 333** of the Indian Constitution may be enacted to provide a representation of Assamese Muslims in Parliament and Assam Legislative Assembly.
- An Upper House (Legislative Council) may be created in Assam as per **Article 169** of the Indian Constitution.
- **Undertake A Census:** It recommended Assam government to undertake a census to identify and document the Assamese Muslim community.

### Childline 1098 May Be Merged With Emergency Helpline 112

The Central Government is planning to merge child helpline number 1098 with the national emergency helpline 112.

#### About CHILDLINE 1098

- CHILDLINE 1098 is a 24x7 emergency, free phone outreach to children in distress.
  - It is considered to be one of the largest emergency response systems in the country, receiving **five million calls annually**.
  - But civil society organizations are worried about its future as the Central government in its recent draft guidelines for the Mission Vatsalya Yojana said that Childline will be “integrated” with the **Home Ministry’s universal emergency helpline 112** which provides services related to police, health and women’s safety.
- ▶ Childline 1098 is a service of **Ministry of Women and Child Development**.
  - ▶ Childline India Foundation is a **NGO in India that operates this telephonic helpline, for children in distress**.
  - ▶ It is also the sole agency/body responsible for establishing the CHILDLINE service across the country, monitoring of service delivery and finance, training, research and documentation, creating awareness, advocacy as well as resource generation for the service
  - ▶ It has till date connected to **three million children** across the nation offering them care and protection.
  - ▶ The foundation receives funding from the Ministry of Women and Child Development under the **Integrated Child Protection Scheme**, which is now part of **Mission Vatsalya**.

#### Objectives of Mission Vatsalya

- To secure a healthy and happy childhood for every child in India
- Foster a sensitive, supportive and synchronized ecosystem for development of children
- Assist States/UTs in delivering the mandate of the Juvenile Justice Act 2015
- Achieve the SDG goals

**Components Of Mission Vatsalya**

Statutory bodies	Service delivery structures	Institutional care/services
Non-institutional community based care	Emergency outreach services	Training and capacity building

- **Budget:** The Mission has a total financial implication of Rs 10,916 Crore, with a Central Share of Rs 6928 Crore and State share of Rs 3988 Crore.
- **Implementation Period:** 2021-22 to 2025-26.

**Code For Medical Devices**

- Department of Pharmaceutical (DoP) published the *draft Uniform Code for Medical Device Marketing Practices (UCMDMP)* to regulate *fair marketing practices* by the medical device industry.
- It is proposed to be a voluntary code that companies may elect to adopt, though the government has specified that they may make it a statutory code if it is not effectively implemented.

**Salient Features of Uniform Code for Medical Device Marketing Practices (UCMDMP)**

- **Health Care Professional (HCP):** Any person or entity that is authorized to provide healthcare services or items to patients, or is involved in the decision to purchase, prescribe, order, use or recommend a medical device in India.
- **Comparative Advertisements:** Prior consent from a competitor *need not* be obtained for using their brand name as long as the feature of the competitor's product that is the subject of comparison is clearly specified within the advertisement.
- **Role of Medical Device Representatives:**
  - The UCMDMP envisages a more *involved role* for medical device representatives in a clinical setting than medical representatives under the UCPMP.
  - The representatives are expected to provide **technical support** to HCPs on the safe and effective use of the devices.
- **Training of HCPs by Medical Devices Companies:** Companies are expected to develop training sessions on the effective use of devices and their use in procedures, which will be a requirement for an HCP to get access to the product.
- **No Gifts:** No gifts, pecuniary advantages or benefits in kind shall be supplied, offered or promised to persons qualified to use, prescribe or supply Medical Devices, by a Medical Device Company or any of its agents i.e., distributors, wholesalers, retailers etc.
- The UCMDMP has done away with the restriction on the use of the word "new" for products that have been in the market for over a year, which is present under the UCPMP.
- Medical devices must not be promoted prior to obtaining the requisite registrations and licenses for sale under the Medical Device Rules, 2017.

**PM Receives Lata Deenanath Award**

Prime Minister Narendra Modi received the first Lata Deenanath Mangeshkar Award. He got the award for his selfless service to the country and society at the 80th annual Master Deenanath Mangeshkar Awards ceremony held in Mumbai.

- It was instituted in the memory and honor of legendary singer Lata Mangeshkar, who had passed away in February 2022.
- The award will be given every year to an individual "who has made path-breaking, spectacular and exemplary contributions to our nation, its people and our society."

## INTERNATIONAL RELATIONS

## Kazakhstan Protests

A **sharp and sudden spike** in fuel prices **triggered a national crisis in Kazakhstan**. The government has officially stepped down, following days of violent protests across the country.

- Price of fuel rose when the government lifted price caps for LPG.
- The protests began in the oil city of Zhanaozen.
- The current protest is being called the **biggest wave of protests in Kazakhstan's history**
- Earlier, LPG was sold at a loss for producers, because prices for domestic consumers were regulated by the state. It was set at a rate below the cost of producing the fuel. Hence, there was little reason to produce LPG, which in turn generated shortages.
- With market relations dictating prices, making and selling LPG would finally become a more attractive proposition for producers.

## CSTO Troops Deployed In Kazakhstan

- Under increasing pressure, President Kassym-Jomart Tokayev appealed to the Russia- dominated Collective Security Treaty Organisation (CSTO) for help.
- CSTO is an **intergovernmental military alliance**, dominated by Russia, which came into effect in May 2002.
  - ✓ The origin of CSTO can be traced to the Collective Security Treaty, 1992 (Tashkent Treaty).
  - ✓ It has the stated focus of preserving territorial integrity and seeking closer cooperation with other multilateral institutions. It is headquartered in **Moscow, Russia**.
  - ✓ Members of CSTO are Armenia, Belarus, Kazakhstan, Kyrgyzstan, the Russian Federation and Tajikistan.

## China - Iran Strategic Pact

- China has announced that it will **begin implementing a strategic agreement** with Iran.
- Signed in Tehran in March 2021, when former President Hassan Rouhani was in office, the **strategic accord entails economic, military, security and political cooperation**.
- The \$400 billion agreement paves the way for Iran's participation in the Belt and Road initiative. It will significantly expand China's economic and political influence.
- The details of this deal are not in public domain. However, analysts believe that this deal would secure a regular supply of oil for China.
- China is Iran's leading trade partner and was one of the biggest buyers of the country's oil before then-U.S. president Donald Trump re-imposed sweeping unilateral sanctions in 2018.

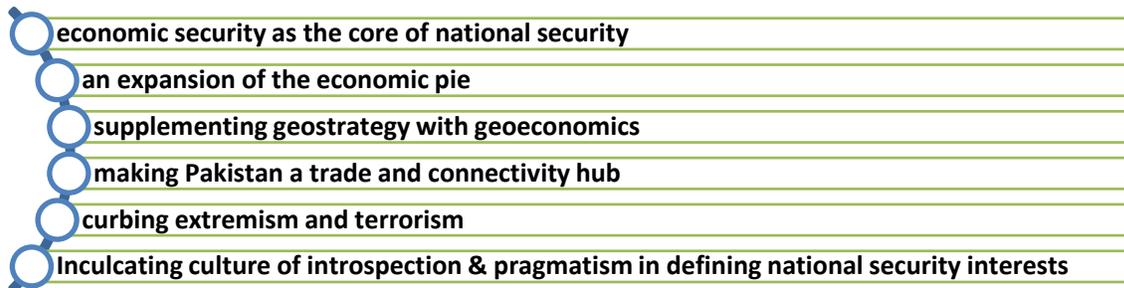
## China Renames 15 Places in Arunachal Pradesh

- Recently, Beijing announced Chinese names for **15 places in Arunachal Pradesh** which the neighbouring country claims as South Tibet. This announcement was made by China's Ministry of Civil Affairs.

- Eight residential areas, four mountains, two rivers, and a mountain pass of Arunachal Pradesh have been renamed.

### Pakistan's National Security Policy (NSP)

- Pakistan has released the public version of its first-ever National Security Policy (NSP), covering a five-year period from 2022 to 2026.
- NSP stipulates:



### Japan-Australia Defence Agreement

- Japan and Australia have signed a landmark treaty to strengthen defence ties. The accord would contribute to regional stability, as China expands its military and economic clout.
- This agreement would provide a clear framework for enhanced inter-operability and cooperation between the forces of these two countries.
- Called the **Reciprocal Access Agreement (RAA)**, the treaty is only Japan's second such agreement. Its only other military pact is with the United States, a status of force agreement that dates back to 1960.
- This agreement is also significant in the sense that it marks the **move away from a US-centric outlook** towards a greater focus on bilateral ties and regional groupings.
- It is also a sign that Japan is willing to play a more proactive role in the region.

### Aceh-Andaman & Nicobar Connectivity

- India's External Affairs Minister and **Indonesia's** foreign minister discussed a range of issues including the Aceh and Andaman & Nicobar Island connectivity.
- During PM Modi's 2018 visit to Indonesia, both sides decided to cooperate in connectivity between Andaman and Nicobar Island and Aceh province of Indonesia.
  - Sabang port in Aceh is around 90 nautical miles from the Indian islands of Andaman and Nicobar.
  - Sabang sits at the entrance of the Strait of Malacca, which is considered to be a key global choke point.
  - During the 2018 visit, it was also decided to set up a **joint task force** to undertake projects for **port-related infrastructure** in and around Sabang by both the neighbouring countries.

### India & Indonesia in G20 Troika

- This year, both the countries are part of the G20 Troika. Indonesia will hold the G20 summit this year and hand over the baton to India who will be chairing the grouping next year.
  - India will be hosting the G20 summit for the first time in 2023

### India, UAE Ink Comprehensive Trade Pact

Recently, Prime Minister Modi and Crown Prince of Abu Dhabi Sheikh Mohammed bin Zayed Al Nahyan held a Virtual Summit. During the summit, both the leaders issued a Joint Vision Statement.

### The Joint Vision Statement

- “Advancing India and UAE Comprehensive Strategic Partnership: New Frontiers, New Milestone”.
- The Statement establishes a roadmap for a future-oriented partnership between India and UAE and identifies focus areas and outcomes.
- The shared objective is to promote new trade, investment and innovation dynamic in diverse sectors, including economy, energy, climate action, emerging technologies, skills and education, food security, healthcare and defence & security.

### Key Highlight Of Virtual Summit

- The major highlight of the summit was the **signing and exchange** of the India-UAE Comprehensive Economic Partnership Agreement (CEPA).
  - ✓ In September 2021, both sides started formal negotiations for a mutually-beneficial CEPA.
  - ✓ At that time, it was decided to wrap up negotiations by as early as December 2021 and sign a deal by March 2022.
  - ✓ India-UAE CEPA was signed in February 2022 in New Delhi during the India-UAE Virtual Summit. The Agreement is expected to enter into force on 01 May 2022
- MOU on **Food Security Corridor Initiative**
- MOU between India's **Gift City** and Abu Dhabi **Global Market** on cooperation in financial projects and services. Two other MOUs - one on cooperation in **Climate Action** and the other on **Education** have also been agreed

*[For India-UAE bilateral relation, please refer Quick Revision Part 1, Page 148]*

### Russia-Ukraine Conflict

Russia says Ukraine must meet its obligations under 2015 agreements.

- The peace deal, known as the **Minsk agreements**, was signed to *end the fighting between Ukraine's army and pro-Russian separatists in eastern Ukraine*.
- It provided additional autonomy to the separatist Russian-speaking territories in the Donbas.

### Historical Background

- Russia and Ukraine share a 1,974 km land border.
- Russian President Putin has persisted in calling Ukraine "**Little Russia**". In July 2021, Putin wrote an article titled "*On the Historical Unity of Russians and Ukrainians*", in which he argued that both nations are one people.
- After World War II, the western part of Ukraine merged into the **Ukrainian Soviet Socialist Republic**. The whole country became a part of the Soviet Union.
- Ukraine gained its independence in **1991**, following the dissolution of the Soviet Union.



### Annexation of Crimea

- Tensions between Ukraine and Russia escalated in late 2013 over a landmark political and trade deal with European Union.
- After the pro-Russian then-President, Viktor Yanukovich, suspended the talks, weeks of protests in Kyiv (capital of Ukraine) erupted into violence. Soon, the then pro-Russian President was ousted.
- Russia responded by **invading Crimea**, which was a part of Ukraine, and annexing it in March 2014. Russia invaded Crimea on the pretext that it was defending its interests and those of Russian-speaking citizens.

- Shortly afterwards, pro-Russian separatists in Ukraine's Donetsk and Luhansk regions declared their independence from Kyiv. They established their own autonomous state called Donetsk People's Republic in 2014.
- Later, Kyiv and Moscow signed a peace deal in **Minsk in 2015**. It was brokered by **France and Germany**.
  - Government of India has launched a 'multi-pronged' initiative named '**Operation Ganga**'.
    - ✓ A dedicated Twitter handle 'OpGanga Helpline' to assist Indian evacuation from Ukraine has also been announced.
    - ✓ Indian evacuation flights are operating from neighbouring countries like Romania and Hungary

*{For details on NATO refer Quick Revision Part 1, Page 179}*

## No-fly Zone

President Volodymyr Zelensky of Ukraine criticized NATO over its rejection of a no-fly zone.

### About No-fly zone

- A no-fly zone refers to any region of airspace where it has been established that certain aircraft cannot fly.
- It can be used to protect sensitive areas, such as royal residences, or brought in temporarily over sporting events and large gatherings.
- In a military context, a no-fly zone is designed to stop aircraft from entering banned airspace, usually to prevent attacks or surveillance.

### No-fly zones been used before

- After the first Gulf War in 1991 the US and coalition partners established two no-fly zones in Iraq to prevent attacks against some ethnic and religious groups. This was done **without United Nations backing**.
- In 1992 during the Balkans conflict, the UN passed a resolution which banned unauthorized military flights in Bosnian airspace.
- The UN Security Council also approved a no-fly zone as part of the 2011 military intervention in Libya. The Bosnian and Libya zones were enforced by NATO forces.

## India, Maldives Ink pacts

India's External Affairs Minister (EAM) Dr. S Jaishankar was on a two-day official visit to the Maldives.

### Key Highlights of the visit

#### Inauguration of various projects

- During the visit, EAM inaugurated the **National College of Policing and Law Enforcement (NCPL)** in Addu City. NCPL was established under Indian grant assistance.
- The establishment of police academy had, till recently, been India's largest grant-funded project. This was **prior to the Greater Male Connectivity Project** for which India extended a \$400 million line of credit in 2020.
- Several other projects being undertaken with Indian assistance in Addu City were also inaugurated. This included: ground breaking of road development project, inauguration of tourism zone, & drug detox facility

#### Various agreement signed

- Two countries signed agreements for **cooperation in education, health and capacity-building**.

- An MoU was also signed between Sardar Vallabhbhai Patel National Police Academy (SVPNPA) and Maldives Police Service. This will enable NCPL to grow its capacities through training & the development of its curriculum.

### Lanka-India Oil Tank Farm Deal

Sri Lanka is moving ahead on finalising plans for **jointly developing** with India a massive oil tank farm at Trincomalee.

#### About Trincomalee Oil Tank Farms Project

- During the Second World War, the British built the Trincomalee oil tank farms. These oil tank farms were to serve as a *refueling station* and it was adjacent to the Trincomalee port, an *enviable natural harbour*.
- The nearly **century-old** oil tanks need to be refurbished — at the cost of millions of dollars — if they are to be fit for use again.
- The oil facility is **located in ‘China Bay’**. It has 99 storage tanks with a capacity of 12,000 kilolitres each, spread across the Upper Tank Farm and the Lower Tank Farm.



#### India's Interest In This Project

- India's engagement with Sri Lanka for development of this oil tank storage farm project dates back to **India-Sri Lanka Accord of 1987** (popularly referred as **Rajiv-Jayewardene Accord**).
  - ✓ The accord stated that the work of refurbishing tank farm located in north-eastern province of Trincomalee would be undertaken jointly by the two countries.
  - ✓ It was signed on the pretext of Civil War in Sri Lanka (between Tamils & Sinhala community).
  - ✓ The accord saw the placement of the Indian Peace Keeping Force (IPKF) in Sri Lanka
- Trincomalee is an important counterbalance to the **southern Hambantota Port backed by China**.

#### India Extends \$900 Million Aid To Help Sri Lanka Tide Over Its Economic Crisis

- Sri Lanka has over \$7 billion outstanding debt this year, starting with \$500 million International sovereign bonds maturing on January 18.
- The \$900 million aid comes in the form of a \$400 million currency swap and deferment of over \$500 million due for settlement to the Asian Clearing Union (ACU).

#### About Asian Clearing Union (ACU)

- ACU was established with its **headquarter at Tehran, Iran**, in 1974 at the initiative of the United Nations Economic and Social Commission for Asia and Pacific (**ESCAP**), for promoting regional co-operation.
- The main objective of clearing union is to **facilitate payments among member countries** for eligible transactions on a multilateral basis, thereby economizing on the use of foreign exchange reserves and transfer costs.
- The Central Banks and the Monetary Authorities of **Bangladesh, Bhutan, India, Iran, Maldives, Myanmar, Nepal, Pakistan and Sri Lanka** are currently the members of the ACU.

### India Assisted Projects in Mauritius

PM Modi and his Mauritius counterpart Pravind Kumar Jugnauth virtually inaugurated multiple projects.

#### Key Highlights

- They jointly inaugurated a \$45-million **social housing project** with 956 units.

- They also laid foundation stone to **start work on 8 MW solar power plant** and a **civil service college** to be built with Indian aid of more than \$500 million.
- The two countries also concluded following agreements --
  - ✓ India is to provide about \$190 million as assistance for a **metro rail** and \$10 million for other infrastructure projects in Mauritius.
  - ✓ India will also provide assistance for **small but high-impact development projects** in fields such as education, healthcare and disaster risk reduction.
- In coming days, both countries will begin work on several important projects such as renal transplant unit, Forensic Science Laboratory, National Library and Archives, Mauritius Police Academy.



**China and Pakistan Ink New CPEC Agreement**

China and Pakistan signed a new **agreement on industrial cooperation** as part of China Pakistan Economic Corridor (CPEC) plan. The new industrial cooperation agreement signed is a key part of what is being called as Phase II of CPEC.

**Different Phases of CPEC**

**1st Phase**

- Various agreements such as **energy, infrastructure, port development and the railway line** construction have been signed
- In total, the economic corridor project aims to add some 17,000 megawatts of **electricity generation** at a cost of around \$34 billion. The rest of the money will be spent on **transport infrastructure**, including upgrading the railway line between the port megacity of Karachi and the northwest city of Peshawar.

**2nd Phase**

- This agreement is aimed at boosting Chinese investment in Pakistan as well as transferring Chinese industrial capacity.
- In other words, 2<sup>nd</sup> phase primarily revolves around **Special Economic Zones development and industrialisation.**

**About China-Pakistan Economic Corridor (CPEC)**

- During April 2015 visit to Islamabad, Chinese President Xi Jinping and Pakistani PM Nawaz Sharif unveiled the \$46 billion CPEC.
- CPEC quickly ballooned to \$62 billion in pledges covering dozens of envisioned high-profile projects.
- The **corridor of 3,000-km long route of infrastructure projects links Xinjiang with Gwadar**, and also passes through Pakistan-occupied Kashmir (PoK) where China is investing in a number of projects.
- Often described as a flagship project of **Belt and Road Initiative (BRI)**, the stated goal of CPEC is:
  - ✓ To transform Pakistan’s economy by modernizing its road, rail, air, and energy transportation systems; and
  - ✓ To connect the deep-sea Pakistani ports of Gwadar and Karachi to China’s Xinjiang province and beyond by overland routes.

BRI, launched in 2013, aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.

**China, Solomon Islands Sign Landmark Security Agreement**

China has announced the signing of a security pact with the Solomon Islands. It is a first-of-its-kind arrangement that could pave the way for further Chinese security deals overseas.

**Solomon Islands**

- Solomon Islands is a country in the southwestern Pacific Ocean.

- Once a British protectorate, Solomon Islands achieved independence as a republic in **1978**.
- **Honiara**, on the north coast of **Guadalcanal Island**, is Solomon Islands' **capital and largest city**.
- There are six big islands - the largest is Guadalcanal,
  - The others are New Georgia, Santa Isabel, Choiseul, Malaita, and San Cristobal.
- *Solomon Island in particular has significant reserves of **timber and mineral resources**, along with fisheries.*
- These Pacific island states have disproportionately large maritime **Exclusive Economic Zones** when compared to their small sizes.



**India, U.S Hold Broad 2+2 Discussions**

- The **fourth '2+2' dialogue** between India and the United States took place in Washington DC.
- The 2+2 Ministerial Dialogue was preceded by a virtual meeting between PM Modi and President Biden.
- The first 2+2 dialogue between the two countries was held during the Trump Administration in September 2018.

**About 2+2 talks**

- The 2+2 dialogue is a format of meeting of the foreign and defence ministers of India and its allies on strategic and security issues.

**2+2 talks between India and allies**

- India has 2+2 dialogues with 4 key strategic partners: the **US, Australia, Japan, and Russia**.
  - Besides Russia, the other three countries are also India's partners in the Quad.
- The inaugural 2+2 dialogue with Australia was held in September 2021 in New Delhi.
- India held its first 2+2 dialogue with Russia in December 2021.
- The first India-Japan talks in the 2+2 format were held in November 2019 in New Delhi.

**IVFRT Scheme**

- The Government has approved the continuation of the **Immigration Visa Foreigners Registration Tracking (IVFRT) Scheme** beyond March 31, 2021 for a period of five years from April 1, 2021 to March 31, 2026 with a financial outlay of Rs.1,364.88 crore.
- Core objective of IVFRT is modernization and up-gradation of Immigration and Visa services.
- The project has a global outreach and seeks to interlink and optimize functions relating to **immigration, visa issuance, registration of foreigners and tracking of their movements** in India
- It covers 192 Indian Missions across the globe, 108 Immigration Check Posts (ICPs) in India, 12 Foreigners Regional Registration Officers (FRROs) and offices and more than 700 Foreigners Registration Officers (FROs), Superintendents of Police (SPs)/Deputy Commissioners of Police (DCPs) across the country.

- After the commencement of IVFRT, the number of Visa and OCI cards issued increased from 44.43 lakh in 2014 to 64.59 lakh in 2019 at a Compounded Annual Growth Rate (CAGR) of 7.7%.
- Average visa processing time of 15 to 30 days (during pre-IVFRT period) has been reduced to a maximum of 72 hours in e-visas, with 95% of e-visas issued within 24 hours.
- International traffic to & from India grew from 3.71 crore to 7.5 crore during last 10 years at a CAGR of 7.2%.

### Diplomatic Boycott of the Beijing Winter Olympics

- **India announced a diplomatic boycott** of Beijing Winter Olympics which started on February 4.
- By doing so, India joined a growing list of countries that did not send government delegations to the Chinese capital for Winter Olympics. The other countries are US, Canada, UK, Australia, New Zealand, Japan, and Netherlands.
- Although India has diplomatically boycotted the Beijing games, it will continue to be represented by just one athlete, alpine skier Arif Khan.
- Doordarshan decided not to telecast live the opening & closing ceremonies of Winter Games.
- **Russian President, Pakistan Prime Minister and five Presidents from Central Asia** reached for the opening of the Winter Olympics.

#### Winter Olympic Games 2022

- Having staged the 2008 Summer Olympics, Beijing will become the first city to host both the Summer and Winter Olympics.
- Beijing 2022 will be held across three zones – Beijing, Yanqing and Zhangjiakou.
- Events will be held in 15 disciplines across 7 sports. The first edition of the game in Chamonix had 5 sports.
- **Official mascot - A giant panda named Bing Dwen Dwen**
  - ✓ Bing means ice and also symbolises purity and strength, and “Dwen Dwen” represents children.
  - ✓ The mascot embodies the strength and willpower of athletes and will help to promote the Olympic spirit.

### What Does Diplomatic Boycott Mean?

- Diplomatic boycott means **a country will not send official government delegations** to Beijing during the Games. However, a diplomatic boycott is a ***token protest that has no impact on the sporting spectacle.*** Thus, diplomatic boycott does not affect athletes’ participation.



#### Winter Olympics

- It is the premier competition for sports that are played on ice or snow.
- It is held every 4 years and features participants from across the world.
- Ice skating, ice hockey, skiing and figure skating are some of the popular sports that are played

#### History

- The first Winter Olympics were held in 1924 in Chamonix, France.
- Winter sports were initially played at the Summer Olympics, with the 1908 London Olympics hosting four figure skating events and Antwerp 1920 having figure skating as well as ice hockey.
- However, in 1924, a separate event was created for winter sports, called the International **Winter Sports Week**. It was held in Chamonix, France – the host country for the 1924 Summer Olympics.
- Two years later, the International Winter Sports Week in Chamonix was officially recognised as the first Winter Olympic Games.

#### India participation in the Winter Olympics

- India has been participating at the Winter Olympics since 1964.
- Jeremy Bujakowski was the first Indian to qualify for the Winter Olympics when he competed at the 1964 Games in Austria in the men’s downhill alpine skiing event.
- For Beijing 2022, alpine skier Mohammad Arif Khan has won quotas in two events – slalom and giant slalom.
- He is the only Indian to have secured a place at the upcoming Games till now.

### International Election Visitors Programme 2022

- Election Commission of India (ECI) hosted the virtual **International Election Visitors Programme (IEVP) 2022.**

- Election Management Bodies from nearly 32 Countries and four international organizations attended the programme.
- India has been hosting the IEVP since 2012 elections where international delegates are invited to visit the Polling stations and observe the electoral processes.

## Geneva Conventions

Russia's armed invasion of Ukraine has raised serious concerns surrounding the issue of human rights violations. As the casualties among the civilians continue to mount, the **world is looking to the Geneva Conventions for standards to which the invading Russian forces can be held.**

### About Geneva Conventions Guidelines During Wartime

- The Geneva Conventions are a **set of four treaties**, formalised in 1949, and **three additional protocols**.
  - ✓ The first two of these additional protocols were formalised in 1977 and the third in 2005.
  - ✓ **Two Protocols of 1977:** They strengthen the protection of victims of international (Protocol I) and non-international (Protocol II) armed conflicts and place limits on the way wars are fought.
  - ✓ In 2005, a third Additional Protocol was adopted creating an additional emblem, the **Red Crystal**, which has the same international status as the Red Cross and Red Crescent emblems.
- These conventions codify widely accepted ethical and legal international standards for humanitarian treatment of those impacted by any ongoing war.
- The focus of the Conventions is the treatment of non-combatants and prisoners of war.
  - ✓ It is **not concerned with the use of conventional or biological and chemical weapons**. These are governed respectively by Hague Conventions and Geneva Protocol.

### Key Highlights of Geneva Conventions

#### 1<sup>st</sup> Geneva Convention

- It protects wounded and sick soldiers on land during war. This convention extends to medical and religious personnel, medical units, and medical transport.

#### 2<sup>nd</sup> Geneva Convention

- It protects wounded, sick and shipwrecked military personnel at sea during war.
- This convention also extends to hospital ships and medical transports by sea, with specific commentary on the treatment of and protections for their personnel.

#### 3<sup>rd</sup> Geneva Convention

- It applies to prisoners of war, including a wide range of general protections such as humane treatment, maintenance and equality across prisoners etc.
- It also talks about hygiene and right to religious, intellectual, and physical activities of prisoners.

#### 4<sup>th</sup> Geneva Convention

- Comprising 159 articles, it outlines the norms for the protection of civilians in wartime.
- Along with the Additional Protocols of 1977, 4<sup>th</sup> Convention talks about
  - general protection of populations against certain consequences of war,
  - conduct of hostilities and the status and treatment of protected persons,
  - Distinguishing between the situation of foreigners on the territory of one of the parties to the conflict and that of civilians in occupied territory.
- This convention also spells out the obligations of the occupying power vis-à-vis the civilian population and outlines detailed provisions on humanitarian relief for populations in occupied territory.

**Signatories**

- The Geneva Conventions have been ratified by 196 states, including all UN member states.
- The three Protocols have been ratified by 174, 169 and 79 states respectively.

**Bangladesh, India, Nepal To Move Ahead On MVA Pact**

India, Bangladesh and Nepal have finalised an enabling MoU for implementing Bangladesh-Bhutan-India-Nepal Motor Vehicles Agreement (**BBIN-MVA**).

**Key Highlights**

- The enabling MoU was finalised at a meeting held in New Delhi recently. **Bhutan participated in the meeting as an observer.**
- Since Bhutan has not ratified the agreement, the implementing MoU was finalised pending ratification of MVA by Bhutan. The enabling MOU is to be signed by India, Bangladesh and Nepal for implementation of the BBIN MVA.
- The meeting also finalised the wording of **two separate protocols on passenger and cargo movement**.



**About BBIN-MVA**

- To boost sub-regional connectivity, BBIN-MVA was signed during Transport Ministers’ meeting **in Thimpu in 2015**.
- This agreement was signed for seamless transit of passenger and cargo vehicles among the four countries.
- As per the agreement, member countries would allow vehicles registered in the other countries to enter their territory under certain terms and conditions
- ADB has been providing technical, advisory, and financial support to the BBIN MVA.
- This is being done as part of its assistance to the South Asia Sub regional Economic Cooperation (SASEC) program
- There are still some agreements holding up the final protocols. This includes issues like Insurance and bank guarantees, size and frequency of freight carriers into each country.

**Background**

- SAARC had been trying to enact a Motor Vehicle Agreement for the Regulation of Passenger and Cargo Vehicular Traffic.
- The proposal to finalise the SAARC MVA was submitted in the 18th SAARC Summit held in Kathmandu, Nepal in November 2014.  
The framework agreement, however, was not signed because of opposition from Pakistan. Later, this initiative was held hostage to political factors and ultimately lost support.
- In February 2015, **discussion on BBIN-MVA, a parallel to the SAARC-MVA**, was initiated at Kolkata.



**30 Years of India-Israel Ties**

- On January 30, India and Israel marked 30 years of full diplomatic relations and launched a commemorative logo.
- The logo features the Star of David and the Ashoka Chakra- the two symbols that adorn the national flags of both countries- and forms the numeral 30 depicting the 30th anniversary of bilateral relations. (See figure beside)



India-Israel Bilateral Relation

Historical Background

Both countries gained their independence from the UK within months of each other.

However, they headed in different directions for nearly four decades:

- India as a leader in **NAM** maintained close relations to **Arab world and Soviet Union**;
- Israel established close ties with the **US and Western Europe**.

The two famous foreign policy decisions of India in relation to Israel at the time of Independence included:

- India's participation in the **UN Special Committee on Palestine** and
- Its decision on Israel recognition as a State.
  - India had recognised Israel on September 17, 1950.
  - Full-fledged diplomatic relations between the countries were **established on January 29, 1992**.

- Agricultural cooperation between the two sides is formalized through **three-year action plans**.
- Israel has been among the top four arms suppliers (along with US, Russia and France) to India with military sales worth around \$1 billion every year. Indian armed forces have inducted a wide array of Israeli weapon systems. E.g.,

- Phalcon AWACS (airborne warning and control systems) and Heron
- Searcher-II and Harop drones
- Barak anti-missile defence systems & Spyder quick reaction anti-aircraft missile system
- India is now finalising "Project Cheetah" to arm Heron drones with laser-guided bombs

- India and Israel signed a **Cultural Exchange Programme** (for the period of 2020-23) in August 2020 to facilitate bilateral cultural exchanges.

Visit of Indian President to Turkmenistan

- President of India, Ramnath Kovind, paid an official visit to Turkmenistan. This was the **first-ever visit of the President of India to independent Turkmenistan**.
- This visit comes at a time when:
  - India is celebrating 75 years of Indian independence,
  - Turkmenistan is celebrating 30 years of its independence, and
  - Together both India and Turkmenistan marked 30 years of establishment of diplomatic relations.

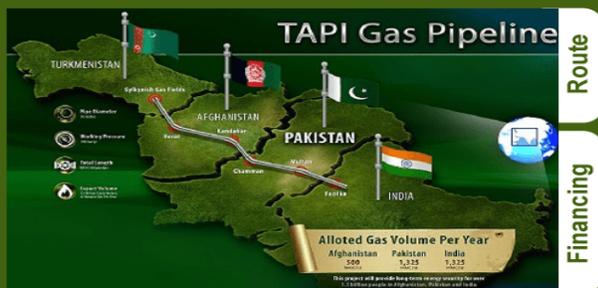
Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline project

TAPI Project is a proposed 1,814 km trans-country natural gas pipeline running across **four countries**.

> This pipeline is also known as "**Peace Pipeline**".

The project aims to export up to 33 billion cubic meters (bcm) of natural gas per year.

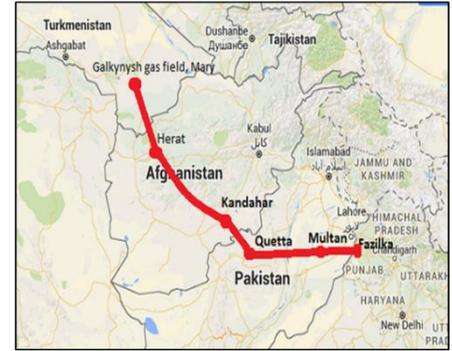
> Of this, 5 billion cubic metres will be provided to Afghanistan and 14 billion cubic metres to each Pakistan and India.



- The pipeline will transport natural gas from the **Galkynysh Gas Field in Turkmenistan through Afghanistan into Pakistan and then to India**.
- The pipeline will enter India through the Indian town of **Fazilka** (near the Indo-Pak border).
- The TAPI project is being **funded by the Asian Development Bank (ADB)**, which is also acting as transaction adviser for the development.
- In April 2016, India along with other shareholders of the project signed an investment agreement with the ADB.
  - Under this, an initial budget of \$200 million was earmarked to fund one of the phases of the project.

**TAPI pipeline development: timeline**

- The project was originally conceived in the 1990s and an inter-governmental agreement was signed in 2010 by the heads of four member nations.
- A Gas Pipeline Framework Agreement was signed in December 2010 and bilateral gas sale agreement was signed in May 2013.
- In February 2018, ground-breaking ceremony for Afghanistan's section of TAPI gas pipeline was held in the western Afghan city of Herat.



**India-Australia Economic Cooperation and Trade Agreement**

- India and Australia signed an **Economic Co-operation and Trade Agreement (ECTA)**.
- The aim of this agreement is to double the bilateral trade to **\$50 billion in 5 years** and ease movement of people, goods and services across borders.

**Key Highlights**

Significant commitments to tariff cuts	Agriculture and dairy sectors	Provisions for services
<ul style="list-style-type: none"> <li>•Australia will provide <b>zero-duty market access for 96.4% value of Indian exports</b> (98% of tariff lines) on the first day of implementation of the agreement.</li> <li>•Tariffs on the remaining 113 tariff lines, amounting to <b>3.6% of India’s exports</b>, will be phased out in <b>five years</b>.</li> <li>•For Australia, tariffs will be eliminated on more than <b>85% of the Australian goods</b> exports immediately, rising to almost 91% in over 10 years.</li> </ul>	<ul style="list-style-type: none"> <li>•India has managed to <b>completely shield its dairy sector from any tariff reduction</b> under the FTA while excluding most sensitive agriculture items.</li> </ul>	<ul style="list-style-type: none"> <li>•Both countries have decided to facilitate the recognition of <b>professional qualifications, licensing, and registration procedures between professional services bodies</b></li> </ul>

## SUMMITS AND ORGANISATIONS

### India-Central Asia Summit

- The **first India-Central Asia summit** was hosted virtually by PM Narendra Modi. The summit coincided with the 30th anniversary of establishment of diplomatic relations between India and Central Asian countries.
- A comprehensive Joint Declaration, **Delhi Declaration of the 1st India-Central Asia Summit**, was adopted by the leaders.
- **Leaders agreed to institutionalize the Summit mechanism & hold it every 2 years.**
- They agreed that the Ministers of Trade and Culture would meet at regular intervals to take forward cooperation in these areas.
  - India – Central Asia Dialogue mechanism at Foreign Ministers level already exists. Its 3rd meeting was held in New Delhi in December 2021.
- They also agreed to continue regular meetings of Secretaries of the Security Council to discuss security developments in the region.
- India had offered to establish an **India – Central Asia Centre in New Delhi** which could act as the **Secretariat** for the India – Central Asia Summit.
- Both sides also floated the proposal to create an 'India-Central Asia Parliamentary Forum'.

### China – Central Asian summit

- The India-Central Asia summit came only two days after Chinese President Xi Jinping's own summit meeting with the Central Asian leaders.
- In this summit, **China offered \$500 million as aid to the five countries.**

### 11th India–Oman Joint Military Cooperation Committee Meeting

- The 11th India–Oman **Joint Military Cooperation Committee** (JMCC) Meeting on bilateral defence cooperation was held in New Delhi
- The JMCC is the apex body between the Defence Ministries of India and Oman to comprehensively review & guide all aspects of bilateral defence cooperation.
- Defence exchanges are guided by a Framework MOU which was recently renewed in 2021.
  - Oman is the **only country in the Gulf region** with which all three services of the Indian armed forces conduct regular bilateral exercises and staff talks. Oman also provides critical **operational support to Indian naval deployments** in the Arabian sea for anti-piracy missions.
- Oman also actively participates in the **Indian Ocean Naval Symposium (IONS)**

### Importance of Duqm port

- In order to *expand its footprint in the Indian Ocean region*, India has secured access to the key **Port of Duqm** in Oman for military use and logistical support
- It is strategically located, in close proximity to the Chabahar port in Iran.
- With the India's involvement in the development of **Assumption Island in Seychelles** and **Agalega in Mauritius**, Duqm fits into its proactive maritime security roadmap.



- Importance of this port can be gauged from the fact that, in August 2017, Oman signed an **MoU with United Kingdom** that allowed the Royal Navy (UK) to use this Port.

### WEF's Davos Agenda 2022

Prime Minister Modi addressed the World Economic Forum's *Davos Agenda* via video conferencing. The virtual event was held from 17 -21 January.

#### About World Economic Forum

- It is the international non-governmental organization for Public-Private Cooperation.
- It was founded in January 1971 by German engineer and economist Klaus Schwab.
- The Forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas.
  - It has no independent decision-making power.
- HQ: Cologny-Geneva, Switzerland.

#### Davos Meet

- Annually, the WEF organizes a meeting at the end of January in Davos, a mountain resort in Graubünden, in the eastern Alps region of Switzerland.
- The Annual Meeting, also known as the Davos Agenda, has the objective of orienting global leaders on the imperatives of the year ahead.

#### Reports Published

- WEF also produces a series of annual reports such as:
 

- Global Competitiveness Report	- Global Travel and Tourism Report
- Global Information Technology Report	- Financial Development Report
- Global Gender Gap Report	- Global Enabling Trade Report.
- Global Risks Report	

### First Joint Statement From Key Nuclear Armed States

- For the first time, the leaders of China, France, Russia, UK and USA, issued a statement about **avoiding an arms race and not targeting each other or at any other State**.
- The five countries, also permanent members of the UN Security Council said they believe strongly that the further spread of such weapons must be prevented.
- They stressed upon the need to comply with the bilateral and multilateral non-proliferation, disarmament, and arms control agreements and commitments.
- Joint statement was published in the light of deteriorating bilateral ties between the United States and Moscow. Also, the relations between USA and China are at its lowest point.

### New Chair of UN Counter-Terrorism Committee

- **T S Tirumurti**, India's permanent representative to the United Nations was named the **new Chair of the UN Counter-Terrorism Committee (CTC)**.
- India is the chair the Counter-Terrorism Committee of the United Nations Security Council (UNSC) for 2022. Earlier, India had chaired this Committee in the Security Council in **2011-12**.
- This Committee was formed in September 2001 soon after the tragic terrorist attack of 9/11.

### UNSC Uses 3-D Virtual Diplomacy

- Members of UNSC went on a virtual field trip to **Columbia**, with the help of Virtual Reality (VR) technology.
- This was the **first time UNSC in New York used VR technology** in its security council session. This innovative solution will help in understanding conflicts, peacekeeping and peace-building, in a better manner.

### 5-alarm Global Fire

- In his address UN Secretary-General António Guterres told the General Assembly that the world is to face five major risks in 2022.
- These risks are referred to five – alarm global fire and include:

Raging COVID-19 pandemic

Morally bankrupt global financial system

Climate crisis

Lawlessness in cyberspace

Diminished peace and security

### 2nd ASEAN Digital Ministers Meeting

- The 2nd ASEAN Digital Ministers (ADGMIN) meeting with India was held on a virtual platform.
- The meeting discussed and deliberated various matters relevant to strengthening regional digital cooperation in the spirit of digital inclusion and integration.
- The Ministers meeting **approved the India-ASEAN Digital Work Plan 2022**. The workplan includes system for combating the use of stolen and counterfeit mobile handsets, WiFi Access network interface for nationwide public internet, the capacity building and knowledge sharing in emerging areas in the field of ICT (5G, IoT, advanced satellite communication, cyber forensics).
- The ADGMIN is an annual meeting of Telecom Ministers of **10 ASEAN countries and dialogue partner countries** - Australia, Canada, China, EU, India, Japan, Republic of Korea, New Zealand, Russia, UK and US.

### Preparations For India's G20 Presidency

- The Union Cabinet approved the setting up of a G20 Secretariat and its reporting structures.
- This Secretariat will be responsible for implementation of overall policy decisions and arrangements needed for steering India's upcoming G20 Presidency.
- As per practice, a G20 Secretariat is being established to handle work relating to substantive / knowledge / content, technical, media, security and logistical aspects of India's G20 Presidency.
- It will be manned by officers and staff from the Ministry of External Affairs, Ministry of Finance, and other relevant line Ministries / Departments and domain knowledge experts.
- The Secretariat will be functional till February 2024
- India will hold the Presidency of G20 from 1 December 2022 to 30 November 2023, culminating with the G20 Summit in India in 2023.
- India in December 2021 joined the **G20 Troika** which consists of Indonesia, Italy, and India - the current, previous and incoming G20 Presidencies, respectively.

### India to host IOC session in 2023

India will host the **2023 International Olympic Committee's (IOC) session in Mumbai** after successfully bidding for it at the 139th IOC session. This will be the first time India will host the session after **1983**.

#### About International Olympic Committee (IOC)

- In 1892, Pierre de Coubertin of France declared his intention to spearhead a movement to revive the ancient Greek Olympics.
- His efforts led to the establishment of IOC in June 1894 as a not-for-profit independent international organisation. It is **based in Lausanne, Switzerland, the Olympic Capital**.
- The IOC is the guardian of Olympic Games and the leader of Olympic Movement.
- The vision of the International Olympic Committee is to Build a Better World through Sport.

#### Roles & Responsibilities

- IOC is the authority responsible for organising the modern (Summer, Winter, and Youth) Olympic Games. It is the governing body of the National Olympic Committees (NOCs).

**IOC Session**

- An IOC session is the annual meeting of the members of the IOC. It comprises 101 voting members and 45 honorary members. **All IOC Session decisions are final.**
- It discusses and decides on the key activities of the global Olympics movement including:

adoption or amendment of Olympic Charter

election of IOC members & office bearers

election of host city of the Olympics

**Montreux Convention**

Stating that the situation in Ukraine has turned into a ‘war’, Turkey activated the **Montreux Convention** and banned Russian war vessels from entering the Black Sea.

**Steps Announced By Turkey**

- While exercising Ankara’s right under Article 19 of 1936 Montreux Convention, Turkey closed **Bosporus and Dardanelles Straits** to Russian warships.
- The straits have become a strategic factor in war between Russia and Ukraine.
- Before Russia’s recent invasion of Ukraine, Russian warships sailed into the Black Sea to conduct military exercises.

**Montreux Convention, 1936**

- It is an international agreement signed by Australia, Bulgaria, France, Greece, Japan, Romania, Yugoslavia, United Kingdom, Soviet Union and Turkey and has been in effect since November 1936.
- It sets limits on the passage of *civilian vessels and military warships* through the Dardanelles and the Bosporus straits.
  - **Bosporus and Dardanelles** are together known as the **Turkish Straits**.
  - Turkish straits connect the **Aegean Sea and the Black Sea** via the Sea of Marmara.
  - It is the only passage through which Black Sea ports can access Mediterranean and beyond.
- Turkey has used the convention’s powers before as well. During World War II. Turkey prevented the Axis powers from sending their warships to attack the Soviet Union – and blocked the Soviet navy from participating in combat in the Mediterranean.
- Under **Article 24** of the convention, **Turkey is charged with supervising** the execution of all the provisions relating to the passage of vessels of war through the Straits.
- Under normal, peacetime rules, the convention regime **guarantees the general right of warships of all states to transit the straits**, but with a *bias toward the six Black Sea riparian states* (Georgia, Turkey, Bulgaria, Romania, Ukraine and Russia).



**WHO’s Pandemic Treaty**

Members of the WHO held the first round of negotiations towards the pandemic treaty.

- The pandemic treaty is expected to cover aspects like

- data sharing and genome sequencing of emerging viruses
- equitable distribution of vaccines and drugs and related research throughout the world

- The European Union (EU) also wants a ban on wildlife markets to be included in the treaty.

- While the EU wants the treaty to be legally binding, the U.S., Brazil and India have expressed reservations about the same. The **legal nature of the treaty is yet to be defined**.
- Treaty only provides **recommendations** for tackling a particular issue.

#### Article 19 of the WHO Constitution

- It gives World Health Assembly the **authority to adopt conventions or agreements on matters of health**.
  - A two-third majority is needed to adopt such conventions or agreements.
- WHO Framework Convention on Tobacco Control was set up under Article 19 and it came into force in 2005.

#### Bucharest Nine

- The Bucharest Nine or Bucharest Format, often abbreviated as the B9, was founded on November 4, 2015 and takes its name from Bucharest, the capital of Romania.
- It is a group of nine NATO countries in Eastern Europe that became part of the US-led military alliance after the end of the Cold War.
- All members of the B9 are part of the European Union (EU)
- B9 is also regarded as the voice of the Eastern Flank in the NATO alliance.



#### Composition

- Member of B9 include – Romania, Poland, Hungary, Bulgaria, the Czech Republic, Slovakia, and the three Baltic republics of Estonia, Latvia, and Lithuania.
- **Romania, Poland, Hungary, and Bulgaria** are former signatories of the now dissolved Warsaw Pact military alliance led by the Soviet Union.
- **Estonia, Latvia, and Lithuania** were part of the former Union of Soviet Socialist Republics (USSR).

#### Three Seas Initiative

- B9 should not be confused with Three Seas Initiative (3SI).
- 3SI is a regional effort in Europe to expand cross-border energy, transportation, and digital infrastructure and boost economic development in the area between the **Adriatic Sea, Baltic Sea, and Black Sea**.
- Twelve countries (**Austria**, Bulgaria, **Croatia**, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and **Slovenia**), all of which are members of the EU, participate in the 3SI.

#### India signs Host Country Agreement with ITU

- India signed the **Host Country Agreement (HCA)** with the International Telecommunication Union (ITU) for the establishment of an Area Office & Innovation Centre of ITU in New Delhi.
- The **Host Country Agreement** provides the legal and financial framework for establishment and operations of the Area Office.

#### Key details

- The Area Office and Innovation Centre of ITU at New Delhi is expected to serve South Asian countries namely Afghanistan, Bangladesh, Bhutan, Iran, Maldives, Nepal, Sri Lanka and India.
- The Area Office shall also have an Innovation Centre, which is expected to give impetus to R&D in telecommunication technologies in South Asia.
- The Innovation Centre will provide opportunities to academics, start-ups and SMEs to showcase their innovation at a global stage.

India and development of telecom standards

- The **5Gi standards developed within India** have now been recognised by ITU as one of the three technologies for 5G.
  - 5Gi is a locally designed telecommunication network that has been designed by IIT Hyderabad.



**About International Telecommunication Union (ITU)**

- ITU is the United Nations specialized agency for information and communication technologies – ICTs. The purpose of ITU is to coordinate telecommunication operations and services throughout the world.
- Originally founded in 1865, as the International Telegraph Union, the ITU is the oldest existing international organization.
- ITU headquarters are in Geneva, Switzerland.
- ITU currently has a membership of 193 countries and over 900 private-sector entities and academic institutions.
- India got elected as a member of ITU Council for another 4-year term - from 2019 to 2022. India has remained a regular member since 1952.
- Important publication of the ITU is the Global Cybersecurity Index (GCI). India ranked 10th in the 2020 index
- The ITU consists of three sectors:

**Radiocommunication (ITU-R)**  
ensures optimal, fair and rational use of the radio frequency (RF) spectrum.

**Telecommunication Standardization (ITU-T)**  
formulates recommendations for standardizing telecommunication operations worldwide.

**Telecommunication Development (ITU-D)**  
assists countries in developing and maintaining internal communication operations.

5<sup>th</sup> BIMSTEC Summit

The 5th BIMSTEC Summit was hosted in virtual mode by Sri Lanka, the current chair of BIMSTEC.

- Theme: "Towards a Resilient Region, Prosperous Economies, Healthy People".

Key Highlights of the Summit

**Adoption and signing of the BIMSTEC Charter**

- The Charter formalizes the grouping into an organization made up of member states that are littoral to, and dependent upon, the Bay of Bengal. It would provide rules, framework and long-term goals.

**BIMSTEC master plan for transport connectivity**

- It is a vision for implementing **multimodal connectivity** projects for greater regional integration. It will seek to combine shipping routes with road transport for the movement of people and cargo.

**Other BIMSTEC Agreements signed**

- BIMSTEC Convention on Mutual Legal Assistance in Criminal Matters
- BIMSTEC MOU on Mutual Cooperation in the field of Diplomatic Training
- Memorandum of Association on Establishment of BIMSTEC Technology Transfer Facility

India's stand at the summit

1. **India to lead the security pillar of BIMSTEC**

- The leaders of the BIMSTEC member countries also approved a complete reorganisation of the grouping's cooperation activities. Henceforth, the BIMSTEC cooperation activities will take place in **seven pillars** and each of the member countries will lead one pillar. **India will lead the security pillar of the BIMSTEC.**

**2. Pushes for BIMSTEC trade pact, vows \$1m aid**

- Indian PM pushed for early progress on the proposal of BIMSTEC free trade agreement (FTA) to enhance mutual trade among member states.
- He also announced that **India will provide \$1 million** in financial aid to augment the operational budget of the BIMSTEC secretariat.

**WHO Global Centre for Traditional Medicine (GCTM)**

- PM Modi laid the foundation stone of WHO Global Centre for Traditional Medicine (GCTM).
- GCTM is a knowledge centre for **traditional medicine** which is being termed as the first and only global outpost centre for traditional medicine across the world.
- The Centre is **located at Jamnagar, Gujarat**.
- India is a **lead investor** in the WHO GCTM. It has committed an estimated **US\$ 250 million** to support the Centre’s establishment, infrastructure and operations.

**GCTM lays down five goals. These are:**

- It aims to create a database of traditional knowledge system using technology.
- It will create international standards for testing and certification of traditional medicines so that confidence in these medicines improves.
- It should evolve as a platform where global experts of traditional medicines come together and share experiences.
- Mobilize funding for research in the field of traditional medicines.
- Develop protocols for holistic treatment of specific diseases

**India Contributes to UN Women’s Core Budget**

- India has contributed \$500,000 to the **UN Women** for their core budget.
- UN Women is the United Nations entity dedicated to gender equality and the empowerment of women. It was created In **July 2010** by the **United Nations General Assembly**.
- This organization works for the rights of girls, women, and LGBTIQ+
- It was created by merging the four bodies of the UN system:



- It is headquartered at the United Nations in New York.

**Veto Use Reform**

- The UN General Assembly adopted by consensus a **resolution requiring the five permanent members of the Security Council to justify their use of the veto**.
- The measure is intended to **make veto-holders more accountable** while exercising their power.
  - So far more than **200 Security Council proposals have been vetoed**.

➤ Soviet Russia (now Russia) has exercised the most vetoes so far, followed by the US

- The measure provides for the General Assembly to be convened **within 10 working days** after a veto to hold a debate on the situation as to which the veto was cast.
- The text is **non-binding** and nothing prevents a country that has used its veto from *declining to explain its actions to the General Assembly*.

**India Gets Elected To Four UN ECOSOC Bodies**

- India has been elected to **four key bodies** of the UN Economic and Social Council (UN ECOSOC).
- These four bodies are: Committee on NGOs; Commission for Social Development; Commission on Science and Technology for Development and Committee for Economic, Social and Cultural Rights.
  - Ambassador **Preeti Saran** has been re-elected to the Committee for Economic, Social and Cultural Rights.



**UN Economic and Social Council (UN ECOSOC)**

- ECOSOC is **one of the six principal organs** of the UN System established by the UN Charter in 1945. It consists of **54 members** of the United Nations elected **by the General Assembly**.
- It is responsible for the direction and coordination of the economic, social, humanitarian, and cultural activities carried out by the UN.
- Members of ECOSOC are **elected for three-year terms** by the General Assembly.
  - Four of the five permanent members of the Security Council have been continuously re-elected because they provide funding for most of ECOSOC's budget.
- Decisions are taken by **simple majority vote**.  
The presidency of ECOSOC changes annually. It should be noted that **India had held the inaugural Presidency of ECOSOC** (Sir Ramaswami Mudaliar, in 1946).

**Commission of Social Development**

- It provides advise to ECOSOC on **social policies of a general character**, and in particular on all the matters in the social field that are not covered by specialized inter-governmental agencies.
- It is also in charge of the follow-up and the **implementation of the Copenhagen Declaration and Programme for Action**.
  - World Summit for Social Development was held in Copenhagen in 1995.

**Committee on NGOs**

- Established in 1946, it is a **standing Committee** of the Economic and Social Council.
- The main tasks of the Committee are the consideration of applications for **consultative status and requests for reclassification** submitted by the NGOs

**UN Commission on Science and Technology for Development**

- It is a subsidiary body of the Economic and Social Council.
- It holds an annual intergovernmental forum for the discussion on timely and pertinent issues affecting technology, science, and development.

**Committee on Economic, Social and Cultural Rights**

- It is a body of 18 independent experts that monitors the implementation of International Covenant on Economic, Social, & Cultural Rights by its State Parties.
- It enshrines the rights to adequate food, adequate education, health, housing, water and sanitation, and work.

**Russia Suspended From UN Human Rights Council**

Russia has been suspended from the UN Human Rights Council (UNHRC) after the 193-member General Assembly voted to adopt a resolution moved by the United States.

- 58 countries **including India abstained from the voting.**
- Russia became the **second country** to have its membership rights stripped at the rights council.
  - In 2011, Libya was suspended by the assembly when upheaval in the North African country brought down longtime leader Muammar Gadhafi.
  - Earlier, in June 2018, US had withdrawn from the council. It called the council a "hypocritical and self-serving organisation".
- It regained the membership in October 2021.

#### **Russia Withdraws From UN Tourism Body: UNWTO**

- Russia has withdrawn from the **United Nation's World Tourism Organization (UNWTO)** ahead of a vote by its executive council to suspend Moscow's membership over its invasion of Ukraine.
- The UNWTO had announced in March 2022 that it wanted to suspend Russia over its invasion of Ukraine.
  - The decision must be supported by 2/3<sup>rd</sup> of its 159 member states at general assembly.
- UNWTO is a **United Nations specialized agency**, involved in the promotion of responsible, sustainable and universally accessible tourism. It was founded in **1975** and is **headquartered in Madrid, Spain.**

#### **Raisina Dialogue 2022**

- The 7<sup>th</sup> edition of India's premier conference on global affairs, the Raisina Dialogue, was inaugurated by PM Modi. It was first held in 2016.
- The chief guest of this year's conference was **Ursula von der Leyen**, the European Union Commission President.
- The Raisina Dialogue is an annual conference on **geopolitics and geoeconomics** addressing issues facing the global community.
- The conference is a joint venture of the Ministry of External Affairs (MEA) and independent think tank Observer Research Foundation (ORF).

## DEFENSE AND SECURITY

### India Gets Maritime Security Coordinator

- The Centre has appointed the **first National Maritime Security Coordinator (NMSC)** to ensure effective coordination and cooperation among multiple central and state authorities.
- Vice Admiral (ret'd) **G Ashok Kumar** has been appointed as India's first NMSC.

### Role & Responsibility of NMSC

- NMSC is created to act as an **interface between civilian and military maritime domain** with the objective of enhancing **security architecture** and **energy security** of India.
- He will be the **principal advisor to the government** on maritime security domain and will act as a **nodal point for all issues** related to maritime security
- NMSC will **work in coordination with National Security Council (NSC) Secretariat**, headed by NSA
- Many institutions are involved in maritime issues. These authorities range from external affairs, defence, home and shipping ministries to the Navy, Coast Guard, customs, intelligence agencies, port authorities, state governments and maritime police forces. All these institutions tend to work in silos with overlapping jurisdictions and are constantly at odds with each other.

### Colombo Security Conclave

The **fifth meeting** of national security advisers of the Colombo Security Conclave (CSC) was held in the Maldives. India was represented by NSA Doval. **CSC is being described as the region's 911** ("911" is the universal emergency number in United States).

### Key Highlights of the meeting

1. **Participating members:** The conclave was attended by the Maldives, India and Sri Lanka, and the newest member of the Conclave, Mauritius.
  - At this meeting, Mauritius was included as the fourth member.
  - Delegations from Bangladesh and Seychelles participated as Observers.
2. **Road map for cooperation adopted:** In areas such as maritime security, counterterrorism and drug trafficking, cyber security, **humanitarian assistance and disaster relief**
3. **Commitment to achieve regional peace and security**

- The first CSC Virtual Workshop on "**Developing Regional Cyber Security Capabilities on Defensive operations, Deep/Dark Web handling and Digital Forensics**" was held.
- It was hosted by the National Security Council Secretariat in association with National Forensics Science University, Gujarat and the Secretariat of the Colombo Security Conclave.
- The workshop was the inaugural activity under the **4<sup>th</sup> pillar** of cooperation under CSC (i.e., Cyber Security and Protection of Critical Infrastructure).

### About Colombo Security Conclave (CSC)

- India, Maldives and Sri Lanka began a **National Security Advisor (NSA)-level trilateral meeting** on maritime security cooperation in 2011.
- Following a halt from 2014-2019, the trilateral meeting was resumed in 2020. It was during this meeting in 2020 when the decision was taken to **establish the CSC**.
- **Members** – India, Maldives and Sri Lanka

- o **Observers** - Mauritius, Seychelles, and Bangladesh

**Key Activities of CSC So far:**

- o a **secretariat** was set up in Colombo in March 2021;
- o Deputy NSA level meeting was convened in August 2021 where the three countries identified following **four pillars of cooperation**.



- o In November 2021, '**Focused Operation**' was conducted between the navies of the three countries. It was the **first operational cooperation under the CSC**.

**India Accidentally Fires Missile Into Pakistan**

India admitted that supersonic missile landed in Pakistan was accidentally fired from one of its bases.

**Protocol for Missile tests**

**Between India and Pakistan**

- Each country must provide the other an advance notification on flight test it intends to take for any land or sea launched surface-to-surface ballistic missile.
- This is under the pre-notification of flight testing of ballistic missiles **agreement signed in 2005**.



**General protocol to be followed for such tests**

- Before the test, the country must issue Notice to Air Missions (NOTAM) or Navigational Warning (NAVAREA) to alert aviation pilots and seafarers, respectively.
- Also, the testing country must ensure that the launch site is not within 40 km, and the planned impact area is not within 75 km of either the International Boundary (IB) or the Line of Control (LoC).
- The planned trajectory should not cross the IB or the LoC and must maintain a horizontal distance of at least 40 km from the border.
- The testing country must notify the other nation no less than three days in advance of the commencement of a five-day launch window.
- The pre-notification has to be conveyed through the respective Foreign Offices and the High Commissions.

**New chairperson to PMLA Adjudicating Authority**

- **Vinodanand Jha** has been appointed as the chairperson of the PMLA Adjudicating Authority.
- The **three-member Authority** is mandated to **adjudicate the cases of attachment of assets** orders issued under the Prevention of Money Laundering Act (PMLA).
- o The Authority is a mechanism provided under the PMLA to safeguard the interests of the accused against coercive action.

**Different Exercises**

<b>EX-DUSTLIK</b>	<ul style="list-style-type: none"> <li>• The 3rd edition of joint training exercise, EX-DUSTLIK was conducted at Yangiariq, Uzbekistan.</li> <li>• It is a joint training exercise that is conducted between the <b>armies of India and Uzbekistan</b>.</li> </ul>
<b>Suraksha Kavach 2</b>	<ul style="list-style-type: none"> <li>• It was a joint exercise between <b>Indian Army and Maharashtra Police</b>, organised at Pune.</li> <li>• The aim of the exercise was to harmonize the drills and procedures undertaken by Army and Police to counter any likely terrorist actions in Pune.</li> </ul>

<b>Lamitiye 2022</b>	<ul style="list-style-type: none"> <li>• The 9<sup>th</sup> edition of the Joint Military Exercise Lamitiye 2022 was held at Seychelles.</li> <li>• It is a joint military exercise between the <b>Indian Army and Seychelles Defence Forces (SDF)</b>.</li> <li>• Lamitiye, which in Creole means friendship, is a biennial training event being conducted in Seychelles since 2001.</li> </ul>
<b>Dharma Guardian-2022</b>	<ul style="list-style-type: none"> <li>• Ex. DHARMA GUARDIAN-2022 is an annual exercise between <b>Indian Army and Japanese</b> Ground Self Defence Force. It is conducted in India since 2018.</li> <li>• This edition of exercise was conducted at foreign training node, Belagavi (Belgaum, Karnataka).</li> <li>• Other Military Exercises between India and Japan                         <ul style="list-style-type: none"> <li>➤ JIMEX (naval exercise)</li> <li>➤ SHINYUU Maitri (involves Air Force of both the countries)</li> <li>➤ Malabar (India, Japan, Australia, USA)</li> </ul> </li> </ul>
<b>SLINEX</b>	<ul style="list-style-type: none"> <li>• 9<sup>th</sup> edition of <b>Sri Lanka-India Naval Exercise SLINEX</b> was conducted at Visakhapatnam.</li> <li>• The exercise aims to enhance inter-operability, improve mutual understanding and exchange best practices and procedures for multi-faceted maritime operations between both navies.</li> </ul>

<b>Eastern Bridge VI</b>	<ul style="list-style-type: none"> <li>• Recently, Indian Air Force and Royal Air Force of <b>Oman</b> conducted bilateral exercise at the <u>Jodhpur air force station</u>.</li> <li>• The exercise named <b>Eastern Bridge VI</b> is in its sixth edition.</li> <li>• Exercise Eastern Bridge V was held in October 2019 at the Air Force Base Masirah, Oman.</li> </ul>
<b>Milan 2022</b>	<ul style="list-style-type: none"> <li>• Indian Navy launched its massive multilateral naval exercise, MILAN. The naval exercise will see the participation of 42 nations including Russia.</li> <li>• Theme of MILAN 2022 exercise is <b>'Camaraderie Cohesion Collaboration'</b></li> <li>• The exercise and its participation of several South-East Asian navies along with those of the QUAD members is a significant event in the Indo-Pacific amid rising aggression from China.</li> <li>• The MILAN exercise is a <b>biennial event</b> that had <b>been first started in 1995</b> with the participation of <b>just four other nations</b> -- Indonesia, Singapore, Sri Lanka and Thailand. Today it is one of the largest naval exercises in the world.</li> </ul>
<b>Dharma Guardian 2022</b>	<ul style="list-style-type: none"> <li>• <b>India and Japan</b> conducted the annual joint military exercise "Dharma Guardian 2022" in Belgaum, Karnataka.</li> <li>• This exercise with Japan is crucial and significant in terms of security challenges faced by both nations in the backdrop of current global situation.</li> <li>• The annual exercise has been taking place since 2018.</li> </ul>
<b>Exercise Sea Dragon-22</b>	<ul style="list-style-type: none"> <li>• Recently, the QUAD member (US, India, Japan, Australia) countries as well as <u>South Korea and Canada</u> participated in a multinational Anti-submarine warfare (ASW) drill which took place at Guam (US).</li> <li>• The exercise was aimed to enhance interoperability among participating nations.</li> <li>• Sea Dragon is an annual, multi-national high-end exercise hosted by the U.S. Navy.</li> </ul>

### Assam-Meghalaya Border Pact

Assam and Meghalaya have *partially* resolved a 50-year-old border **dispute in six of the 12 sectors along their 885-km boundary**.

#### What has been agreed upon?

- Out of the disputed 36.79 sq. km land, Assam will get 18.51 sq. km of the disputed areas and Meghalaya will get the remaining 18.28 sq.km.
- About 70% of the inter-State boundary has now become dispute-free with the signing of the agreement. The problem in the six other areas will be resolved in the near future.

#### What lies ahead?

- The freshly demarcated border will have to be passed by Parliament by amending the North Eastern Region (reorganisation) Act, 1971. This will then have to be ratified by the legislative assemblies of both the states.

### Weapons of Mass Destruction (Amendment) Bill 2022

The **Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022** has been unanimously passed in Lok Sabha.

#### Background

- The Bill amends the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.
- The 2005 Act prohibits unlawful activities (such as *manufacturing, transport, or transfer*) related to weapons of mass destruction, and their means of delivery.

#### Need for the amendment

##### 1. To focus on the financial-ban on activities supporting WMDs

- There was an urgent need to have provision to **ban financing** for Weapons of Mass Destruction (WMD). The existing legislation was **silent** on this aspect.
- It also **prohibits making available** funds, financial assets or economic resources for any prohibited activity in relation to WMD and their delivery systems.
- The present bill empowers the Government to freeze, seize or attach funds or other financial assets or economic resources for preventing such financing. It will strengthen India's national security.

##### 2. To fulfil India's international obligations adhering to:

- The recommendations of the Financial Action Task Force (FATF) and
- United Nations Security Council's targeted financial sanctions against financing of WMDs.

#### About Weapons of Mass Destruction (WMDs)

- While there is no single definition of a WMD in international law, the expression is usually understood to cover **nuclear, biological, and chemical (NBC) weapons**.
- As per the USA, a weapon of mass destruction is a nuclear, radiological, chemical, biological, or other device that is intended to harm a large number of people.
- **India's 2005 WMD Act** also defines Weapons of mass destruction as NBC weapons.



#### International legislations covering the use of WMDs

- **Geneva Protocol, 1925** – It banned the use of chemical and biological weapons; and
- **Biological Weapons Convention, 1972**, and

- **Chemical Weapons Convention, 1992.**
- **Nuclear Non-Proliferation Treaty (NPT), 1968** and the **Comprehensive Test Ban Treaty (CTBT), 1996**- Use and proliferation of nuclear weapons is regulated

#### India's stand on international legislation

- India has signed and ratified both the
  - Biological Weapons Convention, 1972 and
  - Chemical Weapons Convention, 1992.
- However, it has not signed the treaties regulating the use and proliferation of nuclear weapons (which includes NPT and CTBT).

#### INS Vagsheer

- It is the last of the six Scorpene Class Submarines of Project-75.
- These submarines are being constructed at Mazagaon Dock Shipbuilders Limited, under the collaboration with Naval Group, France.
- The first submarine 'Vagsheer' from Russia was commissioned in December 1974.
- It was decommissioned in April 1997. The new submarine is the latest incarnation of its earlier version
- It is a diesel attack submarine, designed to perform sea denial as well as access denial warfare against the adversary. It is enabled with a C303 anti-torpedo countermeasure system.
- With the launch of INS Vagsheer India has successfully further cemented its position as a submarine building nation.

#### Neptune Cruise Missile

Ukraine claims it has damaged Russian Black Sea Fleet flagship '**Moskva**' by Neptune anti-ship cruise missiles.

#### About Neptune missiles

- It is Ukrainian-manufactured mobile anti-ship cruise missile capable of destroying targets within a range of 300 km. It can carry warheads of up to 150 kilograms.
- It uses a radar-homing guidance to home in on enemy ships.

#### About Moskva

- It is originally known as Slava (glory), is the lead ship of the Slava-class guided missile cruisers.
- It was built indigenously by the erstwhile USSR and still in service with the Russian Navy.
- It was commissioned into the Soviet Navy in 1983. Decommissioned in 1990, it was reinstated as Moskva by the Russian Navy in 2000.

#### Short News

- **Exercise Varuna 2022** - The 20th edition of the **Indo-French bilateral Naval exercise** 'Varuna-2022' was conducted in the Arabian Sea. The Bilateral Naval Exercises between the two Navies were initiated in **1993**. The exercise was christened as 'VARUNA' in 2001.
- **India's new Chief of Army Staff (COAS)** - **Lieutenant General Manoj Pande** is appointed the new Chief of Army Staff (COAS). He will be the first officer from the Corps of Engineers to become the COAS.

## ECONOMY AND INFRASTRUCTURE

### Semiconductor Development Programme

- Union Cabinet has recently approved Rs 76,000 crore programme for semiconductor and display manufacturing ecosystem in the country.
- The government has been focusing on creating **domestic capacity in electronics** through its **Production-Linked Incentive Schemes**.
- In total, the government has committed support of **₹2,30,000 crore (\$30 billion)** to position India as global hub for electronics manufacturing with semiconductors as the foundational building block.
- Now, with the approval of current programme, the government has announced incentives for every part of supply chain including electronic components, sub-assemblies and finished goods.
- The move comes at a time when electronics supply chains around the world have been affected by a shortage of semiconductors (or chips) and large chipmakers including Intel, Taiwan Semiconductor Manufacturing Co. (TSMC), Texas Instruments, etc. are looking to add capacity.

### Details of Recently Approved Programme for Semiconductor Ecosystem

- **Semiconductor Fabs and Display Fabs:** It will give fiscal support of up to **50% of project cost** to eligible applicants to execute the projects.  
 The Centre will work with state governments to establish **high-tech clusters** with requisite infrastructure in terms of land, semiconductor grade water, to set up at least two **greenfield** semiconductor fabrication and two display fabrication in the country.
- **Semi-conductor Laboratory (SCL):** Ministry of Electronics and Information Technology (MeitY) will take required steps for modernization and commercialization of Semi-conductor Laboratory (SCL).
- **Compound Semiconductors:** The Scheme for setting up these facilities in India shall extend fiscal support of 30% of capital expenditure to approved units. At least 15 such units of Compound Semiconductors and Semiconductor Packaging are expected to be established
- **Semiconductor Design Companies:** The **Design Linked Incentive (DLI) Scheme** shall extend product design linked incentive of up to 50% of eligible expenditure and product deployment linked incentive of 6% - 4% on net sales for **five years**.
  - ✓ Support will be provided to 100 domestic companies of semiconductor design for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores
  - ✓ C-DAC under MeitY, will serve as the nodal agency for implementation of DLI scheme.
- **India Semiconductor Mission:** In order to drive the long-term strategies for developing a sustainable semiconductors and display ecosystem, a specialized and independent "India Semiconductor Mission (ISM)" will be set up.

### National Technical Textiles Mission

- The Ministry of Textiles has recently cleared 20 strategic research projects worth Rs 30 crores in the areas of Specialty fibres and Geotextiles, under the flagship programme **National Technical Textiles Mission**.
- Technical textiles are textiles materials and products manufactured primarily for technical performance and functional properties rather than aesthetic characteristics.
- They have application in several sectors including infrastructure, water, health and hygiene, defence, security, automobiles, aviation, etc.

- Based on usage, there are **12 technical textile segments**; Agrotech, Meditech, Buildtech, Mobiltech, Clothtech, Oekotech, Geotech, Packtech, Homotech, Protech, Indutech and Sportech.

#### About NTTM

- NTTM was approved in 2020, with an implementation period from FY 2020-21 to 2023-24.
- The aim of the mission is to position India as a global leader in Technical Textiles. It has a target to take domestic market size of technical textile sector to **\$ 40-50 billion by the year 2024** with an average growth rate of 15-20% per annum.
- It also supports the Make in India initiative promoting domestic manufacturing of related machinery and equipment. The mission includes the following four components:



#### Scheme on Enhancement of Competitiveness in Capital Goods Sector

- Ministry of Heavy Industries** recently notified **second phase** of the Scheme on Enhancement of Competitiveness in the Capital Goods Sector for common technology development and services infrastructure, with a financial outlay of ₹1,207 crore (Budgetary support of Rs.975 crore and Industry Contribution of Rs. 232 crore).
- The objective of phase II is to **expand and enlarge the impact** created by phase I of the scheme (launched in 2014). Phase 1 aims to address the technological obsolescence, limited access to quality industrial infrastructure and common facilities.
- Thus, providing greater impetus through creation of a strong and globally competitive capital goods sector that would contribute at least 25% to the manufacturing sector.
- At present the capital goods industry contributes 12% to the manufacturing activity.

#### Components Of The Scheme

- Identification of technologies through technology innovation portals.
- Promotion of **skilling** in capital goods sector—creation of qualification packages for higher skill levels (6 and above).
- Setting up of 4 new advanced **Centres Of Excellence** (CoE) & augmentation of existing CoE.
- Setting up of 4 **Common Engineering Facility Centres** (CEFCs) & augmentation of existing CEFCs.
- Augmentation of existing testing and certification centres.
- Setting up of 10 industry accelerators for technology development.

#### PM-DevINE Scheme

- A new scheme, **Prime Minister's Development Initiative for North-East (PM-DevINE)** was announced during the Budget 2022-23, with an initial investment of Rs 1500 crore.
- The scheme will fund infrastructure in the spirit of **PM Gati Shakti and social development projects** based on felt needs of the northeast.
- It will be implemented through **North-Eastern Council (NEC)** and will not be a substitute for existing central or state schemes.
- While the central ministries may also pitch their candidate projects under the scheme, priority will be given to those proposed by the states.
- It will enable livelihood activities for youth and women, filling the gaps in various sectors.

- Some of the identified projects under the scheme are:
  - ✓ One-of-a-kind **'Bamboo Link Roads'** in Mizoram to help transport bamboo from forests.
  - ✓ Dedicated services for management of Paediatric and Adult Hemotolymphoid (head and neck) cancers in North East.
  - ✓ North East Centre for Technology Application & Reach (NECTAR) livelihood improvement project.
  - ✓ Promoting scientific organic agriculture in North East
  - ✓ Construction of Aizawl By-pass on Western Side
  - ✓ Gap funding for Passenger Ropeway system for Pelling to Sanga-Choeling in West Sikkim
  - ✓ Gap funding for Eco-friendly Ropeway (Cable Car) from Dhapper to Bhaleydhunga in South Sikkim etc.

## North Eastern Council (NEC)

- NEC is the nodal agency for the economic and social development of the North Eastern Region.
- It is a **statutory body** under Union Home Ministry, founded in 1971. The Union Home Minister is the ex-officio Chairman of NEC.
- The eight North Eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, are members of the council, with their respective Chief Minister and Governors representing them.

## Sambhav and Svavlamban

Ministry of MSME recently launched two special initiatives - 'Sambhav' and 'Svavlamban' to **promote entrepreneurship** amongst youth, especially in aspirational districts across the country.

### Sambhav

- It is a **National Level Awareness Program (NLAP)** that will be conducted in webinar mode in 1300 colleges across the country through its field offices

### Svavlamban

- More than 200 **Nukkad Natak** in 46 Aspirational Districts will be organised under a special drive called **Svavlamban** to promote entrepreneurship amongst youth and spread awareness on schemes of the Ministry and its initiatives.

## Start-up Village Entrepreneurship Programme

- National Institute of Entrepreneurship and Small Business Development (NIESBUD) recently signed an MoU with the Ministry of Rural Development (MoRD).
- The MoU intends to develop a **sustainable model** for promoting entrepreneurship at the grass roots through Start-up Village Entrepreneurship Programme (SVEP).
- NIESBUD is an autonomous organisation under the Ministry of Skill Development and Entrepreneurship (MSDE).

### SVEP

Launched in **2016**, SVEP is a **sub-component of Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM)** under MoRD.

It aims to support **entrepreneurs in rural areas to set-up enterprises at the village-level in non-agricultural sectors**, to lift rural poor out of poverty.

Partner: Entrepreneurship Development Institute of India (EDII), Ahmedabad is the technical support partner of SVEP. EDII is an autonomous and not-for-profit institute, set up in 1983. It is sponsored by apex financial institutions like the IDBI Bank Ltd., IFCI Ltd., ICICI Bank Ltd. and SBI.

It addresses 3 major pillars of rural start-ups namely - **finances, incubation and skill ecosystems.**

One of the key areas is to develop pool of **community resource persons – enterprise promotion (CRP-EP)** who are local and support entrepreneurs in setting-up rural enterprises.

Another key area is to promote the **block resource center (BRC)** in SVEP blocks, to monitor and manage the CPRs. BRC acts as the repository of enterprise related information in the concerned block.

SVEP established local markets/rural haat which motivated entrepreneurs to take up demand-based production, advertise their enterprise and increase earning opportunities.



**Significance Of The Partnership**

- The partnership will provide knowledge, advisory and financial support to the public and will help create village-level community cadres for promotion of enterprises.
- Rural entrepreneurs will be able to access banking systems for receiving financial support for starting their enterprises, including support from MUDRA bank.
- Integrated ICT techniques and tools will also be provided for training and capacity building along with enterprise advisory services to enhance the entrepreneurship ecosystem in India’s villages.
- A mid-term review of SVEP conducted in September 2019 by Quality Council of India shows about 82% of the sampled entrepreneurs were from SC, ST and OBC categories which signifies **social inclusion** - one of the pillars of NRLM. 75% of the enterprises were owned and managed by women.

**SAMARTH**

On the occasion of International Women’s Day 2022, the Ministry of MSME recently launched a Special Entrepreneurship Promotion Drive for Women - “**SAMARTH**”.

**Benefits under SAMARTH**

- 20% seats in free skill development programmes, organised under skill development schemes of the ministry, will be allocated for aspiring and existing women entrepreneurs.
- Moreover, 20% of MSME business delegations sent to domestic and international exhibitions under the schemes for marketing assistance will be dedicated to women-owned MSMEs.
- Also, to enhance the participation of women entrepreneurs in public procurement, a special discount of 20% will be offered on annual processing fee on following commercial schemes of the National Small Industries Corporation (NSIC) in 2022-23



- Special Drive for registration of women-owned MSMEs under Udyam Registration.
- Through this initiative, more than 7500 women candidates from rural and sub-urban areas will be trained in FY 2022-23.

**MSME Innovative Scheme**

- Ministry of MSME recently launched MSME Innovative Scheme with the combination of existing sub-schemes around incubation, design, and intellectual property rights (IPR) for MSMEs.
- It is a holistic approach to unify, synergize and converge the 3 sub-components with a single purpose. However, the erstwhile three schemes of incubation, design and IPR will also continue to operate as individual programmes.
- It will ensure support through guidance, financial support and technical support, to MSMEs to scale up.
- An **equity support of up to Rs 1 crore** has also been announced for commercialization of ideas, designs and patents across all three sub-

Definition of MSMEs - Old and New

	Old Definition		New Definition	
	Manufacturing	Services	Manufacturing	Services
Micro	Investment in Plant and Machinery: Does not exceed Rs. 25 Lakh.	Investment in Equipment: Does not exceed Rs. 10 Lakh.	Investment in Plant and Machinery or Equipment and turnover: The investment in plant and machinery or equipment does not exceed Rs. 1 Crore and turnover does not exceed Rs. 5 crores.	
Small	Investment in Plant and Machinery: More than Rs. 25 lakh but does not exceed Rs. 5 crore	Investment in Equipment: More than Rs. 10 Lakh but does not exceed Rs. 2 crore	Investment in Plant and Machinery or Equipment and turnover :The investment in plant and machinery or equipment does not exceed Rs. 10 crore and turnover does not exceed Rs. 50 crore.	
Medium	Investment in Plant and Machinery: More than Rs. 5 crore but does not exceed Rs. 10 crore	Investment in Equipment: More than Rs. 2 crore but does not Rs. 5 crore.	Investment in Plant and Machinery or Equipment and turnover: The investment in plant and machinery or equipment does not exceed Rs. 50 crore and turnover does not exceed Rs. 250 crore.	

schemes and to help MSMEs further scale up to raise subsequent funding.

- For this, a separate corpus will be created and managed by Small Industries Development Bank of India (SIDBI) as the fund manager.

### Components

- |                   |   |
|-------------------|---|
| <b>Incubation</b> | <ul style="list-style-type: none"> <li>• It would <u>promote the adoption of the latest technologies</u> among MSMEs that seek validation of their ideas at the proof-of-concept level.</li> <li>• The <u>ideas would be incubated at eligible institutions</u> recognised by the government to act as business incubators.</li> <li>• Financial assistance up to <u>Rs 15 lakh per idea to host institutes</u> and up to <u>Rs 1 crore for relevant plant and machines</u> for MSMEs</li> <li>• Under this component, the government also announced the launch of an MSME Idea <b>Hackathon</b> to invite ideas from MSMEs, innovators and students through host institutes.</li> </ul>  |
| <b>Design</b>     | <ul style="list-style-type: none"> <li>• The objective of this component is to <u>bring Indian manufacturing sector and design expertise/design fraternity on to a common platform</u>.</li> <li>• It would <u>provide mentoring and financial assistance towards solving design-related problems</u> for new product development as well as improvement in existing products.</li> <li>• Micro enterprises would have access to 75% of the total project cost while small and medium businesses would be provided with 60% financing or up to a maximum of Rs 40 lakh per project.</li> <li>• Students participating in the scheme would get the assistance of 75% of the total project cost or up to a maximum of Rs 2.5 lakh.</li> </ul>   |
| <b>IPR</b>        | <ul style="list-style-type: none"> <li>• The objective of the scheme is to <u>improve the IP culture in India to enhance the awareness of IPRs</u> amongst MSMEs and to encourage creativity in Indian economy.</li> <li>• It also aims to take suitable measures for the <u>protection of ideas, technological innovation and knowledge-driven business strategies</u> developed by MSMEs for their commercialization.</li> <li>• MSMEs would be eligible to get their cost incurred on registration of patent, trademark, geographical indications (GI), and design <b>reimbursed</b>.</li> <li>• The maximum assistance would be Rs 5 lakh in case of a foreign patent, Rs 1 lakh for a domestic patent, Rs 2 lakh for GI registration, Rs 15,000 for design registration, and Rs 10,000 for trademark.</li> </ul> |

### Relaxed Provision Under EPCG Scheme

- The commerce ministry has relaxed various procedures under the **Export Promotion Capital Goods (EPCG) scheme** in order to reduce compliance requirements and facilitate ease of doing business.
- EPCG Scheme was launched in the 1990s. Under it, imports of capital goods are allowed duty free, subject to an export obligation. The scheme allows import of capital goods for pre-production, production and post-production at zero customs duty.
- Second-hand capital goods may also be imported without any restriction on age under the EPCG Scheme.
- The objective is to facilitate import of capital goods for producing quality goods and services and enhance India's manufacturing competitiveness.
- The authorisation holder (or exporter) under the scheme has to export finished goods worth six times of the actual duty saved in value terms in six years.
- In other words, there is a compulsion on the business to bring in foreign currency which is equal to 600% of duty saved on such imports measured in domestic currency.

**RAMP Scheme**

- The Union Cabinet recently approved **Raising and Accelerating MSME Performance (RAMP) scheme**. RAMP would commence in the financial year **2022-23**.
- It is a **World Bank assisted Central Sector Scheme**, supporting various Corona Virus Disease 2019 (COVID) resilience and recovery interventions of the Ministry of MSME.
- The total outlay for the scheme is Rs.6,062.45 crore out of which Rs.3750 crore would be a loan from the World Bank and the remaining would be funded by the Government of India (GoI).
- The programme aims at:
  - Improving access to market and credit
  - Strengthening institutions and governance at the Centre and State
  - Improving Centre-State linkages and partnerships
  - Addressing issues of delayed payments and greening of MSMEs

**Implementation Strategy**

- All States/UTs will be invited to prepare **Strategic Investment Plans (SIPs)** and the proposals placed under SIPs will be funded based on their appraisals.
- The SIPs would include an outreach plan for identification and mobilisation of MSMEs under RAMP, identify key constraints and gaps, set milestones and project the required budgets for interventions in priority sectors.
- These include renewable energy, rural & non-farm business, wholesale and retail trade, village and cottage industries, women enterprises etc.
- The overall monitoring and policy overview of RAMP would be done by an **apex National MSME Council**, headed by Minister for MSME, including representation from various Ministries and supported by a secretariat.

**Extreme Poverty Fell Sharply In India Between 2011-2019**

As per a policy research working paper published by the **World Bank** recently, Extreme Poverty is estimated to have declined 12.3% points between 2011 and 2019 in India.

- India's extreme poverty has dropped from 22.5% in 2011 to 10.2% in 2019
- Poverty reduction was higher in rural areas compared to urban India as rural poverty declined from 26.3% in 2011 to 11.6% in 2019. While in urban areas the decline was from 14.2% to 6.3% during the corresponding period

**What Is Extreme Poverty**

- The World Bank defines the extreme poor as those living on less than USD 1.90 a day. It is based on information about basic needs collected from 15 low-income countries.
- Extreme Poverty is identified in two ways:

**Absolute Poverty**

- It is when a person cannot afford basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information.
- It is mainly used by developing countries

**Relative Poverty**

- It is when a household income is below a certain percentage, typically 50% or 60%, of the median income of that country and is used mainly by **the developed countries**.

Poverty Estimation

- The **poverty ratio** in India has been measured from an **exogenously determined poverty line**.
  - **Poverty Line:** The conventional approach to measuring poverty is to specify a minimum expenditure (or income) required to purchase a **basket of goods and services** and this minimum expenditure is called the poverty line.
  - **Poverty Line Basket:** The basket of goods and services necessary to satisfy basic human needs is the Poverty Line Basket (PLB).
  - **Poverty Ratio:** The proportion of the population below the poverty line is called the poverty ratio or headcount ratio (HCR).
- Households with consumption expenditures below the poverty line are said to be “Below the Poverty Line (BPL)” and deemed poor.
- Thus, **Poverty in India is based on two critical components**
  - Information on the **consumption expenditures** and its **distribution across households** provided by the National Sample Survey (NSS) **consumption expenditure surveys**

**Mixed Reference Period:** The Tendulkar Committee recommended using Mixed Reference Period based estimates, as opposed to Uniform Reference Period based estimates that were used in earlier methods for estimating poverty.

- ✓ **URP:** From 1993 -1994, the poverty line was based on a URP, which involved asking people about their consumption expenditure across a period of over 30-days
- ✓ **MRP:** From 1999-2000 onwards, the NSSO switched to an MRP method which measures consumption of five low-frequency items (clothing, footwear, durables, education and institutional health expenditure) over the previous year, and all other items over the previous 30 days.

**Oil Bonds**

- Recently, the finance minister said that the government cannot reduce taxes (and as a consequence, prices) on petrol, diesel and other petroleum products.

**Tax on fuel prices**

- There are **three components** in the domestic retail price which together make up the **retail price**.



**Oil Bonds**

- An oil bond is a **promissory note** issued by the government to the OMCs, for the cash that the government would have given them so that these companies don't charge the public the full price of fuel.
- It states that the government will pay the OMC the sum of, say, Rs 1,000 crore in 10 years. And to compensate the OMC for not getting this money now, the government will pay it, say, 8% (or Rs 80 crore) each year until the bond matures.
- Thus, there are two components of oil bonds that need to be paid off: the annual interest payment, and the final payment at the end of the bond's tenure.
- By issuing such bonds, a government can defer the full payment by 5 or 10 or 20 years, and in the interim just pay the interest costs.
- Thus, by issuing such oil bonds, the government is able to protect/ subsidise the consumers without either ruining the profitability of the OMC or running a huge budget deficit itself.

**Guidelines for Digital Banking Units**

- RBI recently released guidelines for setting up **Digital Banking Units (DBUs)**.
- Taking forward this agenda, **Union Budget 2022-23** had announced the setting up of 75 DBUs in 75 districts to commemorate 75 years of independence.



It is a specialized business unit of a bank that helps in delivering **banking products and services**, in a **digital form** and in **self-service mode**, at any time.

The aim is to enable customers to have **cost effective and convenient access and enhanced digital experience** of such products and services in an **efficient, paperless, secured and connected environment**.

**Commercial banks** (other than regional rural banks(RRBs), payment banks and local area banks) with past digital banking experience are **permitted to open DBUs in tier 1 to tier 6 centres**, without having the need to take permission from the RBI in each case.

**Products and Services Offered By DBUs**

- **Any product or service** that can be provided digitally through internet banking or mobile banking can be provided in the DBU.
- Also, any product or service which a bank is not permitted to offer as per the provisions of **Banking Regulation Act 1949**, as amended from time to time, shall not be offered by the DBU.
- Each DBU must offer certain minimum digital banking products and services, on **both liabilities and assets side** of the balance sheet of the digital banking segment.

**Among Liability products**

•Savings account, current account opening, fixed and recurring deposit products, mobile and internet banking, debit card, digital kits for merchants and customers, UPI QR code, point of sale terminal, etc., have been mandated.

**Among Asset products**

•Onboarding of retail, MSME customers for loans, digital processing of loans, and identified government-sponsored schemes covered under the national portal have been mandated

**Other Guidelines**

- The banks will have the options to engage digital **business facilitator/ business correspondents** to expand the virtual footprint of DBUs.
- An adequate digital mechanism should be put in place to offer **real time** assistance and resolve **customer grievances** arising from DBUs.
- Various tools and methods shall be used by DBUs to offer hands-on customer education on safe digital banking products and practices.
- Each DBU has to be housed distinctly, with separate provisions for exit and entry.
- DBUs must be separate from the existing Banking Outlet with proper formats provided that will be appropriate for digital banking users.
- DBUs can enable **last-mile financial inclusion**, as a lender can reach a wider customer base in a more cost-effective manner.

**DBUs vs Fintechs**

- Currently, fintechs operating as neo-banks offer digital banking services but they do so in partnership with **non-banking financial companies (NBFCs)**. Some of the neobanks offering services in India are **Jupiter, Fi Money, Niyo, Razorpay X**.
- Compared to conventional banks with online and mobile banking facilities, neobanks or digital banks **excel at product innovation** and offer far better digital solutions.
- However, industry experts claim that due to their arrangement with NBFCs or scheduled banks to conduct the actual banking part, these digital banks are only "glorified digital distribution companies".



**Bina-Panki Multi-product Pipeline**

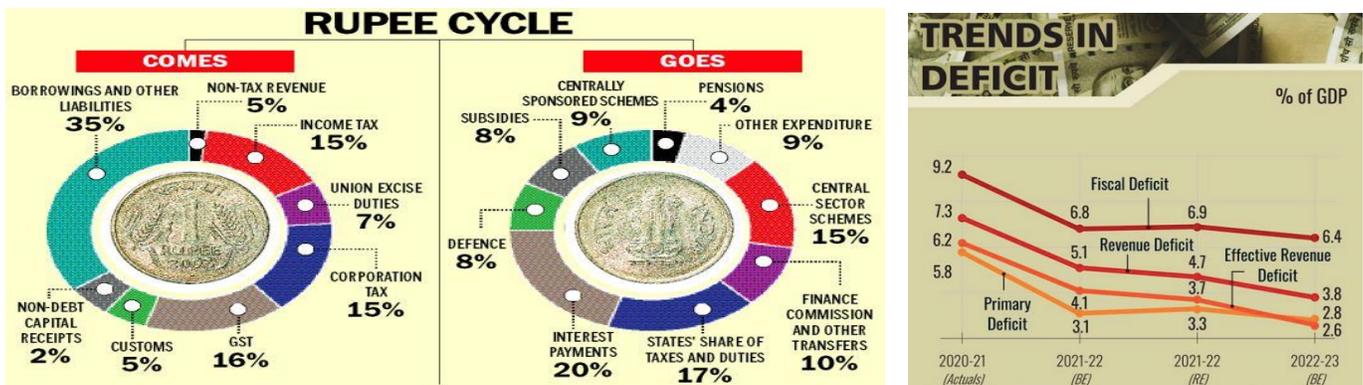
- Prime Minister has recently inaugurated the Bina-Panki **multi-product pipeline**.
- The 356-km pipeline, from **Bina Refinery in Madhya Pradesh to Panki in Kanpur**, to be operated by Bharat Petroleum Corporation Limited (BPCL), has been set up at the cost of Rs 1,524 crore.
- It has a capacity of 3.5 million metric tonne per annum and will strengthen the supply of petroleum products in *eastern and central UP, southern Uttarakhand and northern Bihar*.
- The project also includes augmentation of tankage capacity and construction of Rail Loading Gantry at Panki terminal.
- Pipelines are safe & environment friendly mode of transporting large quantity of petroleum products in an economical and reliable manner, reducing carbon foot prints by avoiding tank wagon and tank lorry movements.
- For instance, the Bina-Panki pipeline will also **reduce carbon emission by around 68%** in product transportation.

**Fiscal Management**

- India’s **economic growth** in the current year is estimated to be **9.2%**, highest among all large economies
- Against a total expenditure of Rs.34.83 lakh crore projected in the Budget Estimates 2021-22, the Revised Estimate is Rs. 37.70 lakh crore.
- The **total expenditure** in 2022-23 is estimated at **Rs 39.45 lakh crore**, while the **total receipts** other than borrowings are estimated at **Rs 22.84 lakh crore**.

**Fiscal Deficit**

- The Revised Estimates for 2021-22 indicate a Fiscal Deficit of Rs. 15, 91,089 crore as against the Budget Estimates of Rs. 15, 06,812 crore.
- Further, the **Revised Fiscal Deficit** in the **current year** is estimated at **6.9%** of GDP as against 6.8% projected in the Budget Estimates.
- The **fiscal deficit for 2022-23** is estimated to be Rs. 16, 61,196 crore, estimated at **6.4%** of GDP, which is consistent with the broad path of fiscal consolidation announced last year to reach a fiscal deficit level below 4.5 per cent by 2025-26.



**National Land Monetization Corporation (NLMC)**

- Union Cabinet approved the setting up **National Land Monetization Corporation (NLMC)**.
- NLMC will undertake monetization of surplus land and building assets of Central Public Sector Enterprises (CPSEs) and other government agencies.
- Union Budget 2021-22 announced plans to set up a **special purpose vehicle** for this purpose.

## NLMC

- NLMC has been set up as a **wholly owned Government of India company** and will function under the administrative jurisdiction of the Finance Ministry.
- NLMC has been announced with an initial **authorized share capital of Rs 5000 crore and paid-up share capital of Rs 150 crore.**
- It will have necessary technical expertise to professionally manage and monetize land assets on behalf of CPSEs and other Government agencies.
- **NLMC board** will comprise senior Government officers and eminent experts, while its chairman and non-Government directors will be appointed through a merit-based selection process.
- NLMC will **hire professionals from the private sector** as in the case of similar entities like the National Investment and Infrastructure Fund (NIIF) and Invest India.
- This is needed since real estate monetisation requires specialised skills and expertise in areas such as market research, legal due diligence, valuation, master planning, investment banking and land management.
- At the same time, NLMC will be a **lean organization** with minimal full time staff, hired directly from the market on contract basis. Flexibility will be provided to the Board of NLMC to hire, pay and retain experienced professionals from the private sector.

## Functions

- At present, CPSEs hold considerable surplus, unused and under used **non-core assets** in the nature of land and buildings.
  - NLMC will own, hold, manage and monetise surplus land and building assets of CPSEs under **closure**
  - **Surplus non-core land assets** of government-owned CPSEs under **strategic disinvestment.**
- This will speed up the **closure process** of CPSEs and smoothen the **strategic disinvestment** process of government-owned CPSEs.
- In these cases (e.g., on-going CPSEs and listed CPSEs under strategic disinvestment), NLMC will undertake surplus land asset monetization as an agency function

## PM GatiShakti National Master Plan

- It is a transformative approach for economic growth and sustainable development. The approach is driven by **seven engines**, namely Roads, Railways, Airports, Ports, Mass Transport, Waterways, and Logistics Infrastructure.
- These engines are supported by the complementary roles of Energy Transmission, IT Communication, Bulk Water & Sewerage, and Social Infrastructure.
- The projects related to these 7 engines in the **National Infrastructure Pipeline** will be aligned with PM GatiShakti.



### Road Transport

- National Highways Network to be expanded by **25000 Km** in 2022-23. For this, Rs 20000 crore will be mobilized, to complement the public resources.



### Multimodal Logistics Parks

- Contracts for implementation of Multimodal Logistics Parks at **4 locations** through PPP mode will be awarded in 2022-23.

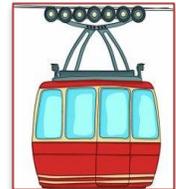
## Railways



- **One Station-One Product** concept will be popularized to help local businesses & supply chains.
- 2,000 km of railway network will be brought under **Kavach**, the indigenous world-class technology for **safety and capacity augmentation** in 2022-23.
- 400 new-generation **Vande Bharat Trains** will be developed and manufactured in the next three years.
- 100 **PM GatiShakti Cargo Terminals** for multimodal logistics facilities will be set up during the next three years.
- **Integration of Postal & Railways networks** to provide seamless solutions for movement of parcels.

## Parvatmala

- **National Ropeways Development Programme** will be taken up on PPP mode, as a preferred ecologically sustainable alternative to conventional roads in difficult hilly areas.
- It aims to **improve connectivity** and convenience for commuters, besides **promoting tourism**.
- Contracts for **8 ropeway projects** for a length of 60 km will be awarded in 2022-23. This may also cover congested urban areas, where conventional mass transit system is not feasible



## Seamless Multimodal Movement of Goods and People



- Data exchange among all mode operators will be brought on **Unified Logistics Interface Platform (ULIP)**.
- This will lead to efficient movement of goods through different modes, reducing logistics cost and time, assisting just-in-time inventory management, and in eliminating unnecessary documentation.
- Most importantly, this will provide real time information to all stakeholders, and improve international competitiveness.
- Open-source mobility stack, for organizing seamless travel of passengers will also be facilitated
- Innovative financing and faster implementation for building **metro systems**.
- **Multimodal connectivity** between mass **urban transport and railway stations** will be facilitated.

## Fund Infusion in IREDA

The Cabinet Committee on Economic Affairs has recently approved an equity infusion of Rs.1500 crore in **Indian Renewable Energy Development Agency Limited (IREDA)**.

### Benefits of Equity Infusion

- It will help in employment generation of approximately 10,200 jobs-year and CO<sub>2</sub> equivalent emission reduction of approximately 7.49 million tonnes CO<sub>2</sub>/year.
- It will enable IREDA to:
  - ✓ Lend around **Rs. 12,000 crores** to the renewable energy (RE) sector, thus facilitate the debt requirement of RE of additional capacity of 3500-4000 MW.
  - ✓ Enhance its net worth which will help it in additional RE financing, thus contributing to the government's targets for RE.
  - ✓ Improve the capital-to-risk weighted assets ratio (CRAR) to facilitate its lending and borrowing operations.

### IREDA

- Set up in 1987, IREDA is a mini-ratna company under the administrative control of Ministry of New and Renewable Energy. It works as a specialised **non-banking finance agency** for Renewable Energy (RE) sector.
- It plays a key role in the RE project financing which gives confidence to the FIs/banks to lend in the sector.

### Offline Digital Payments

- RBI recently issued a framework to facilitate *small value digital payments in offline mode*. An **offline digital payment** means a transaction that does not require internet or telecom connectivity.
- Under the offline mode, payments can be carried out **face-to-face** (proximity mode) using any channel or instrument like cards, wallets, and mobile devices. These transactions will **not** require an **additional factor of authentication (AFA)**.
- Such transactions through cards shall be allowed without the need of switching on contactless transaction channel.
- Since the transactions are offline, alerts (by way of SMS and/or e-mail) will be received by the customer after a time lag.
- Transactions are subject to a limit of Rs 200 per transaction and an overall limit of Rs 2,000 for all transactions until the balance in the account is replenished. Balance replenishment can only occur in an online mode with AFA.
- The offline mode of payment can be enabled only after obtaining specific consent of the customer.
- Offline payments will be covered under the provisions of RBI's limited customer liability circulars and will have recourse to the Reserve Bank Integrated Ombudsman Scheme for grievance redress.

### Saaṅthi App

- Securities and Exchange Board of India (SEBI) has recently launched **Saaṅthi** – a mobile app on investor education.
- In the recent past, there has been an increase in individual investors in the securities market, and a large proportion of this trading is done through mobile phones. According to NSE (National Stock Exchange) data, the share of Individual investors increased to 45% in 2021 from 39% in 2020.
- The new app aims to empower investors with accurate knowledge about the securities market.
- It will be helpful in easily accessing basic concepts of the market, KYC Process, trading and settlement, mutual funds, recent market developments, investor grievances redressal mechanism, etc.

### SEBI

- It was established in 1988 as a non-statutory body. Later, in **1992**, SEBI was given **statutory powers**, through the SEBI Act, 1992.
- **Composition:**
  - Chairman who is nominated by the Union Government of India.
  - Two members, i.e., Officers from the Union Finance Ministry.
  - One member from RBI
  - The remaining five members are nominated by the Union Government of India, out of them at least three shall be whole-time members.

### TRIFED Initiatives

Recently, the Ministry of Tribal Affairs has launched several noteworthy initiatives of TRIFED. These are:

#### Formation of 14 Honey Farmer Producer Organizations (FPOs)

- Beekeeping activity has been recognized as one of the important activities by government to achieve **Sweet Revolution** also known as **Honey Mission or Mithi Kranti**.
  - ✓ Last year a central scheme titled "Formation and Promotion of 10,000 FPOs" was launched to ensure economies of scale for farmers over the next 5 years.

- ✓ The scheme lays special emphasis on **beekeeping** with the formation of **100 FPOs** in identified potential Districts/States.

- The **National Bee Board (NBB)**, under the **National Beekeeping & Honey Mission (NBHM)**, will develop the scientific beekeeping value chain for honey across **100 clusters** in the country.
- The Ministry of Agriculture had appointed **TRIFED as the implementing agency**. Under this, the Tribal Affairs Ministry initiated the formation of **14 Honey FPOs alongside NAFED** (National Agricultural Cooperation Marketing Federation of India Ltd) and **NDDB** (National Dairy Development Board).

**About National Beekeeping & Honey Mission (NBHM)**

- NBHM is a Central Sector Scheme, approved under AatmaNirbhar Bharat announcement, and implemented through National Bee Board (NBB).
- NBHM aims for the overall promotion & development of scientific beekeeping in the country to achieve the goal of 'Sweet Revolution' which is being implemented through National Bee Board (NBB).
- Under the scheme, main thrust is given on awareness, capacity building/trainings, focus on women empowerment through beekeeping and setting up of requisite infrastructural facilities

**TRIFED Van Dhan Chronicle**

- The chronicle gives an in-depth illustration of the activities undertaken by TRIFED which has impacted the life of almost 16 lakh tribals.
- These include the introduction of **Minimum Support Price (MSP)** for select forest produces, training imparted, value addition, new product lines developed, new ideas for packaging and marketing implemented, achievements so far and future plans.

**Tribal Samvaad Network**

- **UNICEF and TRIFED** have joined hands to launch the "Tribal Samvaad network" – a Tribal network for social and behaviour Change.
- This vast network includes more than 90 million tribals, 52,976 Van Dhan SHGs, 3110 Van Dhan Vikas Kendras (VDVK) Clusters, market associations, haat bazaars and the Tribes India network and the State agencies.
- Moreover, TRIFED and UNICEF will further implement multiple channels and communication strategies and tools for the economic and social empowerment of tribal communities.

**MIS Portal**

- An MIS Portal for **MSP for Minor Forest Produces** was launched which is a dashboard for the authorised users of Ministry of Tribal Affairs and TRIFED.
- The portal will ensure ready and online availability of procurement-related data for analysis as well as fast and effective decision making. This will ensure transparency and efficiency evaluation of different states and districts.

**Other Bee Keeping initiative**

**Apiary on Wheels:** It is a unique concept designed by the Khadi and Village Industries Commission (KVIC) for the easy upkeep and migration of Bee Boxes having live Bee colonies.

KVIC launched the country's first Mobile Honey Processing Van at Village Sirora in Ghaziabad, UP.

- This mobile honey processing unit can process up to **300 KG of honey in 8 hours**.
- It is also equipped with a testing laboratory that would instantly examine the quality of honey.
- It comes as a major development under the Honey Mission of KVIC.

**Cropland Expansion**

- According to a study published in the reputed journal Nature Food, cropland area across the world increased **9%** and cropland net primary production (NPP) by **25%** from 2003-2019.

- The analysis was performed in 4 parts during 2000-2003, 2004-2007, 2008-2011, 2012-2015 and 2016-2019.
- The report defined **cropland** as '*land used for annual and perennial herbaceous crops for human consumption, forage (including hay) and biofuel*'.
  - ✓ Perennial woody crops, permanent pastures and shifting cultivation are excluded from the definition.
- **NPP** is defined as the difference between the energy fixed by autotrophs and their respiration, and it is mostly equated to increments in biomass per unit of land surface and time.
  - ✓ An **autotroph** is an organism that can produce its own food using light, water, carbon dioxide, or other chemicals.

### Key Points

- In 2019, the cropland area was 1,244 million hectares (mha). But **49% of new cropland** area replaced **natural vegetation and tree covers**, indicating a conflict with the sustainability goal of protecting terrestrial ecosystems.
- The growth was primarily due to agricultural expansion in Africa and South America. The largest proportions of natural vegetation conversion to croplands (excluding dryland irrigation) were found in Africa, Southeast Asia and South America.
- *Global per capita cropland area* decreased by 10% to 0.16 ha per person in 2019 from 0.18 ha per person in 2003. But the **per capita annual cropland NPP** increased by **3.5%** as a result of intensified agricultural land use.
- Cropland expansion is a major factor in forest loss, which comes in conflict with United Nations' SDG 15 that aims to stop deforestation and degradation of natural habitats.
- FAO's Estimation: If current trends hold, by 2050 the world's arable land **will increase** by some 70 million hectares, and much of the new farmland will be in areas that are currently forested.

### Increasing Trade Deficit With China

- India's bilateral trade with China grew by 44% to **\$125.7 billion** in the 2021. This is despite government efforts to reduce India's dependence on Chinese imports amid continuing tension along the border and India's emphasis on self-reliance.
- China was **India's second largest trading partner** in the April-November period, after the **US**.
  - UAE, Saudi Arabia and Iraq and Hong Kong were other top trading partners.
- Furthermore, **growth** in India's trade with other key trading partners including the US, UAE and Australia was even higher than the **growth** in trade with China.
- Raw material exports constitute a significant portion of India's outbound trade with China with iron ore, organic chemicals and cotton among key export items. Other key exports to China include iron and steel, seafood and engineering goods.

### Cage Aquaculture

- Ministry of Fisheries, Animal Husbandry and Dairying has recently organized a webinar on **Cage Aquaculture in Reservoir: Sleeping Giants**.
- It designated the *investment targets* for promoting cage aquaculture under the flagship scheme **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**.

### What Is Cage Aquaculture

- Cage aquaculture involves the *growing of fishes in existing water resources while being enclosed in a net cage which allows free flow of water*.

- It is an aquaculture production system made of a floating frame, net materials and mooring system (with rope, buoy, anchor etc.) with a round or square shape floating net to hold and culture large number of fishes and can be installed in reservoir, river, lake or sea.
- There are **4 types of fish-rearing cage** viz. fixed cages, floating cages, submerged cages & submersible cages.

#### Advantages

- Cage farms are positioned to utilize natural currents, which provide the fish with oxygen and other appropriate natural conditions.
- Suitable locations in Indian's long coastline, vast brackish water areas available in coastal states and other underutilized water bodies can be better utilized by adopting cage culture.
- Due to the high production attainable in cage culture system, it can play a significant role in **increasing the overall fish production in India**.
- Economically, cage culture is a **low impact farming practice with high returns and least carbon emission activity**.

#### Disadvantages

- Feed must be nutritionally complete and kept fresh.
- **Incidence of disease** can be high and diseases may spread rapidly.
- Accumulation of unused feed and excreta will lead to **water pollution as well as eutrophication**.
- **Predation** by aquatic mammals & birds and overcrowding of aquatic organisms in cages & navigation issues.

#### Pradhan Mantri Matsya Sampada Yojana (PMMSY)

- Launched in September 2020
- During the period 2020-2021 to 2024-2025, an estimated investment of **Rs. 20,050 crores** are going to be done by the Government for this scheme. Out of which Rs 12340 crores is proposed for beneficiary-oriented activities in Marine, Inland fisheries and Aquaculture, and about Rs. 7710 crores for Fisheries Infrastructure.
- The **major aim** of the government behind the scheme is
  - ✓ Enhancing fish production by an additional 70 lakh tonne till 2024-25,
  - ✓ Increasing fisheries export earnings to Rs.1,00,000 crore,
  - ✓ Doubling of incomes of fishers and fish
  - ✓ Reducing post-harvest losses from 20-25% to about 10%
  - ✓ Generation of additional 55 lakhs direct and indirect gainful employment opportunities in the fisheries sector and allied activities farmers,

#### Drone Use in Agriculture

- The Ministry of Agriculture and Farmers Welfare has recently amended the guidelines of "**Sub-Mission on Agricultural Mechanization**" (SMAM) to increase the use of drones in agriculture.
- SMAM was launched in **2014-15** to increase the reach of farm mechanization to *small and marginal farmers* and in *difficult areas* where farm power availability is low.
- The financial aid and grants shall be applicable till 31st March 2023.

#### Incentives Announced

- **Grants up to 100%** of the cost of an agriculture drone or Rs. 10 lakhs, whichever is less, for the purchase of drones. This 100% grant will be applicable for drones purchased *only* by Farm Machinery Training & Testing Institutes, ICAR institutes, Krishi Vigyan Kendras, and State Agriculture Universities for large-scale demonstrations of this technology on farmers' fields.
- **Farmers Producers Organizations (FPOs)** would be eligible to receive grants of up to 75% of the cost of agriculture drones for their demonstrations on the farmers' fields.

- **Demonstration Purpose:** A contingency expenditure of **Rs. 6,000 per hectare** would be provided to implementing agencies that do not wish to purchase but **hire drones** for demonstrations from Custom Hiring Centres (CHCs), Hi-tech Hubs, Drone Manufacturers, and Start-Ups.
  - ✓ CHCs are units comprising of farm machinery and equipment meant for custom hiring by farmers. Its objective is to supply of farm implements to small, marginal and poor farmers at **subsidized rates** on hire.
- To provide agricultural services via drone application, existing CHCs set up by Cooperative Society of Farmers, FPOs, and rural entrepreneurs would offer **40% of the basic cost** of drone and its attachments, or Rs. 4 lakhs, whichever is less, as financial assistance for drone purchase.
- **Rural entrepreneurs** must have passed the class tenth examination or its equivalent from a recognized Board and should have a remote pilot license.
- **Agriculture graduates** establishing CHCs would be eligible for a grant of up to Rs. 5 lakhs or 50% of the basic cost of the drone and its attachments.

### 400 Vande Bharat Train Sets Announced

- In Budget 2022-23, Finance Minister recently announced the manufacture of 400 Vande Bharat train sets in the next three years.
- The announcement comes in addition to the current plan of running 75 such trains by the Independence Day in 2023. Two Vande Bharat train sets (**originally called Train 18**) are currently running in the country (Delhi-Varanasi and Delhi-Katra)
- The first Vande Bharat was manufactured by the **Integral Coach Factory (ICF), Chennai**, as part of the 'Make in India' programme.

### New Train Sets

- Along with internal upgrades, new train sets will be more energy efficient.
- Railways is planning to make several of these train sets with aluminium instead of steel.
- An aluminium body will make each train set around 40-80 tonnes lighter than the current train sets, which will lead to lower energy consumption as well as better speed potential.

#### Vande Bharat trains

- It is an indigenously designed and manufactured semi high speed, self-propelled train set that does not require an engine.
- They are based on a propulsion system called **distributed traction power technology**, by which each car of the train set is powered. This technology is increasingly becoming the norm around the world for passenger operations.
- Distributed power gives the train **higher acceleration and deceleration** compared to locomotive hauled trains, which take a much longer time to reach top speed or to gradually come to a halt.
- Due to faster acceleration and deceleration, it can achieve a maximum speed of 160 kmph, reducing journey time by 25% to 45%.
- It also has an **intelligent braking system** with power regeneration for better energy efficiency thereby making it cost, energy and environment efficient.
- The trains have fully sealed gangways for a dust-free environment, modular bio-vacuum toilets, rotating seats in Executive Class, personalized reading lights, automatic entry/exit doors with sliding footsteps, diffused LED lighting, mini pantry and sensor-based interconnecting doors in each coach.



### Decline in Forex Reserves

- RBI reported a decline of \$678 million in the country's forex reserves. The recent decline is primarily due to a **drop in the foreign currency assets (FCA)**, a vital component of the overall reserves.

- India's forex reserves had hit a lifetime high of **\$642.453 billion** in September, 2021.

**Foreign Exchange Reserves**

- Foreign exchange reserves or forex reserves include assets held by a central bank in foreign currencies as a reserve. These may include



- The reserves in India are managed by RBI for Indian government.
- Reserve Bank of India Act, 1934** and the **Foreign Exchange Management Act, 1999** set the legal provisions for governing the forex reserves in India.
- They help to support and maintain confidence in monetary policy action or any exchange rate intervention to support the domestic currency.

**In exchange rate intervention, the RBI sells dollar when the rupee weakens and buys dollar when the rupee strengthens.**

**Components Of India's Forex Reserves**



**Foreign Currency Assets**

- This is the largest component of the forex reserves consisting of **US dollar and other major non-US global currencies**.
- Additionally, it also comprises investments in US Treasury bonds, bonds of other selected governments, deposits with foreign central and commercial banks.

**Gold**

- Gold reserve is the gold held by RBI with the intention to serve as a guarantee to redeem promises to pay depositors, note holders (e.g. paper money), or trading peers, or to secure a currency.

**Special Drawing Rights (SDRs)**

- SDR refer to an international type of monetary reserve currency created by the International Monetary Fund (IMF) in 1969 that operates as a supplement to the existing money reserves of member countries.

*{For more details on SDR, refer Quick Revision Part 1, Page 229}*

**Reserve Tranche Position**

- The primary means of financing IMF is through members' quotas. Each member of IMF is assigned a quota, **part of which** is payable in SDRs or specified usable currencies ("reserve assets"), and **part in the member's own currency**.
- The difference between a member's quota and IMF's holdings of its currency is a country's Reserve Tranche Position (RTP).

**It is basically an emergency account that IMF members can access at any time without agreeing to conditions or paying a service fee. In other words, a portion of a member country's quota can be withdrawn free of charge at its own discretion.**

- The reserve tranches that countries hold with the IMF are considered their facilities of first resort, meaning they will tap into them before seeking formal credit that charges interest.

### Fintech Open Hackathon

- **NITI Aayog** in association with **PhonePe** has launched the first-ever open-to-all Fintech Open Hackathon that aims to showcase path-breaking solutions for the Fintech ecosystem.
- The Hackathon will provide an opportunity for innovators, digital creators and developers from all over India to think, ideate and code.
- Participants at the hackathon need to use any open-data APIs (Application Programming Interface-type of software for *connection between computer programs*) along with frameworks such as **Account Aggregator** as a foundation to power the following use cases:
  - ✓ Alternate risk models for lending, insurance or investments with focus on financial inclusion
  - ✓ Innovative products for various demographics and geographies for broader adoption of financial services
  - ✓ Improved visualisation and derived intelligence based on the digital payments data
- Participants can use data sources like PhonePe Pulse, Open Government Data Platform, Setu AA Sandbox or Setu Payments Sandbox, RBI reports on payments to build on their submission.
- By the end of the event, participants will be required to present a working prototype of their hack. Winning teams stand to win cash prizes worth Rs 5 lakhs.

### National Single Window System

- Jammu & Kashmir has become the **first Union Territory** to be onboarded on the National Single Window System (NSWS). Currently, 14 States/UTs are on board NSWS.
- NSWS is linked with **India Industrial Land Bank (IILB)** which hosts 45 industrial parks of J&K. It will help investors to discover available land parcels in J&K.

**India Industrial Land Bank (IILB)** is a GIS-based portal - a one-stop repository of all industrial infrastructure-related information – connectivity, infra, natural resources & terrain, plot-level information on vacant plots, line of activity, and contact details. Currently, the IILB has approximately 4000 industrial parks mapped across an area of 5.5 lakh hectare of land, serving as a decision support system for investors scouting for land remotely. The system has been integrated with industry-based GIS systems of 17 states to have details on the portal updated on a real-time basis.

### NSWS

- Launched in 2021, NSWS is a **digital platform** that serves as a guide for investors and businesses to identify and to apply for approvals as per their business requirements.
- **Services on the portal** include: know your approval (KYA), common registration form, state registration form, document repository, and e-communication.
- By now, **20 Ministries/Departments** have been integrated on NSWS and around 142 central approvals can be applied through the NSWS portal.
- Thus, the NSWS eliminates the need for investors to visit multiple platforms/offices to gather information and obtain clearances from different stakeholders
- In doing so, it aims to become a one-stop shop for approvals and clearances and help to improve transparency, accountability and responsiveness in the ecosystem. This would not only enable ease of doing business but also ease of living.

### Angadia System

- An FIR has been registered against three Mumbai Police officials for allegedly threatening Angadias and extorting money from them.
- The Angadia system is a **century-old parallel banking system** in the country where traders send cash generally from one state to another through a person called Angadia that acts as a courier. The Angadia charges a nominal fee for it.

- It is predominantly used in the jewellery business with Mumbai – Surat being the most popular route as they are two ends of the diamond trade.
- The Angadia system works completely on trust as large sums, at times in crores, are involved. As Angadias carry large quantities of cash, it makes them targets of robbery.

#### Legality Of The System

- Although Angadia system is legal, it is suspected that it is also used to transfer unaccounted money.
- Since the business deals in cash and there is no account maintained, it may also be used for transfer of black money like the hawala transaction which is generally used across countries.

#### Kisan Drones

- Prime Minister has recently launched **100 Kisan Drones** in different cities and towns of the country. He also flagged off "Drone Kisan Yatra" to promote chemical-free farming in India.
- For example, a government incentive provides grants that make ownership of farm drones virtually cost-free for state-run institutions.

#### Kisan Drones

- Kisan drones will have an unmanned tank filled with insecticides and nutrients and are expected to have a high capacity of 5 to 10 kg.
- The drone will spray the same amount of pesticide on about one acre of land in just 15 minutes. This saves time, require less effort and spraying will be done uniformly.
- They will be used to carry vegetables, fruits, fish, etc. to the markets from the farms, with minimal damage, consuming lesser time and resulting in more profits to farmers.
- They will also be promoted for crop assessment and digitization of land records.
- Government has recently banned the import of drones to encourage their manufacturing in India.
- A target has been set for manufacturing 1 lakh Made-in-India drones in the next 2 years. This will generate fresh employment and new opportunities for the youth.

#### Surety Bonds

To boost private sector capital expenditure in infrastructure, the Budget has allowed the use of surety bonds as a substitute for bank guarantee in government procurements.

#### Need For Surety Bonds

- A contract requires the developer to provide various bonds during the life cycle of a project, which together may account for up to 20% of the total project cost.
- Currently, 100% of the guarantee requirements for infrastructure sector are catered to by banks. These guarantees are an inefficient way of doing business as they block a lot of working capital from a contractor.

#### Surety Bond

- It is a **legally binding tripartite agreement** signed between the **principal, obligee and the surety**.
- Simply put, the surety is provided by an insurance company on behalf of a principal or contractor to the obligee or government entity awarding the project.
- When a principal breaks a bond's terms, the harmed party can make a claim on the bond to recover losses.
- Surety bonds are a favoured financial instrument in several developed western economies.

#### IRDAI Guidelines

- The IRDAI (Surety Insurance Contracts) Guidelines, 2022 will come into effect from April 1, 2022.

- Insurers will be required to have a board-approved underwriting philosophy for surety insurance business.
- Surety Insurance Contracts may be offered to infrastructure projects of government/private in all modes.
- The surety contracts will include advance payment bond, bid bond, contract bonds, customs and court bond, performance bonds and retention money.
- Surety insurance contracts shall be issued only to specific projects and **not clubbed** for multiple projects. Also, the limit of guarantee should not exceed 30% of the contract value.
- Premium charged for all surety Insurance policies underwritten in a financial year, including all instalments due in subsequent years for those policies, should **not exceed 10% of the total gross written premium** of that fiscal, subject to a maximum of **₹500 crore**.
- Further, contracts should not be issued where the underlying assets or commitment are outside the country.

### Extension of IFLDP

- **Indian Footwear and Leather Development Programme (IFLDP)** has been approved for continuation with a financial outlay of Rs 1,700 crore.
- IFLDP, earlier known as Indian Footwear Leather and Accessories Development Programme (IFLADP) has been approved for continuation till March 2026, or till further review, whichever is earlier.
- Earlier, IFLADP was announced for three financial years (2017-18 to 2019-20).

### IFLDP

- It is a **Central Sector Scheme** that aims at development of infrastructure for the leather sector, address environmental concerns specific to the leather sector, facilitate additional investments, employment generation and increase in production.
- **Sub-schemes** approved under the programme include:



- Development of design studios is a new sub-scheme and it would promote marketing/export linkages, facilitate buyer- seller meets, display designs to international buyers and work as interface for trade fairs.
- Under the IDLS, assistance would be provided to the sectoral units for their modernization/capacity expansion/technology up-gradation.

### Ayush Start-up Challenge

- **All India Institute of Ayurveda (AIIA)**, in association with **Startup India**, has launched **Ayush Start-up Challenge** to encourage start-ups and individuals working on innovations in the field of Ayurveda and alternative healing.
- The initiative aims to not just identify promising start-ups and reward them, but also provide them incubation support through guidance and skill development. This will help these start-ups realize their next phase of growth.
  - ✓ Cash prize of Rs. 1 lakh for the winner and Rs. 50,000 for the runner-up.

- Both early-stage start-ups as well as individuals as a group can participate.
- There are three entry categories for participating start-ups – Ayush Food Innovations, Ayush Bio-instrumentation (Hardware solutions) and Ayush IT Solutions (Software solutions).
  - ✓ There will be two winners in each of the 3 categories.

### Decline in Participatory Notes

Investments in the Indian capital market through Participatory notes (P-notes) dropped to ₹87,989 crore at the end of January and experts believe that foreign investors will continue with their negative stance amid the Ukraine crisis.

### Participatory Notes

- P-notes are issued by registered Foreign Portfolio Investors (FPIs) to overseas investors who wish to be a part of the Indian stock market without registering themselves directly. They, however, need to go through a due diligence process.
- Since, they are used outside India for making investments in shares listed in the Indian stock market, they are also called **Offshore Derivative Instruments (ODIs)**. Citigroup and Deutsche Bank are among the biggest issuers of these instruments.
- Thus, P-Notes are ODIs with equity shares or debt securities as underlying assets. However, more than 85% of the investment is in equities.
- FPIs registered with SEBI, buy India-based securities and then issue P-notes to foreign investors. Any dividends or capital gains collected from the underlying securities go back to the investors.
- While the FPIs have to report all such investments each quarter to SEBI, they **need not disclose the identity of the actual investors**.

### E-bill System Launched

- The Ministry of Finance recently launched the **electronic bill (e-Bill) processing system**, on the occasion of 46th Civil Accounts Day.
- The e-Bill system has been **developed by the Public Financial Management System (PFMS) Division** in the office of the Controller General of Accounts in the Department of Expenditure, Ministry of Finance.
  - PFMS is a web-based **online software application** which started during 2009 as a **Central Sector Scheme** of the Planning Commission with the objective of tracking funds released under all Plan schemes of the Government of India, and real time reporting of expenditure at all levels of *Programme implementation*.
- It has been rolled out on a pilot basis in eight ministries and will be implemented in all ministries and departments in a phased manner in 2022-23.

#### E-bill System

- Under the e-Bill system, vendors/suppliers can upload their bills online from anywhere through digital signature. The suppliers of various goods and services to the government do not have to submit physical copies of their bills to the respective ministries/departments/offices of the government.
- At the backend too, the electronic bill received will be processed digitally at every stage and finally, the payments will be credited digitally to the vendor.
- Moreover, the vendor/supplier would be able to track the status of bill processing online.
- Since the bills will be processed by First-In-First-Out (FIFO) method, it will reduce the discretion in processing the bills. It will enhance transparency, efficiency and faceless-paperless payment system, trackable in a real time.

### Dollar-Rupee Swap

- RBI recently conducted a \$ 5 billion dollar-rupee swap auction as part of its liquidity management initiative, **leading to infusion of dollars and sucking out of the rupee from the financial system.** This tool is being used for the first time by RBI
- RBI sold \$ 5 billion to banks and simultaneously agreed to buy back the dollars at the end of the swap settlement period.

#### Dollar-rupee buy/sell swap

- RBI buys US dollars (USD) from banks in exchange for Indian Rupees (INR) and immediately gets into an opposite deal with banks promising to sell dollars at a later date.

#### Dollar-rupee sell/buy swap

- RBI sells USD in exchange for INR and promises to buy dollar from banks after some years.

- These swap operations carry *no exchange rate or other market risks* as transaction terms are set in advance.

### Why Is RBI Resorting To It Now

- Surplus liquidity in the system is pegged at Rs 7.5 lakh crore, which needs to be curbed to keep a tab on inflation.
- Usually, the central bank will resort to traditional tools such as increasing the repo rate or increasing the Cash Reserve Ratio (CRR), but this can have a negative implication on the economy. This negative implication can be seen in incomplete transmission of monetary policy.
- Therefore, the RBI used a different toolkit - Variable Rate Reverse Repo Auction (VRRR) last year. However, VRRR auctions were undersubscribed by banks, as the cash market offered instant and better yields, forcing the RBI to consider a longer-term liquidity adjustment tool (2 years tenor) such as forex auctions.
  - VRRR is a sub-type of reverse repo
  - Till December 31, 2021, RBI had planned to remove Rs 7.5 trillion of liquidity by means of 14-day VRRR auction. But in auctions, banks parked only Rs 2.67 trillion.
- Simultaneously, dollar inflow into the market will **strengthen the rupee** which has already hit the 77 level against the US dollar.

### UPI123Pay and DigiSaathi Launched

RBI recently launched UPI for feature phones (non-smart phones) called **UPI123Pay**. A 24x7 helpline for digital payments – **DigiSaathi**, has also been launched.

#### Unified Payment Interface (UPI)

- UPI is a **single-window mobile payment system** developed by the National Payments Corporation of India (NPCI). It is a system that powers multiple bank accounts into a single mobile application, merging several banking features, seamless fund routing & merchant payments into one hood.
- It is regulated by RBI and works by instantly transferring funds between two bank accounts on a mobile platform. It eliminates the need to enter bank details or other sensitive information each time
- UPI is currently the biggest among the NPCI operated systems including National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Aadhaar enabled Payment System (AePS), Bharat Bill Payment System (BBPS), RuPay etc.
- The top UPI apps today include PhonePe, Paytm, Google Pay, Amazon Pay and BHIM, the latter being the Government offering.

#### UPI123Pay

- UPI123Pay service is a **three-step** method to initiate and execute services for users. It doesn't need internet connection for transactions.

- The UPI service for feature phones will leverage the **RBI's regulatory Sandbox** on Retail Payments.
  - A regulatory sandbox usually refers to live testing of new products or services in a controlled/test regulatory environment for which regulators may permit certain regulatory relaxations for the limited purpose of the testing.
- Feature phone users will now be able to undertake various transactions based on **four technology alternatives**. They include calling an IVR (interactive voice response) number, app functionality in feature phones, missed call-based approach and also proximity sound-based payments.
- Such users can initiate payments to friends and family, pay utility bills, recharge FAST Tags, pay mobile bills and also allow users to check account balances. They will also be able to link bank accounts, set or change UPI PINs.
- It will allow customers to use feature phones for almost all transactions except scan and pay

### DigiSaathi

- While digital adoption has grown significantly in India, there has also been a sharp rise in fraudulent transactions and phishing attempts.
- To address this issue, a **24x7 helpline for digital payments** has also been set up by the National Payments Corporation of India (NPCI).
- It uses AI technology (automated response) to answer questions related to digital transactions. Presently it is available in English and Hindi language



NPCI is an umbrella organisation for operating retail payments and settlement systems in India.

It is an initiative of RBI and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.

It has been incorporated as a Not-for-Profit Company with an intention to provide infrastructure to the entire banking system in India for physical as well as electronic payment and settlement systems.

### Captive Employer Initiative

- A webinar promoting the 'Captive Employer' initiative under Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) was recently conducted.
- Captive Employer Initiative is a nationwide **placement-linked skill training program** under DDU-GKY, funded by the **Ministry of Rural Development (MoRD)**.
  - **Captive Employer** is any employer/industry who provides employment to candidates in their own organization or one of its subsidiaries and have suitable in-house training facilities. Placements provided by captive employers are called captive placements.
- The initiative aims to address the need for a dynamic and demand-based skilling ecosystem meeting the requirements of industry partners and assuring sustainable placements for rural poor youth.
- According to the DDU-GKY Capital Employment guidelines, the training courses can be implemented as per their requirement to train the candidates with a minimum of 576 hours and a maximum of 2304 hours of skilling. For this, the funding of the DDU-GKY will be made available.
- State Skill Development Mission or State Rural Livelihood Mission which is in charge of DDU-GKY implementation in states is responsible for providing the necessary implementation support and overseeing the captive employment initiatives' implementation.
- It assures post-training placement of candidates for a minimum of six months with a minimum CTC of Rs 10,000.

## VAJIRAM & RAVI



Launched in 2014, DDU-GKY, is a nationwide placement-linked skill training program funded by the MoRD.

The DDU-GKY scheme mandates one-third of the total candidates being trained under the scheme to be women.

It is a part of National Rural Livelihood Mission uniquely aimed at rural poor youth between 15 and 35 years of age, to create income diversity in poor families and help rural youth realize their career aspirations. However, the upper age limit for women candidates is 45 years.

The programme has an outcome led design with guaranteed placements for at least 70% trained candidates and is moving towards minimum mandatory certification.

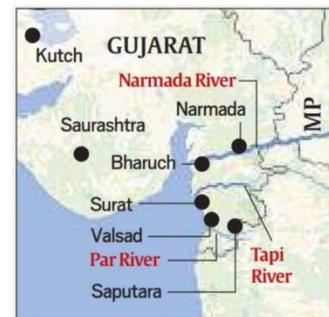
Cumulatively 11.44 lakh youth have been trained and 7.15 lakh youth have been placed till Jan, 2022 under DDU-GKY.

### Par Tapi Narmada link project

Tribals in Gujarat have been protesting against the Centre's Par Tapi Narmada river-linking project.

#### Background

- The Par Tapi Narmada link project was envisioned under the **1980 National Perspective Plan** under the former Union Ministry of Irrigation and Central Water Commission (CWC).
- A **MoU** was signed between Gujarat, Maharashtra and the central government in 2010.
- Recently, the Union Budget 2022-23 shared that draft Detailed Project Reports (DPRs) of 5 river linking projects including the Par Tapi Narmada project have been finalised and consensus among beneficiary states is awaited.
  - The projects are Damanganga-Pinjal, Par-Tapi-Narmada, Godavari-Krishna, Krishna-Pennar and Pennar-Cauveri.
  - The Ken-Betwa is the first project under the government's National Perspective Plan for river inter-linking



#### Details of the project

- The project proposes to transfer river water from the surplus regions of the Western Ghats to the water deficit regions of Saurashtra and Kutch.
- It proposes to link three rivers:
  - **Par** originating from Nashik in Maharashtra and flowing through Valsad;
  - **Tapi** from Saputara that flows through Maharashtra and Surat in Gujarat, and
  - **Narmada** originating in Madhya Pradesh and flowing through Maharashtra and Bharuch and Narmada districts in Gujarat.
- The link mainly includes the construction of seven dams, three diversion weirs, two tunnels, the **395-kilometre long canal**, six powerhouses and a number of cross-drainage works.



- The seven dams proposed in the scheme are Jheri, Mohankavchali, Paikhed, Chasmandva, Chikkar, Dabdar and Kelwan
- During the monsoon season, the water which is supplied to Saurashtra through the state government from Sardar Sarovar dam will be saved and used for other purposes.

### Russia cut off from SWIFT

The US and European Union recently decided to cut off a number of Russian banks from the main international payment gateway, SWIFT. The intention of the move is to isolate Russia from the international financial system.



#### SWIFT

- SWIFT stands for the **Society for Worldwide Interbank Financial Telecommunication**. It is a secure platform for financial institutions to exchange information about global monetary transactions.
- It was founded in **1973** to end reliance on the telex system, an international system used especially in the past for sending written messages. It was discontinued due to a range of issues such as low speed, security concerns, and a free message format
- While SWIFT does not actually hold or move money, it operates as a middleman to verify information of transactions by providing secure financial messaging services to more than 11,000 banks in over 200 countries.
- Each participant on the platform is assigned a unique eight-digit SWIFT code or a bank identification code (BIC).
- SWIFT delivers an average of 40 million messages a day that includes orders and confirmations for payments, trades and currency exchanges.
- Based in Belgium, it is overseen by the central banks from eleven industrial countries: Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, the United States and Belgium.
- India's financial system has access to the SWIFT

### Is SWIFT bound by sanctions?

- SWIFT, which is incorporated under Belgian law, is bound by Belgian and E.U. rules, which would include economic sanctions.
- Although the network is technically independent, the United States enjoys effective sanction powers, as over 40% of payment flows are in U.S. dollars.
- In the past, US banned countries from SWIFT, including as recently as 2018, when Iranian banks were banned after the U.S. withdrew from the Iran nuclear deal.

### Market Infrastructure Institution (MII)

In a recent order SEBI (Securities and Exchange Board of India) noted that the **National Stock Exchange** is a systemically important Market Infrastructure Institution (MII).

#### MIs

 **Stock exchanges, depositories and clearing houses** are all Market Infrastructure Institutions and constitute a key part of the nation's vital economic infrastructure.

 The primary purpose of securities /capital market is to enable allocation/reallocation of capital/financial resources. It helps optimal use of money in the economy and stimulates economic development.

 According to a panel set up in 2010, under the chairmanship of former Governor Bimal Jalan:

- The term 'infrastructure' would mean the basic, underlying framework or features of a system; and
- The term '**market infrastructure**' denotes such fundamental facilities and systems serving this market.

 Well-functioning MIs, constitute the nucleus of the capital allocation system, are essential for economic growth and have a net positive effect on society like any other infrastructure institution.

**Systemic importance of MIs**

- MIs are systemically important in India, due to the significant growth of these institutions in terms of market capitalisation of listed companies, capital raised and the number of investor accounts with brokers and depositories and the value of assets held in the depositories' account.
- Moreover, unlike typical financial institutions, the number of stock exchanges, depositories and clearing corporations in an economy is limited due to the nature of its business, although they serve the entire marketplace.

**Specific institutions in India that qualify as MIs**

- Among stock exchanges, the SEBI lists seven, including **the BSE, the NSE, the Multi Commodity Exchange of India and the Metropolitan Stock Exchange of India.**
- There are **two depositories** — charged with the safekeeping of securities and enabling their trading and transfer — that are tagged MIs: the **Central Depository Services Ltd. and the National Securities Depository Ltd.**
- The regulator also lists **seven clearing houses** including the **Multi Commodity Exchange Clearing Corporation.** Clearing houses help validate and finalise securities trades and ensure that both buyers and sellers honour their obligations.

**Reserve Bank Innovation Hub (RBIH)**

RBI launched the **Reserve Bank Innovation Hub (RBIH)** in Bengaluru which is intended to encourage & nurture financial innovation *in a sustainable manner through an institutional set-up.*

- RBIH is set up under Companies Act 2013, as a wholly owned subsidiary of RBI with an initial capital contribution of **₹100 crore**. The Hub has an independent board and members from industry & academia.
- This initiative puts RBI in an exclusive group of select global central banks that are enterprising enough to change the mode of engagement while dealing with innovation.

**Details**

- RBIH aims to create an ecosystem that focusses on promoting access to financial services and products for the low-income population in the country.
- This will help to bring world-class innovation to the financial sector in India, coupled with the underlying theme of **financial inclusion**.
- The Hub would bring convergence among stakeholders - Banking, financial services and insurance (BFSI) Sector, Start-up ecosystem, Regulators & Academia - in the financial innovation space.
- It is an investment for the future, as it is expected to build an ecosystem for development of prototypes, patents and proofs of concept and promote cross-thinking, across regulatory domains and national boundaries.
- It has plans to identify and mentor start-ups having maximum potential. It will also collaborate with various government Ministries, Departments and academia to identify problem statements in different domains and explore potential solutions.
- RBI Innovation hub hosted **Swanari TechSprint** to create sustainable solutions for women-owned enterprises. TechSprint is aimed at advancing digital financial inclusion for women in India.

**Shrinkflation**

- Due to high inflation globally, companies are resorting to the practice of 'Shrinkflation'.
- Shrinkflation is a term made up of Shrink and Inflation. It is the practice of reducing the size of the product while maintaining its price. It is also referred to as **package downsizing**.

- The absolute price of the product doesn't go up, but the price **per unit of weight or volume increases**. It is hoped that the small reduction in quantity will go unnoticed by the consumer.
- In some cases, the term may indicate lowering the quality of a product or its ingredients while the price remains the same.

### TEJAS

- TEJAS (Training for Emirates Jobs And Skills), a skill India international **project to train overseas Indians**, was launched recently in Dubai Expo 2020.
- It aims at skill enhancement, certification and overseas employment of Indians.
- It is aimed at enabling Indian workforce to get equipped for **skill and market requirements** in **UAE**. It aims at creating a 10,000 strong Indian workforce in UAE during the initial phase.
- As India has a high population of youth, the project will help this segment of the population to develop skills and get gainful employment.

### Countercyclical Capital Buffer

- Following **Basel-III norms**, central banks specify certain capital adequacy norms for banks in a country. The CCyB is a part of such norms and is calculated as a fixed percentage of a bank's risk-weighted loan book.
- However, one key respect in which the CCyB differs from other forms of capital adequacy is that it works to help a bank counteract the effect of a downturn or distressed economic conditions.
- Firstly, it requires banks to build up a buffer of capital in good times, which may be used to maintain the flow of credit to the real sector in difficult times.
- Secondly, it achieves the *broader macro prudential goal* of restricting the banking sector from indiscriminate lending in periods of excess credit growth that have often been associated with the building up of system-wide risk.
- The CCCB is supposed to be in the **form of equity capital**, and if the minimum buffer requirements are breached, capital distribution constraints such as limits on dividends and share buybacks can be imposed on the bank.

### CCyB in India

- In India the framework on CCyB was put in place in **2015** by RBI as part of its Basel-III requirements.
- However, till now, it hasn't actually required the CCyB to be maintained, keeping the **ratio at zero percent** ever since.

### Revival of Nanar Refinery

#### Nanar Refinery

- The project, Ratnagiri Refinery and Petrochemical Limited at Nanar village in Ratnagiri district in coastal **Konkan region**, was planned by the Centre and the Maharashtra government in 2014.
- It was going to be **Asia's biggest oil refinery**.
- It was supposed to be a **joint venture** between Indian Oil, Bharat Petroleum and Hindustan Petroleum, and Saudi Arabia-owned Aramco and United Arab Emirates' National Oil Company.
- The project was aimed at **bringing development to the backward Konkan region**.
- It was estimated that the project would bring in **investment of Rs 3 lakh crore** and generate **employment for at least one lakh local residents**. It would also create new job generating avenues by setting up ancillary units.



### Fincluvation Launch

India Post Payments Bank (IPPB) recently announced the launch of Fincluvation— a joint initiative to collaborate with **Fintech Startup community** to co-create and innovate solutions for financial inclusion.

- IPPB and Department of Posts (DoP) collectively serve close to **430 million** customers through neighbourhood post office via more than 400,000 Post Office employees and Gramin Dak Sevaks.
- Fincluvation will engage startups to participate, ideate, develop and market, intuitive and tailored products and services for the customers. Startups will be engaged to develop solutions related to:
  - ✓ **Creditization:** Develop innovative & inclusive **credit products** aligned with the use cases of target customers and take them to their doorsteps through Postal network.
  - ✓ **Digitization:** Bring convenience through convergence of traditional services with digital payment technologies such as making the traditional Money Order service as Interoperable Banking service.
  - ✓ **Market-led solutions** that can help solve any other problem relevant to IPPB and/or DoP in serving the target customers.

### Sri Lanka Defaults on Sovereign Debt

The Sri Lankan government recently decided to default on all its foreign debt worth \$51 billion. It took this decision to preserve its declining foreign reserves to pay for the import of essential items.

#### Sovereign debt

- Sovereign debt refers to the **debt issued or accumulated by any government**. Governments borrow money to finance the various expenses that they cannot meet through their **regular tax revenues**.
- They usually need to **pay interest** on such debt along with the **principal amount** over time although **many governments simply choose to borrow fresh debt to repay existing debt**.
- Historically, governments have borrowed more money than they could actually repay in order to fund populist spending.
- Governments can borrow either in their local currency or in foreign currency like the U.S. dollar. However, governments usually find it easier to borrow and repay in their local currency.
- This is because governments with the help of their central banks can easily **create fresh local currency to repay debt denominated in the local currency**. This is known as **debt monetization** and it can lead to **increased money supply which in turn causes prices to rise**.
- Repaying foreign debt which is denominated in a foreign currency, however, can be difficult for governments. This is because governments depend on the inflow of foreign currency to gather the necessary foreign exchange to pay their foreign debt.



### Status of India's Wheat Exports

- Wheat **exports** in 2021-2022 financial year were estimated at 7.85 million tonnes, a **quadrupling from 2.1 million tonnes** in the previous year.
- India expects to produce **112 million tonnes** of wheat in the current crop year.
- The government requires **24-26 million tonnes** a year for its food security programmes.

- India accounted for just 0.5% of wheat exports in 2020, despite it being the world's second-biggest grower of the commodity, placing it second only to China.

#### Reasons For Rise In Wheat Exports From India

- Globally, Russia is the market leader for wheat exports (almost 15% share) and Ukraine is also a major producer.
- However, exports from these two countries have been hit by war and sanctions, which is impacting food security in several countries, especially in **Africa and West Asia**.

#### Challenges Ahead

- The WTO rules make it difficult for a country to export grains from official stocks if these have been procured from producers at a fixed price (minimum support price, in India's case), instead of market rates.
- Exports by **private traders** who buy grains from **farmers at market rates** are not impacted by the WTO norm.
- **Issues of Quality:** Fears remain that the **quality of shipments and logistics** could hold back the Indian economy from achieving its full market potential.

#### MCLR

- State Bank of India (SBI) recently raised the **marginal cost of funds-based lending rates (MCLR)** for the **first time in three years**, signaling that the soft rates regime that has prevailed since 2019 may be over.
- In April 2016, RBI made MCLR as the benchmark rate for lending. It replaced the **base rate** system introduced in **July 2010**.
- MCLR is the lowest rate at which the banks could lend and is an **internal benchmark** (a reference rate determined internally by the bank). It varies from one bank to another.
- MCLR is **based on four components**

Marginal cost of funds

Negative carry on account of cash reserve ratio

Operating costs

Tenor premium

- MCLR is linked to the actual deposit rates. Hence, when deposit rates rise, it indicates the banks are likely to increase MCLR and lending rates will increase.
- RBI decided to shift from base rate to MCLR because the rates based on marginal cost of funds are more **sensitive to changes** in the policy rates.
- MCLR is applicable to fresh corporate loans and floating rate **loans taken before October 2019**.
- RBI then switched to the external benchmark linked lending rate (EBLR) system where lending rate is linked to benchmark rates like **repo or Treasury Bill rates**.
- MCLR-linked loans had the **largest share (53.1%)** of the loan portfolio of banks as of December 2021. The share of EBLR loans in total advances was 39.2% in December 2021.

#### Seaweed Park

- The Ministry of Fisheries, Animal Husbandry and Dairying recently shared that for the **first time** in the country, a seaweed park will be set up in **Tamil Nadu**.
- The Tamil Nadu government has been requested to set aside space for a **Special Economic Zone** for seaweed farming.

### Seaweed

- Seaweed is the common name for **countless species of marine plants and algae** that grow in the **ocean as well as in rivers, lakes, and other water bodies**. They are primitive, non-flowering marine algae **without root, stem and leaves**.
- Some seaweeds are **microscopic**, such as the **phytoplankton** that live suspended in the water column and provide the base for most marine food chains.
- Some are enormous. Large seaweeds form dense **underwater forests** known as **kelp forests**, which act as underwater nurseries for fish, snails and sea urchins
- Most are medium-sized, come in colours of red, green, brown, and black, and randomly wash up on beaches and shorelines.

### Benefits of Seaweeds

- Seaweeds derive nutrition through **photosynthesis** of sunlight and nutrients present in seawater. **They release oxygen** through every part of their bodies.
- Some nutrients found in large waterbodies are toxic to the marine life and can even kill them. Seaweeds, **absorb the excess nutrients and balance out the ecosystem**.
- Similarly, **most heavy metals found in marine ecosystems are trapped and removed** by seaweeds. Seaweeds also **supply organic nutrients**, which they are capable of producing, to other marine life-forms.
- They can also play a significant role in **mitigating climate change**. By afforesting 9% of the ocean with seaweed, it is possible to sequester **53 billion tons of carbon dioxide annually**.
- They can be **used as fertilizers** and to increase fish production. Also, when livestock is fed with seaweed, methane emission from cattle may be reduced substantially.
- They are also used in a variety of **industries such as pharmaceuticals, nutraceuticals, food and cosmetics**.

### Seaweed Farming

- **Seaweed farming** or **kelp farming** is the practice of cultivating and harvesting seaweed. In its simplest form, it consists of the management of naturally found batches. In its most advanced form, it consists of fully controlling the life cycle of the algae.
- In contrast to other forms of aquaculture, seaweed farming has minimum capital and technological requirements. Currently, seaweed production in India is primarily confined to the Gulf of Mannar and Palk Bay in Tamil Nadu.
- The seaweed industry in India is mainly a **cottage industry** and is based only on the natural stock of agar-yielding red seaweeds and algin yielding brown seaweeds.
- Currently most of the seaweed produced in India is used for plant growth factor, which reduces the requirement of fertilisers by nearly 13%.

## SCIENCE AND TECHNOLOGY

### Dark Genome

Recently, scientists examining the dark genome have identified evolved parts for proteins associated with schizophrenia and bipolar disorder.

- Dark genome refers to 'DNA outside of the regions conventionally defined as genes'
- The human genome contains "dark" gene regions that cannot be adequately assembled or aligned using standard short-read sequencing technologies
- It preventing researchers from identifying mutations within these gene regions that may be relevant to human disease.
- The researchers say that the newly discovered proteins can be used as biological indicator to distinguish the two conditions and identify patients more prone to psychosis.

### Asteroid 1994 PC1

- Recently, the asteroid named 1994 PC1 passed by earth on January 18, 2022.
- This asteroid did not cause any harm, it safely flies past our planet at a distance of 1.2 million miles or 1.9 million kilometres.
- This is about five times the distance between the Earth and Moon.
- Near-Earth objects that come at a distance of below 0.05 astronomical units or 7.5 million km from Earth are termed as potentially hazardous asteroids.
- Asteroid was discovered by astronomer Robert McNaught in 1994.

***{For more about Asteroid, refer Quick Revision Part 1, Page 236}***

### WASP-103b

Researchers have discovered a planet, named WASP-103b, which they say is shaped more like a potato or a rugby ball.

#### About WASP-103b

- It is an exoplanet which is 1,500 light-years away from Earth.
- Its orbit around host star WASP-103 completes an entire revolution in just 22 hours.
- The planet too is large, about one-and-a-half times the size of Jupiter.
- The researchers used ESA's CHEOPS satellite and relied on data from NASA's Hubble and Spitzer space telescopes to reach the conclusion about WASP-103b's rugby ball shape.
- WASP-103b is only 20,000 miles away from its home star and this could cause tidal stresses to pull it into an unlikely shape.
- By measuring how much the planet is deformed we can tell how much of it is rocky, gaseous, or water.

### Space Debris

A Chinese satellite named 'Tsinghua Science Satellite' collided with a piece of debris scattered as a result of Russian anti-satellite missile test.

**About Space Debris**

- Also known as space junk, space garbage, it is mainly inactive artificial objects in space that no longer perform a useful function.
- Debris can also be caused by an explosion in space or when countries conduct missile tests to destroy their own satellites by missiles.
- Space debris orbits around the earth at tremendous speeds of about 15,700 miles per hour (25,265 kph) in low Earth.
- There are half a million pieces of debris larger than 1 centimetre and 100 million pieces of debris about one millimetre or larger.

**Can Space Debris Be Removed?**

- According to NASA, debris in orbits below 600 kilometres will fall back to Earth within several years, but above 1,000 kilometres it will continue circling the Earth for a century or more.
- Japan's Aerospace Exploration Agency (JAXA) and the European Space Agency have partnered with start-ups to help with removal of space debris.

**India's Step To Tackle Space Debris**

- ISRO initiated '**Project NETRA**' in Bengaluru.
- It is an early warning system in space to detect debris and other hazards to Indian satellites.
- It will give India its own capability in space situational awareness (SSA), which is used to 'predict' threats from debris to Indian satellites.
- It also goes so far as to serve as an unstated warning against missile or space attack for the country.

**Kessler Syndrome:** It is a possible effect that if one satellite produces debris that hit another satellite, this will create a chain reaction that will obliterate every orbiting object in the Low Earth Orbit, and thus creating a thick cloud of white dots travelling at high speed. Rockets would no longer be able to reach space since they risk getting hit by these debris.

**Doomed Exoplanets**

- Recently, NASA's TESS (Transiting Exoplanet Survey Satellite) Mission spotted these exoplanets, named TOI-2337b, TOI-4329b and TOI-2669b that have short-period orbits around giant stars.
- The international team of researchers said that TOI-2337b will be consumed by its host star in less than one million years. This is sooner than the time estimated for any other currently known planet.
- These observations offer new windows into planets nearing the end of their lives before their host stars swallow them up and also how planetary systems evolve.

**Small Satellite Launch Vehicle**

ISRO announced that the indigenous SSLV-D1 Micro SAT be launched in April 2022. Government has sanctioned a total cost of Rs. 169 Crores for the development project including qualification of the vehicle systems and the flight demonstration through three development flights (SSLV-D1, SSLV-D2 & SSLV-D3).

**About SSLV**

- SSLV is a **three-stage all solid vehicle** and it is the smallest vehicle at 110-ton mass at ISRO.
- It can carry satellites weighing up to **500 kg to a low earth orbit and 300 kg to Sun Synchronous Orbit (SSO)**.
- It will take only 72 hours to integrate, unlike the 70 days taken now for a launch vehicle.
- It is intended to cater to a market for the launch of small satellites into low earth orbits.

- Dr S Somanath (Chairman ISRO) is credited with designing and developing the SSLV during his tenure as director of the Vikram Sarabhai Space Centre in Thiruvananthapuram since 2018.
- SSLV are Low cost, with low turn-around time, flexibility in accommodating multiple satellites and multiple orbital drop-offs, Launch on demand feasibility, minimal launch infrastructure requirements, etc.

### Ultra-long-period Magnetar

- Scientists have detected an incredibly dense star and suspect it might be a type of exotic astrophysical object whose existence has been only hypothesised until now.
- It was spotted using Murchison Widefield Array telescope in outback Western Australia.
- It may be the first known example of what is called an ultra-long period magnetar.
  - ✓ A magnetar with a very long pulsation period is known as an ultra-long period magnetar.
  - ✓ For roughly 30 to 60 seconds, every 18.18 minutes, it pulses brightly, one of the most luminous objects in the low-frequency radio sky.
- It is located at about 4,000 light-years away.
- Objects turning on and off in the Universe aren't new to astronomers. Astronomers call such objects as "transients".

### Magnetar

- A magnetar is a type of **neutron star** believed to have an extremely **powerful magnetic field**.
- The magnetic-field decay, powers the emission of high-energy electromagnetic radiation (particularly X-rays and gamma rays).

### Neutron Stars

- Once the core of the star has completely burned to iron, energy production stops and the **core rapidly collapses**, squeezing electrons and protons together to form neutrons and neutrinos.
- It is the collapsed core of massive supergiant star with total mass of 10 to 25 solar masses. These stars are the smallest and densest known class of stellar objects.

### Second Earth Trojan Asteroid - 2020 XL5

- Astronomers have confirmed the existence of a second Earth Trojan. It was detected in 2020 and is named **2020 XL5**. First known Earth Trojan asteroid was **2010 TK7**, just about 0.3 km wide, and discovered in 2010.
- Trojan asteroids are those asteroids that **share a common orbit with a planet** in solar system. They can do so because they tend to be present at one of the stable Lagrange Points in the Earth-Sun system.
- The asteroid was discovered by **Pan-STARRS S1 telescope survey (Hawaii)** and is estimated to be about 1.18 km wide.
- It is a near-earth asteroid (NEO) that is expected to stay in orbit for the next 4,000 years before deviating away.
- Both earth trojans have been discovered in the L4 point. It is the 4<sup>th</sup> Earth – sun Lagrange point.

A Lagrange point is a location in space where the combined gravitational forces of two large bodies, such as **Earth and sun** or **Earth and moon**, equal the centrifugal force felt by a much smaller third body. The interaction of the forces creates a point of equilibrium where a spacecraft may be "parked" to make observations

*{For more on asteroids refer Quick Revision Part 1, Page 237}*

### Chandrayaan-3

India is planning to execute the Chandrayaan-3 mission in August 2022.

#### About Chandrayaan-3

- It is the third Moon mission of ISRO to explore the **unchartered south pole** of the celestial body.
- It will be a mission repeat of Chandrayaan-2 but will only **include a lander and rover** similar to that of Chandrayaan-2.
- It will communicate to earth via an orbiter from Chandrayaan 2. It will not have its own orbiter.
- The subsequent failure of the **Vikram lander** of **Chandrayaan-2** led to the pursuit of another mission to demonstrate the **landing capabilities** needed for the **Lunar Polar Exploration Mission** proposed in partnership with Japan for 2024

*{For more about Chandrayaan-2, refer Quick Revision Part 1, Page 241}*

### India Inks Interim Agreement With SKAO

India inked an interim agreement to confirm its commitment to work on the mega science project **Square Kilometre Array Observatory (SKAO)**.

#### About This Agreement

- It will be valid for one year.
- India was represented by TIFR – National Centre for Radio Astrophysics (NCRA).
- It will facilitate India to make its first monetary contribution towards construction phase of SKA.

#### About Square Kilometre Array Observatory (SKAO)

- Started in 1990s, and headquartered in **UK**, SKA is an **intergovernmental radio telescope project**.
- At the moment, organisations from ten countries are a part of the SKAO. These include Australia, Canada, China, India, Italy, New Zealand, South Africa, Sweden, Netherlands and UK.
- Proposed to be the **largest radio telescope in the world**, it will be located in **Africa and Australia**.
- The telescope will operate across a **wide range of frequencies**. Its size will make it **50 times more sensitive** as compared to any other radio instrument. It will require very high-performance central computing engines as well as long-haul links.
- If it is built as planned, it would be able to *survey the sky*(*dark energy, galaxies, gravitational waves etc*) about ten thousand times faster than before.
- India is a participating country in the setting up of world's largest radio telescope. However, it is yet to receive central government's approval to become a Member Country.
- It would explore the possibility of detecting technologically-active civilizations elsewhere in our galaxy and understanding where gravitational waves come from.

### ATLAS

The **Asteroid Terrestrial-impact Last Alert System (ATLAS)** has become first survey capable of searching entire dark sky for **near-Earth objects**, every 24 hours.

#### About ATLAS

- It is essential for tracking of asteroids and debris that could be on a collision course with Earth.
- It now comprises of **four telescopes**.
- It began as an array of just two telescopes in Hawaii (became fully operational in 2017), but has now expanded to include two more telescopes in the Southern Hemisphere giving it a full view of the sky.

- It is operated from the Institute of Astronomy at the University of Hawaii.
- So far, ATLAS system has discovered more than 700 **Near-Earth Asteroids** (NEA) & 66 comets.
- The University of Hawai'i ATLAS is funded through a grant from the Near-Earth Object Observations Program administered by NASA's Planetary Defense Coordination Office (PDCO).

### New Record In Creating Energy From Nuclear Fusion

Scientists in United Kingdom have achieved a new milestone in producing nuclear fusion energy.

#### About new record

- A team at the **Joint European Torus (JET) facility** near Oxford generated 59 mega-joules of sustained energy during an experiment in December, more than doubling a 1997 record.
- The energy was produced in a machine called a **tokamak**, a doughnut-shaped apparatus.
- A tokamak is a machine that confines a **plasma using magnetic fields** in a donut shape that scientists call a **torus**.
- Deuterium and tritium, which are isotopes of hydrogen, were heated to temperatures 10 times hotter than the centre of the sun to create plasma

*{For more on fusion refer Quick Revision Part 1, Page 278}*

### Geomagnetic Storm

Starlink's 40 satellites were hit by geomagnetic storm that originated from the Sun. Starlink is a SpaceX project to build a **broadband network** with a cluster of orbiting spacecraft.

#### About Geomagnetic Storm

- **Solar storms** are **magnetic plasma** ejected at great speed from the solar surface. They occur during the release of magnetic energy associated with **sunspots ('dark' regions on the Sun that are cooler than surrounding photosphere)** and can last for few minutes or hours.
- A **geomagnetic storm** is a major disturbance of **Earth's magnetosphere** that occurs when there is a very efficient exchange of energy from the solar wind into the space environment surrounding Earth. These storms result from **variations in the solar wind** that produces major changes in the currents, plasmas and fields in Earth's magnetosphere.

#### Effect on Earth

- Not all solar flares reach Earth, but solar flares/storms, Solar Energetic Particles (SEPs), high-speed solar winds, and Coronal Mass Ejections (CMEs) that come close can impact space weather in near-Earth space and the upper atmosphere
- Solar storms can hit operations of space-dependent services like global positioning systems (GPS), radio & satellite communications, aircraft flights and power grids.
- Geomagnetic storms interfere with high-frequency radio communications and GPS navigation systems.
- Coronal Mass Ejections (CMEs), with ejectiles loaded with matter travelling at millions of miles an hour, can potentially create disturbances in the magnetosphere, the protective shield surrounding the Earth.
- Astronauts on spacewalks face health risks from possible exposure to solar radiation outside the Earth's protective atmosphere.

### ISRO Decommissioned INSAT-4B

- ISRO has successfully decommissioned its communication satellite Insat-4B after over 14 years of service.

- INSAT-4B has undergone **post mission disposal (PMD)** at the end of its life followed by decommissioning to comply with the UN and **INTER Agency Space Debris Coordination Committee (IADC)** recommended space debris mitigation guidelines.
- As per IADC space debris mitigation guidelines, at its end-of-life, a geosynchronous equatorial orbit (**GEO**) **object** should be raised to a **nearly circular orbit** well above the GEO belt to prevent its orbit from coming back into the GEO protected region within **100 years of re-orbiting**.

**About INSAT-4B**

- Insat-4B was part of the Indian National Satellite System (INSS) series of multipurpose geostationary satellites launched by ISRO.
- The 3,025 kg Insat-4B was launched in 2007 by Arianespace's Ariane 5 rocket.
- The satellite's mission life was 12 years.
- It was launched to fulfil India's telecommunication, broadcasting, meteorology requirements as well as for search & rescue operation.

**Tool to Find Habitable Planets**

Astronomers from Indian Institute of Astrophysics (IIA) have developed a new approach by which they can identify potentially habitable planets with a high probability.

**About New Method**

- The **AI-based method**, named **Multi-Stage Memetic Binary Tree Anomaly Identifier (MSMBTAI)**, is based on a novel multi-stage memetic algorithm (MSMA).
- MSMA uses the generic notion of a **meme**, which is an idea or knowledge that gets transferred from one person to another by imitation.
- The algorithm can act as a quick screening tool for evaluating habitability perspectives from observed properties.
- The method is based on the postulate that **Earth is an anomaly**. Earth being the only habitable planet among various planets is known as an anomaly.
- The study identified a few planets which exhibit similar anomalous characteristics as Earth via the proposed technique, which shows reasonably good results.
- According to the study, there are **60 potentially habitable planets** out of about 5,000 confirmed.

**MUSE & HelioSwarm**

NASA has selected two science missions namely **Multi-slit Solar Explorer (MUSE)** and **HelioSwarm** to help improve our understanding of the dynamics of Sun, the Sun-Earth connection, and the constantly changing space environment.

<b>MUSE Mission</b>	<ul style="list-style-type: none"> <li>The primary goal of the MUSE mission is to investigate the causes of <b>coronal heating and instability, such as flares and coronal mass ejections</b>.</li> <li>It will help the scientists in understanding the <u>driving forces of Sun's corona heating &amp; eruptions</u> in that outermost region that are at the foundation of space weather</li> <li>It will obtain high-resolution images of the evolution of solar flare ribbons in a field of view focused on a large, active region on the Sun.</li> </ul>
<b>HelioSwarm Mission</b>	<ul style="list-style-type: none"> <li>It is a constellation or "swarm" of <b>nine spacecraft</b></li> <li>It will capture the <b>first multiscale in-space measurements</b> of <u>fluctuations in the magnetic field and motions of the solar wind</u> known as solar wind turbulence.</li> <li>The technical innovation of HelioSwarm's small satellites operating together as a constellation provides the unique ability to investigate turbulence and its evolution in the solar wind.</li> </ul>

**EOS-04 Mission**

- ISRO successfully placed its earth observation satellite EOS-4 and two small satellites (INSPIRESat-1 and INS-2TD) into the intended orbit by the PSLV-C52 rocket.

- This launch was the 54th flight of PSLV rocket, and the 23rd of its most powerful XL-version that has six strap-on boosters.

**About EOS-04**

- It is a radar imaging satellite capable of providing high-quality images under **all weather conditions**. It will be placed in a **sun synchronous polar orbit**.
- It can be used to capture images for agriculture, forestry, flood mapping, soil moisture and hydrology. The satellite has a mission life of **10 years**.
- It will complement the data from Resourcesat, Cartosat and RISAT-2B series of satellites that are already in orbit.
- In fact, it would replace the **RISAT-1** (launched in 2012) which has been non-functional for the last few years. RISATs use **synthetic aperture radars** to produce high-resolution images. One big advantage that **radar imaging has over optical instruments** is that it is unaffected by weather, cloud, fog, or the lack of sunlight.
- The first of these newly named satellites, **EOS-01, launched in November 2020**, is in orbit right now. **EOS-02, a micro-satellite** to be flown on a new launch vehicle called **SSLV** (Small Satellite Launch Vehicle) is yet to be launched, while launch of EOS-03 had ended in a failure in August, 2021.

<b>INSPIRESat-1</b>	<ul style="list-style-type: none"> <li>• It is part of a <b>constellation of satellites</b> planned under the <b>International Space Program in Research and Education (INSPIRE)</b> involving the Small-spacecraft Systems and Payload Centre (SSPACE) at IIST, University of Colorado (US), Nanyang Technological University (NTU), Singapore, and National Central University (NCU), Taiwan.</li> <li>• Two scientific payloads on INSPIRESat-1, with a mass of 8.1 kg and mission life of <b>one year</b>, are aimed at improving the understanding of <b>ionosphere</b> (part of Earth’s upper atmosphere) dynamics and the <b>sun's coronal heating</b> processes</li> </ul>
<b>INS-2TD</b>	<ul style="list-style-type: none"> <li>• It is a <b>Technology Demonstrator (TD)</b> for the first <b>India-Bhutan joint satellite</b> that is scheduled to be launched in March, 2022.</li> <li>• The two countries had signed a space agreement last year, and its first outcome would be the launch of BhutanSat, or INS-2B, on a PSLV rocket</li> <li>• The thermal imaging cameras of the INS-2TD are meant for earth observation purposes, like assessment of land and water surface temperature, and identification of forest and tree cover.</li> </ul>

**How many satellites does India have in space?**

**53 operational satellites:** Of which **21 are earth observation** & another **21 are communication-based**. Eight are navigation satellites, while the remaining three are science satellites.

**Indian Neutrino Observatory (INO)**

Tamil Nadu government refused permission for the construction of Indian Neutrino Observatory (INO) at Bodi West Hills (near Kerala-Tamilnadu border) in Theni district. Government said that, it will affect the flora and fauna of the Periyar Tiger Reserve and Mathikettan Shola National Park in the Western Ghats.

**About INO Project**

- It is an effort aimed at building a world-class underground laboratory to study fundamental issues in science.
- It is jointly funded by the Department of Atomic Energy (DAE) and the Department of Science and Technology (DST).
- The primary goal of the laboratory is the **study of neutrinos** from various natural and laboratory sources using an **iron calorimeter (ICAL) detector**.

**About Neutrinos**

- Neutrinos are the **2nd** most abundant particles in the world, after photons.

- It is a subatomic particle that is very similar to an electron, but has **no electrical charge** and a very small mass, which might even be zero. It interacts very weakly with other matter particles
- It is created by various radioactive decays, during a supernova, by cosmic rays striking atoms etc.

### First Quadruple Asteroid

Researchers have made the first sighting of a quadruple asteroid system, an asteroid Elektra with **three moons** orbiting around it.

#### About Elektra

- Elektra is located in the solar system's main asteroid belt between Mars and Jupiter.
- It was first discovered by Litchfield Observatory astronomer Christian Peters in 1873.
- Elektra has an effective diameter of 199 km.
- 1st moon of Elektra was discovered in 2003 by using Keck II telescope at Mauna Kea Observatory. Designated as S/2003 (130) 1 or S1.
- 2nd moon was discovered in 2014, using SPHERE facility on ESO's Very Large Telescope. Designated as S/2014 (130) 1 or S2.

#### Third Moon of Elektra

- Astronomers have now discovered the third moon and designated as S/2014 (130) 2 or S3.
- It is smaller than the other two moons with a diameter of just 1.6 kilometres.
- It has an orbital period of 0.679 days.

### Active Galactic Nuclei

Scientists represent of *new observations* about active galactic nuclei (AGN). It was done by using European Southern Observatory's (ESO) Very Large Telescope in Chile's Atacama Desert.

- This model holds that all AGN are basically the same but some appear from the vantage point of Earth to have different properties.
- Some look **intensely bright** because the position of their **ring-like cloud** does not obscure the gas plummeting into the black hole from our viewing angle.
- Others look dark because the cloud blocks our view of what is truly happening.
- **Messier 77's** AGN is one of the dark ones, but the new observations indicate that it actually possesses the same qualities as the bright ones.

#### About Active Galactic Nuclei

- These are active supermassive black holes that emit bright jets and winds, and shape their galaxies. Much of the energy output of AGNs is of a non-thermal (non-stellar) type of emission
- Many AGN emits strong X-rays, radio and ultraviolet radiation, as well as optical radiation.
- AGN can vary in luminosity on short (hours or days) timescales.
- Quasars are the most luminous AGN.

*{For more on AGN refer Quick Revision Part 1, Page 235}*

### Fast Radio Bursts

The Astronomers of National Center of Radio Astrophysics and the University of California have used the **Giant Meter wave Radio Telescope (GMRT)** to map the distribution of **atomic hydrogen gas** from the host galaxy of a Fast Radio Burst (FRB) for the first time.

#### Key Findings Of The Study

- The study indicates that the **FRB host galaxy** has undergone a recent **merger** and that FRB progenitor is most likely a massive star formed due to the merger event.

- This is the first case of direct evidence for a recent merger in an FRB host, a major step towards understanding the progenitors of FRBs
- The first surprise during this observation was the amount of atomic hydrogen in the FRB galaxy, which was around **10 times more** than that found in similar nearby galaxies.

**Fast Radio Bursts**

- These are intense bursts of radio emission that have durations of milliseconds, because of which it is difficult to detect them and determine their position in the sky.
- These extraordinary events generate as much energy in a thousandth of a second as the Sun does in a year.
- Locating where these blasts are coming from, and in particular, what galaxies they originate from, is important in determining what kinds of astronomical events trigger such intense flashes of energy.

**About GMRT**

- GMRT is an array of thirty fully steerable parabolic radio telescopes of 45-meter diameter.
- It is operated by the National Center for Radio Astrophysics of the Tata Institute of Fundamental Research (NCRA-TIFR).
- GMRT is an indigenous project. Its design is based on the 'SMART' concept - Stretch Mesh Attached to Rope Trusses

**Alcyoneus Galaxy**

Astronomers found the largest galaxy named Alcyoneus Galaxy, not in visible light, but via radio astronomy.

- It is located around 3 billion light-years away in the Lynx constellation.
- This galaxy was discovered using the Wide-field Infrared Survey Explorer (**WISE**) telescope and the Low-Frequency Array (**LOFAR**) radio telescope network.
- Currently, it is the **largest galaxy discovered**, with a width of around 16 million light-years.
- Black hole which is present in the center of this galaxy is around 400 million times the sun's mass.
- Due to its large size some scientist says that, it might provide insights about the cosmic web.

**Kilonova**

- Astronomers may have spotted the afterglow from an epic kilonova explosion.
- This kilonova scattering event has seen with the Chandra X-ray Observer.
- Kilonovas occur when **two hyper-dense neutron stars collide**, which are the remnants of stars that died in supernova explosions.
- They produce a luminous flash of radioactive light that produces large quantities of important elements like silver, gold, platinum and uranium.
- A kilonova is 1,000 times brighter than a classical nova.

**Europa Clipper**

NASA Begins Assembly of **Europa Clipper Spacecraft**.

- Formerly known as the Europa multiple flyby mission, it is an interplanetary mission being developed by NASA. The spacecraft is scheduled to launch in October 2024.
- It is being designed to study the **moon Europa** through a series of flybys while orbiting Jupiter.
- Europa is an icy moon of the planet Jupiter. It has long been a high priority for its exploration because it holds a salty liquid water ocean beneath its icy crust.
- The ultimate aim of this mission is to determine if Europa is habitable, possessing all three of the ingredients necessary for life: liquid water, chemical.

### Noor 2 Satellite

Iran's Islamic Revolutionary Guard Corps (IRGC) successfully launched a military satellite, **Noor-2**, into orbit at an altitude of 500 km above Earth.

- This is the Islamic Republic's **second** military satellite launch.
- In April 2020, the first Noor military satellite was launched.
- Placing a second satellite in space would be a major advance for Iran's military.
- The satellite weighs 45 kg or less than 100 pounds.
- The three-stage Qased, or "Messenger", carrier launched the Noor 2, from Shahroud space port.
- Further details about the Noor-2 satellite were not released by the country's officials.

### Newest Crater on the Moon

- A leftover piece of a spacecraft flying through space, hit the surface of the moon, creating a new crater that may be around 65 feet wide.
- The piece of space was from the third-stage booster of **Chang'e 5-T1**, a lunar mission launched by the China in 2014.
- This is the first recorded unintentional case of space junk hitting the Moon.
- The speed, trajectory, and time of impact were calculated using earth-based telescope observations called Project Pluto (blog that tracks near-earth objects).

### About Lunar Craters

- Lunar craters are impact craters on Earth's Moon.
- The Moon's surface has many craters, all of which were formed by impacts.
- International Astronomical Union currently recognizes 9,137 craters, of which 1,675 have been dated.
- The largest crater on the Moon is called **South Pole-Aitken Basin**.
- Craters on the moon are of a more permanent nature than those on earth. Moon's **lack of water, atmosphere, and tectonic plates**, there is little erosion, and craters are found that exceed two billion years in age.

### SARAS 3 Radio Telescope

SARAS 3 radio telescope refutes recent claim of the discovery of a radio wave signal from cosmic dawn.

#### Background Of The Discovery

- In 2018 a team of researchers from Arizona State University (ASU) and MIT in the US detected a signal from stars emerging in the early universe using data from the **EDGES radio telescope**.
- The study published in the journal Nature created much excitement in the astronomy community around the world.
- Researchers had claimed the discovery of a radio wave signalling the birth of the First Stars.
- However, the world awaited confirmation from independent researchers.

#### Current Findings

- After a rigorous statistical analysis, a researcher at Raman Research Institute (RRI) said that SARAS 3 did not find any evidence of the signal claimed by the EDGES experiment.
- However, astronomers still do not know what the actual signal looks like.
- Having rejected the ASU/MIT claim, the SARAS experiment is geared towards discovering the true nature of Cosmic Dawn.

- Cosmic Dawn is the time in the infancy of our Universe when the first stars and galaxies came into existence.

### About SARAS 3

- Shaped Antenna Measurement of the Background Radio Spectrum (SARAS) 3 radio telescope was invented and built by the astronomers at RRI.
- In the year 2020 the radio telescope was deployed in **lakes in Northern Karnataka, on Dandiganahalli Lake and Sharavati backwaters.**
- It is a courageous attempt to design, build and deploy in India a precision radio telescope to detect extremely faint radio wave signals from the depths of time, from our Cosmic Dawn. It's a niche high-risk high-gain experimental effort.

### Distribution Of Argon-40 In Lunar Exosphere

Chandrayaan-2 makes first observation of global distribution of Argon-40 in lunar exosphere.

#### Major Findings

- The Chandra's Atmospheric Composition Explorer-2 (CHACE-2), a quadrupole mass spectrometer on Chandrayaan-2 mission made the observations.
- The gas found in the **lunar exosphere** is believed to have escaped from the lunar surface.
- The observation of CHACE-2 suggests that Argon-40 (Ar-40) has significant **spatial heterogeneity** in distribution.
- There are localised enhancements (termed as **Argon bulge**) over several regions including the **KREEP** [potassium (K), Rare-Earth Elements, and Phosphorus (P)] on **South Pole Aitken** terrain (impact crater on the far side of the Moon).
- Ar-40 is such an important tracer atom to study the dynamics of the lunar exospheric species.
- Ar-40 originates from the radioactive decay of Potassium-40 (K-40) present below the lunar surface.
- Once formed, it diffuses through the inter-granular space in the lunar surface dust and makes its way up to the lunar exosphere through seepage and faults.

#### Significance of the Discovery

- These observations provide insight on dynamics of the lunar exospheric species, as well as on the radiogenic activities in the first few tens of metres below the lunar surface.
- The CHACE-2 observations provide the diurnal and spatial variation of Ar-40 covering the **equatorial and mid latitude regions** of the Moon.
  - The uniqueness of this result lies in the fact that although Apollo-17(1972) and Lunar Atmosphere and Dust Environment Explorer (LADEE Mission 2014) have detected the presence of Ar-40 in the lunar exosphere, the measurements were confined to the near-equatorial region of the Moon.

### ExoMars 2022 Mission

European Space Agency's ExoMars 2022 mission has been delayed after the agency suspended all cooperation with Russia's space program Roscosmos.

#### About ExoMars

- It is a joint endeavour between European Space Agency and the Russian space agency, Roscosmos.
- The programme comprises **two missions**. The 1<sup>st</sup> mission, **Trace Gas Orbiter** was launched in 2016 to study the likelihood of present Martian life from orbit. The 2<sup>nd</sup> mission, a **rover** will hunt for signs of past life on Mars' surface.

- The primary objective of the mission is to investigate whether there has ever been life on Mars and also to understand the history of water on the planet.
- ESA and NASA were the original ExoMars collaborators, but NASA dropped out in 2012 due to budgeting problems. Russia took NASA's place in the project in 2013

### GOES-T satellite

- **NASA** launches next-generation **Geostationary Operational Environmental Satellite (GOES)**. The satellite is named as GOES-T.
- Once positioned in its geostationary orbit it will be renamed from **GOES-T to GOES-18**.
- It will be used by the **National Oceanic and Atmospheric Administration (NOAA)** to forecast weather and hazardous environmental conditions in the **Western Hemisphere**.

### Jupiter Like Protoplanet

The Hubble Space Telescope has photographed a **Jupiter-like proto-planet** forming through a process that researchers have described as intense and violent.

#### Hubble Space Telescope

- The telescope has been built by NASA in 1990, along with contributions from the European Space Agency (ESA). It looks deep into space with cameras that can see the entire optical spectrum from infrared to ultraviolet.
- It is one of the largest space telescopes which can perform versatile missions. However, with the on-going construction of the **Thirty Meter Telescope**, HST will no longer with the largest light-vision telescope in the world

#### About Newly Forming Planet

- The newly formed planet captured by Hubble is called **AB Aurigae b**.
- It is embedded in a protoplanetary disk consisting of distinct spiral structures that revolve around a young star about 2 million years old.
  - It is also about the same age as our solar system when planet formation was going on.
- It is 531 light years away from our Sun.
- It is probably about **nine times** the size of Jupiter and orbits its host star at a distance of 8.6 billion miles.

#### About Protoplanets

- These are small celestial objects that are the size of a moon or a bit bigger. They are small planets, like an even smaller version of a dwarf planet.
- These are a hypothetical eddy in a circling cloud of gas or dust that becomes a planet by condensation during the formation of the Solar System.
- Once they reach a certain size – around a kilometre – these objects are large enough to attract particles and other small objects with their gravity. They continue to get larger until they form protoplanets.

### Gaofen-3 03 satellite

- It is launched by the China to a **Sun-Synchronous Orbit** on board a Long March-4C rocket.
- It was developed and constructed by the China Academy of Space Technology (CAST).
- With the Gaofen satellites, China developed its own high-resolution Earth-imaging satellite constellation.
- This newly launched satellite will be networked with the already orbiting Gaofen-3 and Gaofen-3 02 satellites.

- The satellite is equipped with Synthetic Aperture Radar (SAR), Control Moment Gyros (CMGs), and a data transmission system.
- The satellite will be able to monitor with an image resolution of one meter.

### Solid Fuel Ducted Ramjet (SFDR) Technology

The DRDO successfully conducted a flight trial of the **SFDR booster.**

#### About SFDR

- It is jointly developed by India and Russia.
- It is a **missile propulsion system** consisting of a **thrust modulated** ducted rocket with a low smoke nozzle-less missile booster.
- Thrust modulation in the system is achieved by using a hot gas flow controller.
- SFDR-based propulsion enables the missile to intercept aerial threats at very long ranges at supersonic speeds.
- This type of propulsion system significantly increases the range with a higher average speed.
- Missiles using such a system are also capable of carrying large payloads due to the **absence of oxidizer.**
- Unlike solid-propellant rocket, the Ramjet takes up oxygen from the atmosphere during flight.
  - At present lot of conventional missiles uses booster or sustainer configuration with solid or liquid propellants, which have **limitations against manoeuvring target.**
  - This is because terminal stage of conventional missiles cannot provide enough energy to maintain their speed in order to hit targets. SFDR technology removes this drawback by exceptionally enhancing endgame manoeuvrability of missile at terminal stage when its seeker is locked onto target.

### Axiom Mission 1

- Axiom Mission 1 (Ax-1) is the first all **private astronaut** mission to the International Space Station (ISS). The mission was organized by Houston company Axiom Space.
- The company was founded in 2016 with the goal of creating the world's first commercial space station.
- It represents the culmination of NASA's efforts to foster a commercial market in low-Earth orbit.
- Also represent the beginning of a new era of space exploration that would enable more people to fly on more types of missions.

### Bernardinelli-Bernstein Comet

NASA Hubble Space Telescope has confirmed that the huge Bernardinelli-Bernstein comet is indeed the **largest icy comet nucleus** ever seen by astronomers.

#### About Bernardinelli-Berstein Comet

- With a nucleus diameter of at least 120 km, it is the **largest Oort cloud** comet known.
  - The nucleus is called the C/2014 UN271
  - It is believed to have originated in the Oort Cloud.
- It was discovered in November 2010 and has been falling toward the sun for over 1 million years.
- It follows a 3-million-year-long elliptical orbit and has an estimated temperature of minus 348 degrees Fahrenheit.
- It is warm enough to sublimate carbon monoxide (CO) from the surface to produce the dusty coma

#### About Oort Cloud

- It is a distant region of the solar system that is predicted to be the source of most comets.

- It is a **theoretical spherical cloud** of predominantly icy planetesimals that is believed to surround the sun at a distance of up to around 2 light year.
- The outer limit of the Oort cloud defines the cosmographic boundary of the Solar System and the extent of the Sun's Hill sphere.

### Perseverance Rover

- It is a Mars rover designed to explore the crater **Jezero** on Mars as part of NASA's Mars 2020 mission. It landed on Mars in February 2021
- It addresses high-priority science goals for Mars exploration, including key questions about the potential for life on Mars.
- Perseverance is the most advanced, most expensive and most sophisticated **mobile laboratory** sent to Mars. It is different from previous missions because it is capable of **drilling and collecting core samples**, and setting them aside in a "**cache**" on the surface of Mars.
- Power Source: A Multi-Mission Radioisotope Thermoelectric Generator (MMRTG) which converts **heat** from radioactive decay of **Plutonium Dioxide** into electricity.
- The rover carried **Ingenuity**, the first ever helicopter to fly on Mars.

### Blue Straggler Stars

Indian Institute of Astrophysics, Bengaluru conducted a study on the aberrant behaviour of Blue Straggler Stars. The researchers made use of the observations by the **UVIT instrument** (Ultraviolet Imaging Telescope) of **Astrosat**, *India's first science observatory in space*.

#### About Blue Straggler Stars

- It is a class of stars on **open or globular clusters** that stand out as they are **bigger and bluer** than the rest of the stars.
- These stars tend to be strongly **concentrated toward the centre** of the cluster.
- These stars are seen in clusters and sometimes alone.

#### Formation of Blue Straggler

- Half of the blue stragglers are formed through mass transfer from a close binary companion star, 1/3<sup>rd</sup> are likely formed through collisions of 2 stars, and the remaining through interactions of more than 2 stars.
- A bunch of stars born at the same time from the same cloud form a **star cluster**.
- As time passes, each **star evolves differently** depending on its mass.
- The most massive and bright stars evolve and move off the main sequence creating a bend in their track, known as the **turnoff**.
- Stars **above this bend** or brighter and hotter stars are not expected in a cluster, as they leave the main sequence to become **red giants**.
- But in 1953, Allan Sandage found that some stars seem to be hotter than the turnoff of the parent cluster.
- Initially, these blue stars still straggling above the turnoff were not part of these clusters. However, later studies confirmed that these stars are indeed cluster members, and they were termed Blue Stragglers.

### Angel Wing

NASA's **Hubble Space Telescope** has recorded an image of two merging galaxies that appear to be shaped like wings and have been nicknamed **Angel Wing**.

**Galaxy Mergers Effects**

- Galaxy mergers can occur when two (or more) galaxies collide. They are the most violent type of galaxy interaction. The gravitational interactions between galaxies and the friction between the gas and dust have major effects on the galaxies involved. The exact effects of such mergers depend on a wide variety of parameters such as **collision angles, speeds, and relative size/composition**, and are currently an extremely active area of research.
- The orbits get tighter and narrower until they merge into a larger galaxy.
- The Milky Way has undergone a series of mergers, some of which give it its current shape.
- This type of galactic events makes a significant contribution to evolution and upbringing Galaxies and stars.
- In addition, they can also affect the extent of supermassive black holes.

**GAGAN**

- IndiGo becomes first airline to use indigenous navigation system GAGAN.
- India's Aviation Sector Regulator issued a mandate for all aircraft registered in India after July 1, 2021, to be fitted with GAGAN equipment.

**About GAGAN**

- GAGAN is an acronym for **GPS Aided GEO Augmented Navigation**.
- It is an inter-operable Satellite Based Augmentation System (SBAS) jointly developed by **ISRO and Airport Authority of India (AAI)**.
- India is the 4<sup>th</sup> nation after the US, Europe and Japan to have SBAS.
- GAGAN is the first SBAS system in the world to serve the equatorial region.

**Features of GAGAN**

- It provides the best possible navigational services over Indian FIR (Flight Information Region) with the capability of expanding to neighbouring FIRs.
- Its primary objective is to establish, deploy and certify SBAS for the security of civil aviation applications for the Indian airspace.
- It plays an important role in protecting life applications in transportation, sensitive commercial applications and liability-critical applications requiring legal course.
- Services Offered: Aviation, Forest management, Railways signalling, Scientific Research for Atmospheric Studies, Natural Resource and Land Management, Location based services, Mobile, Tourism.
- Coverage Area: GAGAN GEO footprint expands from Africa to Australia and GAGAN system has capability to cater 45 reference stations for expansion to neighbouring countries.

**GAGAN-based LPV Instrument Approach Procedures.**

Many airports including the ones under **Regional Connectivity Scheme** are being surveyed for the development of GAGAN-based LPV Instrument Approach Procedures.

- LPV (**Localizer Performance with Vertical Guidance**) is a Satellite Based Procedure which has been used by aircraft for landing purposes.
- LPV approaches make aircraft possible to land at airports **not equipped with expensive Instrument Landing Systems**, which includes many small regional and local airports.
- Lowering the decision height up to 250 ft provides a substantial operational benefit in poor weather and low visibility conditions.
- Thus, any airport which would require higher visibility minima will be able to accept aircraft benefiting remote airports which are devoid of precision approach capability equipment.

## Thermobaric Weapon

According to reports from the Ukraine government and human rights groups, Russian forces in Ukraine may use thermobaric weapons.

### About Thermobaric Weapon

- Thermobaric weapons are generally deployed as rockets or bomb.
- The thermobaric bomb involves a two-stage munition.
  - The first stage converts carbon-based fuel into minute metal particulates, which are discharged as an aerosol.
  - The second part detonates the aerosol, converting it into a huge fireball and simultaneously creating an impactful shock wave. Inside this shock wave, a vacuum is created, which draws in (sucks) the nearby oxygen and exponentially enhances the severity of the explosion.
- They work by releasing fuel and explosive charges. Different fuels can be used, including toxic powdered metals and organic matter containing oxidant.
- The explosive charge disperses a large cloud of fuel which then ignites in contact with the oxygen in the surrounding air.
- They can penetrate bunkers and other underground locations, starving the occupants of oxygen.
- It is also known as an **aerosol bomb, fuel-air explosive (FAE), or vacuum bomb**.
- Vacuum bombs are not prohibited by any international law or agreement, but their use against civilian populations in built-up areas, schools or hospitals, could attract action under the Hague Conventions of 1899 and 1907
- It causes significantly greater devastation than a conventional bomb of comparable size.

## INS Kochi

Indian Navy's INS Kochi takes part in joint exercise with Russian warships in PASSEX exercise.

### About INS Kochi

- It is the second ship of the **Kolkata-class** stealth guided-missile destroyers built under the code name **Project 15A** for the Indian Navy.
- It was constructed by Mazagon Dock Limited (MDL) in Mumbai.
- It was commissioned to Indian Navy service on 30 September 2015.
- On 1 November 2015, the Navy successfully test-fired the BrahMos supersonic cruise missile from Kochi.

### Passage Exercise (PASSEX)

It is normally undertaken whenever an opportunity arises, in contrast to pre-planned maritime drills. Earlier, Indian Naval ships conducted PASSEX with the US Navy also.

### India's Destroyer Construction Programme

- Commenced in the late 1990s with the three Delhi class (P-15 class) warships
- This was followed by three Kolkata class P-15A (Kolkata, Kochi and Chennai) destroyers commissioned a decade later.
- Presently, under the P-15B (Visakhapatnam Class), a total of 4 warships are planned (Visakhapatnam, Mormugao, Imphal, Surat).

## INS Ranvir

- Recently, there was an explosion in an internal compartment of the INS Ranvir at the naval dockyard in Mumbai.

- It is 4<sup>th</sup> of five Rajput-class destroyers built for the Indian Navy. It was commissioned in 1986.
- The Rajput-class destroyers which are also known as **Kashin-II class** are modified versions of Soviet Kashin class destroyers.
- Apart from INS Ranvir, it includes **INS Rajput, INS Rana, INS Ranjit and INS Ranvijay**.
- The Rajput class destroyers were the first ships in the Indian Navy to deploy the BrahMos supersonic cruise missile systems.

### White Phosphorus Bombs

- Russia accused of attack on Ukraine using illegal phosphorus bombs.
- International law prohibits the use of **white phosphorus shells** in heavily populated civilian areas but allows them in open spaces to be used as cover for troops.

### About White Phosphorus

- White phosphorous is used in fumes, lights and incendiary warships, and is usually the burning element of tracer ammunition.
- It is **pyrophoric** which mean it ignites on contact with air, burns fiercely and can ignite clothing, fuel, ammunition and other flammable materials.

### About Chemical weapons

- Chemical weapons are weapons and other equipment that use the toxic effects of chemicals on living organisms to cause death or other harm.
- To qualify as a chemical weapon, the toxic effects of warheads must not necessarily be fatal.
- Chemical weapons are considered weapons of mass destruction, as toxic chemicals can spread over large areas and affect large numbers of people.

### International Law regarding Use of Chemical Weapons

- Chemical Weapons Convention (CWC) is a multilateral treaty banning chemical weapons and requiring their destruction within the stipulated time.
- Negotiations for the CWC began in 1980 at the United Nations Conference on Disarmament.
- The convention was opened for signature in January 1993. It became effective from April 1997.
- Members should also declare the riot-control agents (tear gas) in possession of them.
- India signed the treaty in January 1993. The Chemical Weapons Convention Act, 2000 was passed to implement the CWC.
- Apart from CWC, **Australia Group** seeks to check proliferation of chemical or biological weapons. India joined (as 43rd Participant) the Australia Group (AG) in January 2018.

### HANSA-NG

HANSA- New Generation (NG has successfully completed the sea-level trials in Puducherry.

- HANSA-NG is first of its kind, indigenously developed aircraft trainer.
- It developed by the CSIR-National Aerospace Laboratories (CSIR-NAL).
- It is an upgraded version of HANSA, which saw the first flight in 1993, and was certified in 2000.
- It is designed to meet the need for trainer aircraft by flying clubs in India.
- The Centre approved HANSA-NG in 2018 and NAL retro-modified HANSA-3 aircraft with a glass cockpit and got it certified by DGCA .
- It is an ideal aircraft for Commercial Pilot Licensing (CPL) due to its low cost and low fuel consumption.

## CALM System

The Army issued a **Request for Information** for the Cannister Launched Anti-Armour Loiter Ammunition (CALM) System.

- It is a **pre-loaded canister** containing loiter ammunition or a drone. Loiter munitions are a mix of a **surface-to-surface missile** and a **drone**.
- Once fired, it can be kept aloft in the area of operation for a period of time. When a target is sighted it, can be directed to destroy the target with an explosive payload.
- Loiter ammunition consists of a **camera mounted on the nose** and which can be used by the operator to view the area of operation and select targets.
- These munitions also have types that can be **recovered and reused** in case they are not used for any strike.
- The system's **top-down attack capability** gives it a major advantage over targets such as tanks, which are vulnerable to any attack from the top where armour protection is weak.
- It will be used in the plains and deserts of the western parts of the country as well as in the northern highlands with elevations up to 5,000 metres.

## BrahMos

Recently, an extended range sea-to-sea variant of the BrahMos supersonic cruise missile was test fired from INS Visakhapatnam.

### About BrahMos

- It is a medium-range **ramjet supersonic cruise** missile.
- This missile is produced by BrahMos Aerospace which is an **India-Russian** Joint venture. The name BrahMos is formed from the Brahmaputra of India and the Moskva of Russia.
- It is a two-stage (solid propellant engine in the first stage and liquid ramjet in second) missile.
- It is a multiplatform missile i.e it can be launched from land, air, and sea and multi capability missile with pinpoint accuracy that works in both day and night irrespective of the weather conditions
- The missile is capable of carrying a regular warhead as well as a nuclear warhead.
- It operates on the "**Fire and Forgets**" principle, it does not require further guidance after launch.
- It flies at a speed of 2.8 Mach or almost three times the speed of the sound.
- The range of the missile was originally capped at 290 km as per obligations of the Missile Technology Control Regime (MTCR).
- After entering this MTCR club in June 2016, India decided to increase the range capability of the missile which can be increased up to 450 to 600 km.

### About INS Visakhapatnam

- INS Visakhapatnam is the first of the Visakhapatnam-class stealth guided-missile destroyers of the Indian Navy developed under Project-15B.

#### Other Three Ships of Project 15B

- 2<sup>nd</sup> ship, Mormugao was launched in 2016, and is being readied for harbour trials.
- 3<sup>rd</sup> ship (Imphal) was launched in 2019, and is at an advanced stage of outfitting.
- 4<sup>th</sup> ship (Surat) is under block erection and will be launched within this current financial year (2022)

- The ship is commissioned in November 2021.
- It is indigenously designed by the Directorate of Naval Design, an in-house organization of the Indian Navy and manufactured by Mazagon Dock Shipbuilders Limited, Mumbai.

**Kamikaze Drone**

United States announced USD 800 million in new military aid to Ukraine, including Kamikaze or suicide drones.

**About Kamikaze Drone**

- It is small **unmanned** drones that are loaded with explosives and can be flown directly over a tank or group of soldiers, destroying them when they hit a target and detonates.
- It is called Switchblade drones because their bladelike wings spring out on launch.
- Because of their small size they are difficult to detect on radar.
- It can even be programmed to hit targets without human intervention based on **facial recognition**.
- It has a feature that allows the operator to **adjust the blast radius**. So, it can kill the driver of a vehicle but not a passenger.
- The Switchblade also has **cameras** that show a target seconds before impact.

**Kinzhal Missile**

- Russia claims first use of hypersonic Kinzhal missile in Ukraine
- It is a Russian **hypersonic** aero-ballistic air-to-surface missile with nuclear capability.
- It has a range of more than 2,000 kilometres, a top speed of Mach 10.
- It can carry both conventional and nuclear warheads

**Hwasong-17**

- North Korea has test-fired an intercontinental ballistic missile (ICBM) named **Hwasong-17**.
- Analysts say the weapon is the largest, liquid-fuelled ICBM in the world launched by road-mobile launcher.
- Due to this missile's size, it can carry multiple decoys and warheads, analysts have called it a '**monster missile**'.
- During the testing it flew 1,090 km at a maximum altitude of 6,248.5 km and hit a target in the Sea of Japan.
- This missile can potentially deliver a nuclear warhead to any United States location.

**Cornershot Weapon System (CSWS)**

- It is designed and developed by the DRDO.
- It can engage targets located around the corners as the system bends and captures video feed thus saving soldiers from any surprise counter attack.
- It allows to attack an armed target, without exposing himself for any counterattack.
- It is also equipped with day & night camera, invisible lasers, laser aiming device, tactical flashlight, colour LCD monitor and a power source (rechargeable battery).
- The body is made from high-grade aluminium alloy to make it lighter and durable.

**Man Portable Anti-Tank Guided Missile (MPATGM)**

DRDO successfully flight tested the final deliverable configuration of Man Portable Anti-Tank Guided Missile.

- MPATGM is third-generation anti-tank guided missile.
- It is indigenously developed by DRDO in partnership with Indian defence contractor VEM Technologies Private Limited. It can cover a minimum range of 200 to 300 m and a maximum range of 4 km.

- It weighs around 14.5 kg to maintain man portability. It is integrated with thermal sight and works on fire and forget principle.
- It is incorporated with state-of-the-art Miniaturized Infrared Imaging Seeker along with advanced avionics.
- It is effective against both stationary and moving targets.

### Man Portable Air Defence System (MANPADS)

United States and NATO approved a arms package for Ukraine, which would include US-made Stinger Missiles, which are a type of shoulder-fired **Man-Portable Air-Defence Systems**.

#### About MANPADS

- MANPADS are portable, short-range **surface-to-air missiles**.
- It can be fired by individuals or small groups to destroy aircraft or helicopters.
- It has a maximum range of 8 kilometres and can engage targets at altitudes of 4.5 km.
- It can be shoulder-fired, launched from atop a ground-vehicle, fired from a tripod or stand, and from a helicopter or boat. Most MANPADS have a passive or '**fire and forget**' guidance system
- Countries such as India, Pakistan, Germany, UK, Turkey and Israel have also used MANPADS in their defence efforts.
- Russia is by far the biggest exporter of MANPADs, having sold over 10,000 such systems between 2010-2018 to various countries including Iraq, Qatar, Kazakhstan, Venezuela, and Libya.

### Solid State Battery

Volkswagen in partnership with Quantum Space is aiming for production of solid-state batteries by 2025.

#### About Solid-state Batteries

Solid-state battery is a battery technology that uses a solid electrode and a solid electrolyte instead of the liquid or polymer gel electrolytes which is found in lithium-ion or lithium polymer batteries.

#### Reasons To Develop A Solid-State Battery

- A solid-state battery has **higher energy density** than a Li-ion battery (by eliminating the carbon anode), lower charge time (by eliminating the need to have lithium diffuse into the carbon particles in conventional lithium-ion cells), ability to undertake more charging cycles and thereby a longer life, and improved safety.-
- It can increase energy density per unit area since only a small number of batteries are needed.
- It does not have a risk of explosion or fire. So there is no need to have components for safety, thus saving more space.
- They avoid use of dangerous or toxic materials found in commercial batteries, such as organic electrolytes.
- They can also be used in new wearable devices, space missions, soon Japan Aerospace Exploration Agency (JAXA) are going to test solid-state batteries in space.

#### Challenges With Solid-state Battery

- Expensive and difficult to manufacture.
- Solid-state batteries with ceramic electrolytes require high pressure to maintain contact with the electrodes.
- The interfacial instability of the electrode-electrolyte has always been a serious problem.

### Aquamation

The body of Nobel Peace Prize winner, Anglican archbishop **Desmond Tutu**, was cremated by the process of aquamation in Cape Town.

**About Aquamation**

- It is a green alternative to traditional cremation methods.
- It also known as alkaline hydrolysis and defined as “flameless cremation”.
- In this process the body is immersed for a few hours in a **mixture of water and a strong alkali** in a pressurized metal cylinder and **heated to around 150 degrees centigrade**.
- The combination of gentle water flow, temperature and alkalinity accentuate the breakdown of the organic materials. The process leaves behind bone fragments and a neutral liquid called effluent.
- The effluent is sterile, and contains salts, sugars, amino acids and peptides.
- There is no tissue and no DNA left after the process completes
- The process was developed and patented in 1888 by Amos Herbert Hanson, a farmer who was trying to develop an ingenious way to make fertilizer from animal carcasses.
- This process uses energy which is five times less than fire. It also reduces by about 35% the amount of greenhouse gases that are emitted during other ways of cremation.

**Muscle Starvation and Vitamin D**

Research says that skeletal muscles are generally full of energy, yet they starve in absence of vitamin D.

**About This Research**

- The study is conduct in mice, and researches think this mechanism is broadly applicable in humans as well.
- This research shows that **glycogen stored in skeletal muscles** is not converted into a usable form of energy without vitamin D.
- Normally, glucose absorbed from food is converted into glycogen and stored in skeletal muscle.
- This stored energy store is used by the muscles to generate energy after the food consumed is digested.
- However, in the absence of vitamin D, skeletal muscle becomes deficient in energy, leading to reduced muscle mass.

**About Vitamin D**

- It is a fat-soluble vitamin and can be stored in your body for a long time.
- It is a key to maintaining metabolic functions, immune system, bone health and plays a crucial role in depression, mood swings, anxiety and sleep quality.
- Getting sufficient sunlight is the best way to help the body produce enough vitamin D.
- The sunlight triggers a chemical reaction to a **cholesterol-based molecule**, and converts it into **calcidiol in liver** and into **calcitriol in kidney**. These molecules technically called **25-OHD** are physiologically active.
- Plentiful food sources of vitamin D include fatty fish, such as salmon, mackerel, and tuna, egg yolks, cheese, mushrooms etc.
- Deficiency: Rickets in children and osteomalacia (softening of bones) in adults

**Rare-Earth Metal**

US proposed a law aiming to end China’s alleged “chokehold” on rare-earth metal supplies. The Bill aims to “protect the US from the threat of rare-earth element supply disruptions, encourage domestic production and reduce its reliance on China by creation of a “strategic reserve” of rare earth minerals by 2025

**About Rare Earth Metal/Element**

- The rare earth elements are a set of **17 metallic elements**. These include the 15 lanthanides on the periodic table plus Scandium and Yttrium.

- 17 metallic elements are lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, scandium, yttrium.
- They are called 'rare' because it was difficult to extract them from their oxides forms.
- The total world reserves are estimated at 121 million tonnes of rare earth oxides (REO).
- China alone accounts for 44 million tonnes followed by Brazil and Vietnam and Russia.
- These minerals have unique magnetic, luminescent, and electrochemical properties.
- These minerals are used in **cellular telephones, computer hard drives, and flat-screen monitors and televisions**, electric car motors, lithium-ion batteries, solar panels, and wind turbines.

**Rare Earth Metals In India**

- India has the world’s **fifth-largest** reserves of rare earth elements.
- Geologically the entire landmass around **Indian Ocean** contains rare earth element in the surrounding rocks.
- **Monazite sand** is the principal source of thorium.
- Rare earth elements contribute a total value of nearly \$200 billion to the Indian economy.
- **Indian Rare Earths Ltd (IREL)**, the government-owned company is involved in the extraction and processing of rare earth elements.

**Web3**

Recently the concept of Web3 created quite a buzz. It is believed that the Web3 is used to describe a potential **next phase** of the internet.

**About Web3**

- Web3 is a still-developing idea for a **third generation** of the web.
- It is a **decentralised internet to be run on Blockchain technology**.
- It aims to provide a single, consistent, platform-agnostic way to manage data across systems, without requiring a corporation to contain its own interests and agendas.

**Why We Need Web3?**

- In Web 2.0, much of the data on Internet traffic is owned or managed by a small number of behemoth companies (eg. Google). This has created problems related to data privacy, data security and data misuse.
- There is also a sense of disappointment that the original purpose of the internet has been distorted.
- It tries to remove the role of the platform. It enables peer to peer (seller to buyer) transaction by eliminating the role of the intermediary.
- It will also use machine learning, that uses data and algorithms to mimic the way humans learn, gradually improving its accuracy. These capabilities enable computers to deliver faster and more relevant results.

**Earlier Versions of web**

Web 1.0	Web 2.0
<ul style="list-style-type: none"> <li>• It is the worldwide web or the internet that was invented in 1989.</li> <li>• The internet in the Web 1.0 days was <b>mostly static web pages</b>.</li> <li>• Web 1.0 lasted until 1999.</li> <li>• Even though there were <b>e-commerce websites</b> in the initial</li> </ul>	<ul style="list-style-type: none"> <li>• It started in some form in the late 1990s, itself though 200 when most of its features were fully available.</li> <li>• It is still the age of Web 2.0 now.</li> <li>• The differentiating characteristic of Web 2.0 compared to Web 1.0 is that users can create content. They can interact and contribute in the form of comments, registering likes, sharing and uploading their photos or videos and perform</li> </ul>

days it was still a **closed environment** and the users themselves could not create any content or post reviews on the internet

other such activities.

- Primarily, a social media kind of interaction is the differentiating trait of Web 2.0.

World Wide Web, which is also known as a Web, is a collection of websites or web pages stored in web servers and connected to local computers through the internet.

### Environmental DNA (e-DNA)

According to the recent studies the e-DNA can boost biodiversity conservation efforts across the world

#### About e-DNA (Nuclear or Mitochondrial DNA)

- Animals shed DNA through their breath, saliva, fur or faeces into the environment. These samples are called e-DNA. E-DNA is collected from a variety of environmental samples such as soil, seawater, snow or air, rather than directly sampled from an individual organism.
- This could help understand composition of animal communities and detect the spread of non-native species. This method will work with existing techniques for monitoring **endangered species** after some fine-tuning.
- This process is comparatively easy. Typically, biologists observe animals in person or by picking up DNA from animals' footprints or faeces. Both demand extensive fieldwork.

#### Limitation Of This Process

- In its current form, this method cannot provide accurate data for population census.
- But scientist hopes that the e-DNA technique will overcome this limitation in the future.
- In aquatic environments, eDNA is **diluted** and distributed by currents and other hydrological processes, but it only lasts about 7–21 days
- Exposure to UVB radiation, acidity, heat, and endo- and exonucleases can degrade e-DNA.

### Two Species Of Fungi Associated With Basal Stem Rot Found

- Researchers from Kerala have identified two **new species of fungi** from the genus **Ganoderma** that are associated with coconut stem rot disease.
- The two Fungi species have been named Ganoderma Keralense and Ganoderma Pseudoapplanatum.

#### About Basal Stem Rot Of Coconut

- It is known by several names in different parts of India: Ganoderma wilt in Andhra Pradesh, Anaberoga in Karnataka, Thanjavur wilt in Tamil Nadu
- Infection begins at roots but symptoms include discolouration and rotting of stems and leaves.
- In the later stages, flowering and nut set decreases and finally the coconut palm dies.
- Once the plant got infected recovery of the plants is not likely, this causes a huge loss.

#### Significance Of This Finding

Before this study, the disease was commonly attributed to the genus Ganoderma and the specific species involved were not identified correctly. Now they can easily detect the presence of the pathogen much earlier by analysing plant extracts which can be easily obtained at any stage of growth.

### GitHub Open Source

GitHub was recently used to create and share an offensive named app that sexually harassed women from particular community in India. The app used pictures of the women stolen from their social media handles and invited "users" to bid for them.

## Git Hub

- Git Hub is world largest **open source developer community platform** where users upload their projects and code for others to view, edit and tweak.
- Most of features of the platform are free for users
- The basic idea of Github is that any developer can upload whatever software code or app code or software idea they have on the platform. Others can collaborate with them to improve

**Government Initiatives on OSS:** The Government of India had issued a Policy on Adoption of Open Source Software in **2015**.

- **Free and Open Source Software for Education (FOSSEE) Project:** To promote the use of open source software in educational institutions. It does that through instructional material, such as spoken tutorials, documentation, such as textbook companions, awareness programmes, such as conferences, training workshops, and internships.
- **Android version of Aarogya Setu app** is open source.
- **GovTech 3.0** is focussed on Open Digital Ecosystems (ODEs), the underlying philosophy suggests that the government should focus on creating the “digital commons

While the operating system of Apple’s iPhones (iOS) is **closed source**, meaning it cannot be legally modified or reverse engineered, Google’s Android operating system is open-source, and therefore it is possible by smartphone manufacturers such as Samsung, Xiaomi, OnePlus, etc to modify it for their hardware.

## Negative Ions In Wearables

The **Nuclear Safety and Radiation Protection Authority (ANVS)**, Netherlands has issued a statement which has identified **various negative ion wearable products** with **more radioactivity** than is legally permitted.

### About Negative Ions

- These are molecules that **float in air or atmosphere** and have an **electric charge**.
- They are created when sunlight, radiation, air or water **break down oxygen**.
- Negative ions are believed to **create positive vibes** and elevate the mood. They show various **mental and physical health benefits**, such as stress reduction, breathing, better sleep etc.
- These ions also affect pollutants making them negatively charged and collecting them on the surfaces.

### What is Negative Ion Technology?

- Negative ion technology embeds negative ions in personalized products and is currently being advertised as a means of maintaining health, balancing energy and improving wellness.
- This technology is used in some silicone wristbands, quantum or scalar-energy pendants, jewellery, etc.
- The minerals that generate these negative ions often include naturally occurring radioactive materials such as uranium and thorium.

### Concerns

- The radiation detected in some of these products exceeds background levels.
- The products were found to contain radioactive material and therefore continuously emit ionizing radiation, to which the wearer is exposed.
- Prolonged wearing of products can pose health risks that include tissue and DNA damage.
- Exposure can also cause severe harmful effects such as: Skin burns, Acute radiation sickness that causes cancer and hairfall, temporary reduction in WBC, Possible chromosomal damage, Reduction in resistance to infection.

### Efforts To Counter These Concerns

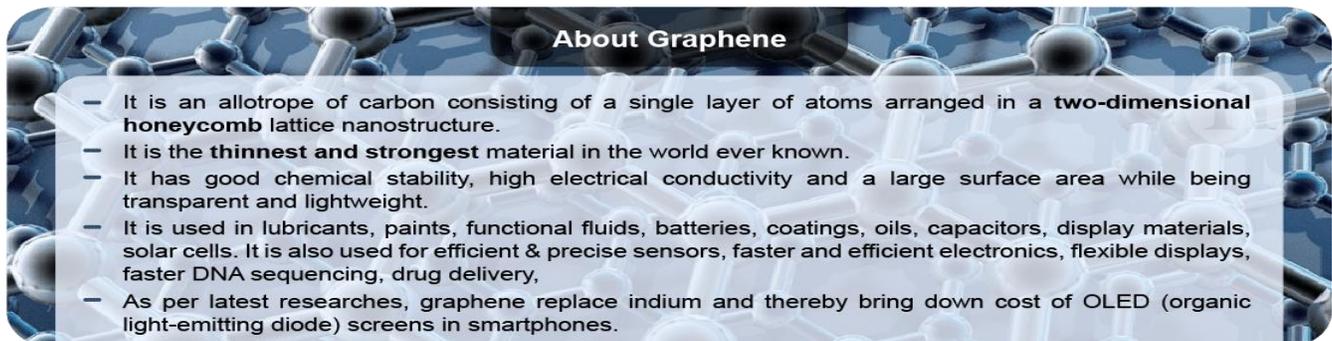
- The International Atomic Energy Agency (IAEA) released a specific safety guide titled "Radiation Safety for Consumer Products" (2016).
- The IAEA confirms the minimum use of radiation or radioactive substances in toys and personal jewellery or decorations.
- India has provisions in the **Atomic Energy (Radiation Protection) Rules, 2004** which are IAEA compliant.

### Country's First Graphene Innovation Centre

The state-run **Digital University Kerala (DUK)** along with **CMET Trichur**, & Tata Steel Limited set India's first graphene R&D incubation centre in Trichur (Kerala).

#### About The Centre

- Ministry of Electronics and IT has given approval for Rs 86.41 crore-project. Of the 86.41-crore, Union Government would provide Rs 49.18 crore and private business houses Rs 11.48 crore. The state government would provide the basic infrastructure for the project. The Centre would help attract investors to develop graphene products.
- The centre aims to be an anchor point to promote start-ups, commercial research & to bridge the gap between **Graphene academic research** and **industrial application**.
- The centre will also develop the **skilled manpower** by anchoring Ph.D. and master students through Digital University, with an applied research focus in the areas of electronics product design, sensors, and energy applications.



### dApps

- **Decentralised applications** or **dApps** are programmes that allow people to interact with one another without the need for third parties. For example, BitTorrent, Tor, and Popcorn Time are applications that run on computers that are part of a P2P network, whereby multiple participants are consuming content, feeding or seeding content, or simultaneously performing both functions.
- They give the personal freedom to interact with a peer without being held accountable for it.
- They exist and run on a **blockchain network** or peer-to-peer (P2P) network of computers. DApps use **smart contracts** to complete the transaction between two anonymous parties
- These smart contracts are **open-source pieces of code** created by a decentralized authority, and no individual authority controls them.
- dApps can be developed for a variety of purposes including gaming, finance, and social media.
- dApps are advantageous because, rather than relying on the competence and trustworthiness of **third parties**, they enforce contracts and agreements using solid code and a layer of computers.
- Drawbacks include the potential inability to scale, challenges in developing a user interface, and difficulties in making code modifications.

**Kavach**

Union Finance Minister announced in the budget, that as a part of Atmanirbhar Bharat, 2,000 km of rail network will be brought under the world-class technology ‘Kavach’.

**About Kavach**

- It is an anti-collision device (ACD) network.
- It is a Made-in-India technology designed to help Indian Railways achieve goal of **zero accidents**.
- Kavach implementation will bring train movement to a halt automatically when it notices another train on the same line within a prescribed distance.
- The technology uses microprocessors, global positioning system and radio communication. The anti – collision devices are mounted on the trains. The devices receive inputs from the satellite. They communicate with each other through modems.

**Param Pravega**

Indian Institute of Science (IISc), Bengaluru has commissioned one of the most powerful **supercomputers**, called “**Param Pravega**” in India.

**About Supercomputer Param Pravega**

- It is part of High-Performance Computing class of systems.
- It has been designed by Centre for Development of Advanced Computing (**C-DAC**).
- A majority of the components used to build this system have been manufactured & assembled within India.
- It has a supercomputing capacity of **3.3 petaflops** (measure of a computer’s processing speed; 1 petaflop equals a quadrillion or 1,015 operations per second).
- The supercomputer has been commissioned under National Supercomputing Mission (NSM).

**About National Supercomputing Mission (NSM)**

- The mission was announced in 2015 to connect national academic and R&D institutions with a grid of more than 70 high-performance computing facilities.
- The NSM is jointly operated by Department of Science and Technology (DST) and Ministry of Electronics and Information Technology (MeitY), and is implemented by **C-DAC and IISc**.
- Under NSM, 10 supercomputer systems have been established so far in India with a cumulative computing power of 17 petaflops.

**Top 500 List Of Most Powerful Supercomputers In The World**

- Japanese supercomputer **Fugaku** (442 petaflops) and **IBM’s Summit** (148.8 petaflops) are the two most powerful supercomputers in the world
- Chinese **Sunway TaihuLight** is number 4 on the list (93 petaflops)

**India’s Super Computers**

- PARAM-Siddhi AI (6.5 petaflops), has been ranked 63<sup>rd</sup>.
- Pratyush, used for weather forecasting at Indian Institute of Tropical Meteorology, is ranked 78<sup>th</sup>.
- Mihir (146<sup>th</sup>)

**PARAM Ganga**

Param Ganga, a made-in-India Petascale supercomputer has been deployed at the Indian Institute of Technology Roorkee with a supercomputing capacity of 1.66 Petaflops. The basic idea behind building a Petascale Supercomputer with manufactured in India components is to lead the path towards Aatmanirbhar Bharat

**About PARAM Ganga**

- It is designed, developed, and commissioned by the Centre for Development of Advanced Computing (C-DAC).
- It has been developed under the guidance of the National Supercomputing Mission.
- Its goal is to offer computational power to the user community of IIT Roorkee as well as neighbouring academic institutions.

**Radio Frequency Identification (RFID)**

Indian Army has implemented the RFID tagging of its ammunition stock for safe and better management.

- RFID tagging is an ID system that uses for identification and tracking purposes.
- It uses radio waves to communicate between two objects: a reader and a tag.
- RFID communication is similar to two-way radio communication in the sense that information is transmitted or received via a **radio wave at a specific frequency**.

**CoEs In Carbon Capture and Utilization**

Currently, two **National Centres of Excellence (NCoEs) in Carbon Capture and Utilization (CCU)** are being established in India.

- The two centers are being set up with support from Department of Science & Technology.
- First center will be (NCoE-CCU) at IIT Bombay.
- The second will be National Centre in Carbon Capture and Utilization (NCCCU) at Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru.
- The Center will act as a multidisciplinary, long-term research, design development, collaborative and capacity-building hubs for cutting edge research and application-oriented initiatives.

**Origami Metamaterials**

Researchers from **IIT Madras** have developed a material called Origami metamaterials.

**About Origami Metamaterial**

- These are made by joining **panels** along their edges to form '**creases**' about which the structure locally 'folds'. These combine the Japanese art of **paper folding (origami)** and the existing material of choice and fold it to obtain desired properties.
- When a material is **crushed or stretched** along a particular direction, it undergoes a modification in the **perpendicular, or lateral direction**.
- **Poisson ratio**: The ratio between the **deformation along the force** and the **deformation in a direction lateral to the force**. The Poisson ratio can be positive or negative.
- In order to be useful, materials need to maintain a constant Poisson ratio when they crumble under pressure. However, they are prone not to do so, and the Poisson ratio varies as they deform. New developed origami metamaterials show a **constant value of Poisson Ratio** when subjected to stress.
- It can crumple rather than tear & also take the impact and absorb the shock.

**About Metamaterial**

- Any material that is engineered to possess a property not found in naturally occurring materials.
- They are made up of a combination of several elements made from **composite materials** such as metal and plastic.
- They are typically arranged in a repeating pattern, on a scale that is smaller than the **wavelength of the event** they affect.

- It derives their properties **not** from the properties of the base materials, but from their newly **designed structures**.
- Apart from their artificial origin, metamaterials are characterized because they have **unusual electromagnetic properties**, coming from their structure and arrangement and not from their composition.
- This is similar to what happens with graphite, diamond and graphene, since they are all made of carbon, but due to their structure, they have very different properties.
- One of the properties that can vary the metamaterials can be, for example, that the material has a **negative refractive index** making them of great importance in optics and electromagnetism applications.
- Other Potential Applications include medical devices, remote aerospace operations, sensor detectors, solar power management, crowd control, radomes, antenna lenses, and even earthquake protection.

### Doxxing

Meta's oversight board has suggested Facebook and Instagram to make strict doxxing rules. Doxxing is publishing **others' personal information** on the internet with a **malicious intent** that can reveal the person's real identity.

- It is used to shame or punish people who would rather stay anonymous, because of their controversial beliefs or other types of non-mainstream activity.
- It can lead to harassment, cyber-attacks, emotional distress and stalking etc.

### Synthetic Biology

- A draft foresight paper on **synthetic biology** is released by **Department of Biotechnology**
- Paper has stressed the need for a national policy that can consolidate India's stand on the issue.

#### About Synthetic Biology

- The term 'synthetic biology' was first used by **Barbara Hobomin in 1980**, to describe bacteria that had been genetically engineered using recombinant DNA technology.
- It refers to the science of using genetic sequencing, editing, and modification to create **unnatural** organisms or organic molecules that can function in living systems.
- It enables scientists to design and synthesise new sequences of DNA from scratch.

#### Applications

- It has applications in various fields from developing synthetic organisms for **vaccination** to creating natural products in a lab such as **vanillin**.
- In the pharmaceutical industry it can be used to make natural compounds such as artemisinin used for the treatment of malaria and Car T cell therapy for cancer treatment.
- It is starting to be used in the fashion industry as well. Some companies are exploring the possibility of dyeing jeans without producing hazardous waste.
- Some companies are using it to deliver fixed nitrogen to plants instead of using fertilisers, engineering microbes to create **food additives** or **brew proteins**.
  - ✓ For e.g, Modified rice to produce beta-carotene (a nutrient usually associated with carrots), that prevents Vitamin A deficiency.

### Obstructive Sleep Apnea (OSA)

According to report, the Veteran singer Bappi Lahiri died due to obstructive sleep apnea.

- OSA is a disorder caused by the **repetitive collapse** of the upper airway during sleep.
- It is the most common sleep-related breathing disorder.
- It occurs when the muscles supporting the soft tissues in throat, such as tongue and soft palate, relax.
- It causes episodes of **decreased oxygen supply** to the brain and other parts of the body.
- OSA is most common among older males, but it can affect anyone, including children.

- The treatment for OSA involves using a device that uses positive pressure to keep your airway open while you sleep.
- Another option is a mouthpiece to thrust your lower jaw forward during sleep. In some cases, surgery might be an option too.

### Quantum Key Distribution Link

A joint team of scientists from DRDO and IIT Delhi, for the first time in the country successfully demonstrated Quantum Key Distribution link (between Prayagraj and Vindhyachal in Uttar Pradesh, a distance of more than 100 kilometres).

#### About Quantum Key Distribution

- Also called Quantum Cryptography, it is a mechanism to develop secure communication.
- It implements a cryptographic protocol comprising of components of quantum physics.
- It enables two parties in producing a shared random secret key known only to them.
- It involves sending encrypted data as **classical bits** over networks, while the keys to decrypt the information are encoded and transmitted in a quantum state using **qubits**.
- If a hacker tries to crack the message in quantum communication, it changes its form in such a manner that would alert the sender and would cause the message to be altered or deleted.

### Gallium Nitride (GaN)

The Union Minister of State for Electronics & Information Technology visited the Gallium Nitride Ecosystem Enabling Centre and Incubator (GEECI) facility.

#### About Gallium nitride (GaN)

- It is a very hard, mechanically stable wide bandgap semiconductor as it has a hexagonal crystal structure.
- With high breakdown strength, fast switching speed, high thermal conductivity and low resistance, power devices based on GaN outperform silicon-based devices.
- Gallium nitride crystals can be grown on a variety of substrates, including sapphire, silicon carbide (SiC) and silicon (Si).
- GaN is used in the production of semiconductor power devices as well as RF components and light-emitting diodes (LEDs).
- GaN has demonstrated the capability to be the displacement technology for silicon semiconductors in power conversion, RF, and analog applications.
- GaN Technology is of strategic importance with its application to 5G, space and defence application. It offers a window of opportunity to play a key role in enabling e-vehicles and wireless communication.

#### About GEECI facility

- It is situated at Indian Institute of Sciences (IISc), Bengaluru.
- The facility has been jointly set up by the Ministry of Electronics and Information Technology and IISc Bengaluru.
- It aimed at establishing GaN based Development Line Foundry facility, especially for RF and power applications, including strategic applications.

### Away From Reactor (AFR) Facility

Kudankulam Village Panchayat has passed a resolution against the construction of the Away From Reactor (AFR) facility at the Kudankulam Nuclear Power Project (KKNPP) site for storing nuclear waste.

#### About AFR Facility

- The scheme for the storage of spent fuel in a nuclear power plant is **two-fold**.

- One facility is located within the reactor building/service building, generally known as the spent fuel storage pool/bay.
- Another is located away from the reactor, called the Away From Reactor (AFR) Spent Fuel Storage Facility, but within the plant's premises.
- The spent fuel storage pool inside the reactor building has a limited capacity and is used for immediate storage of the spent fuel removed from the reactor during refuelling.
- The fuel remains in the pool initially for a few years for it to be cooled sufficiently before it is shifted to the facility.
- The AFR Spent Fuel Storage Facility is functionally similar to the Spent Fuel Pool inside the reactor building, except in terms of capacity.
- The radiation dose on account of AFR to the public would be negligible, when compared to the exposure from natural radiation background sources like soil, sun etc.
- This has been established at the Tarapur and Rawatbhata sites, where AFRs have been in operation for many years.

#### **About Nuclear Waste**

- Also called radioactive waste, which is a by-product of nuclear reactors, fuel processing plants and research facilities. It is also generated during the shutdown and destruction of nuclear reactors and other nuclear facilities. There are two broad classifications: **high-level or low-level waste**.
- High level waste is mainly spent fuel extracted from reactors after power generation.
- Low level waste comes from reactor operations and the medical, educational, industrial and other commercial uses of radioactive material.

#### **Biodegradable Carbonoid-metabolite**

- Researchers at IIT Kanpur have developed a new nanoparticle-based **biodegradable carbonoid-metabolite (BioDCM)**.
- It is able to protect agricultural crops from fungal and bacterial infections.
- The technology is essentially a protective biological alternative which is useful in enhancing crop protection against various diseases, especially rice crops.
- This extracted metabolite acts as an effective organic antimicrobial agent against fungal/bacterial pathogens while naturally enriching the soil.

#### **Variable Refresh Rates (VRR)**

According to a report by **About Chromebooks**, Google is said to be testing support for variable refresh rates (VRR) in the **Chrome OS**

##### **About VRR**

- A display supporting a variable refresh rate usually supports a specific range of refresh rates. This is called the variable refresh rate range (VRR range).
- It is measured in Hertz (Hz). So, a 30Hz or 60Hz display can refresh 30 or 60 times per second respectively. The higher the refresh rate, the better the viewing experience.
- Displays higher than 120 Hz can provide a smoother and more comfortable viewing experience. This is necessary when playing video games or watching videos.
- VRR supports a wide range of refresh rates, allowing its refresh rate to change in real-time based on the frames-per-second (FPS) rate coming from a source device such as a gaming console.

- In mobile devices: it saves battery power on them as the adaptive refresh rate does not run at the highest rate all the time and switches to a lower refresh rate during less graphic-intensive tasks

## Autism

On 2 April, World Autism Awareness Day is observed across the world to spread awareness about Autism.

- It is also called Autism Spectrum Disorder (ASD).
- It is a complex condition involving communication and behavioral problems.
- People with autism may have learning problems. Their skills may develop unevenly.
- Exactly why autism occurs is not clear. It can result from problems with the parts of your brain that interpret sensory input and process language.
- Autism is four times more common in boys than in girls.
- There is no cure for autism. But early treatment can make a big difference in the development of a child with autism.

## World's Largest Electric Cruise Ship

- The world's largest electric cruise ship has made its maiden voyage, down the **Yangtze River**.
- The name of the ship is **Yangtze River Three Gorges 1**.
- It is a 100% electric cruise ship that has been developed and built in China.
- The cruise ship is powered by a massive 7,500 kilowatt-hour marine battery.
- The main purpose of this ship will be to ferry passengers who are going on a sightseeing tour on Yangtze River.
- On a single charge, the ship can travel around 100 kms thus saving about 530 metric tonnes of fuel.

## Microbots Into The Bloodstream

The research aims at moving microbots into the bloodstream to deliver drugs.

### About Microbots

- These microbots are called micro-swimmers.
- These are made from the two-dimensional compound **poly** (heptazine imide) **carbon nitride** (aka **PHI carbon nitride**).
- They range in size from **1-10 micrometre**, and can propel themselves when activated by **bright light**.

### How do they swim across the blood?

- **PHI carbon nitride** microparticles are **photocatalytic**.
- Like a solar cell, the incident light is converted into electrons and holes. These charges react in the surrounding liquid.
- This reaction, combined with the particle's electric field, makes the microbots swim.

## Colour Blindness

The Supreme Court has directed the Film and Television Institute of India (FTII) not to exclude candidates suffering from colour blindness from its courses on film making.

### About Colour Blindness

- Also known as colour deficiency, it is the inability to see colours in the normal way.

- Colour blind individuals often cannot distinguish between certain colours usually greens and reds, and sometimes blues as well.
- Two types of cells in the retina detect light
  - Rods: These help in distinguishing between light and dark.
  - Cones: These help in detecting colour.
- There are three types of cones that see colour — red, green, and blue — and our brains use the information from these cells to perceive colour.
- It can be the result of the absence of one or more of these **cone cells**, or their failure to work properly.
- In the most severe kind of colour blindness, vision is black-and-white, that is, everything appears as a shade of grey.
- Most colour blind people are born with the condition- congenital colour blindness.
  - **Congenital colour vision deficiencies** are usually passed on genetically.
- It cannot as yet be treated or reversed. However, it can be corrected to some extent by wearing special contact lenses or colour filter glasses.
- Men suffer from a higher incidence of colour blindness than women.

### 5G Vertical Engagement and Partnership Program (VEPP)

The Department of Telecommunications (DoT) has invited Expression of Interest (EoI) for “5G Vertical Engagement and Partnership Program (VEPP)”.

#### About 5G VEPP

- It is an initiative, where DoT will facilitate necessary approvals, regulatory clearances to **enable use case prototyping, pilot, demo, testing in user or vertical industry premises.**
- **Objective:** It is envisaged to build **strong collaboration partnerships** across 5G Use-case ecosystem stakeholders with velocity and with an exclusive emphasis to address User/Vertical Industry needs.
- DoT will facilitate, wherever possible, access to experimental spectrum, access to testbeds and necessary regulatory policies with academia, other ministries and pilots.
- It will enable closer collaboration between user verticals and 5G tech stakeholders, which can trigger a **multiplier effect** to try and refine 5G digital solutions in respective economic verticals.
- Technology stakeholders will work to develop and deploy prototypes and pilots for 5G use cases as per the needs of the respective ministries or industry verticals to help accelerate commercial usage and adoption by enterprises.

### Lroot Server

Rajasthan has become the 1st State in the country to get the Lroot server.

- It has been installed by the state government in association with the **Internet Corporation for Assigned Names and Numbers (ICANN).**
- With this ICANN root server, Rajasthan is no longer dependent on any root server for the domain name system.
- After this arrangement, if there is a problem in internet connectivity due to any technical fault or natural calamity in the whole of Asia or India, it will continue to run in Rajasthan without any interruption.
- It will enable it to provide digital services and implement e-governance with seamless connectivity.
- Also, the new facility will strengthen infrastructure and help improve the security of Internet-based operations.

- The new server’s installation will also benefit the general public as well as the industry with better load management and lower round trip time latency between the users and servers

**ICANN**

- It is a US-based not-for-profit public-benefit corporation.
- It manages the maintenance of **namespaces and numerical spaces** which enable secure and stable operation of the internet.
- ICANN performs the **technical maintenance of IP Address pools** and **Domain Name Servers (DNS)**.
- Its role is to coordinate, at the overall level, the global Internet's systems of unique identifiers.

**Diseases/ Infections In News**

<b>Mud Crab Reovirus (MCRV)</b>	<p>Mud Crab Reovirus (MCRV) has been found to be the reason for the mass mortality of wild crab in Andhra Pradesh.</p> <p><b>About Mud Crab Reovirus</b></p> <ul style="list-style-type: none"> <li>• MCRV is a viral pathogen belongs to the family of ‘Reoviridae’.</li> <li>• It mainly affects the connective tissue of hepatopancreas, gills, and intestine.</li> <li>• It is also known as Sleeping Disease.</li> </ul> <p><b>Why It Is A Concerning Issue?</b></p> <ul style="list-style-type: none"> <li>• In Andhra Pradesh, total area under wild crab cultivation is around 25,000 acres and if crabs die because of MCRV, their cultivation will be badly affected.</li> <li>• Wild crabs are exported directly from Andhra Pradesh to the South-East Asia region and have a large market in Europe. International trade will also be badly affected.</li> <li>• Starting from 2019, about 60% of farming has been affected due to mass mortality in the state.</li> </ul>
<b>Kala azar</b>	<p>For the first time in eight years, Jharkhand reported a death due to Kala azar in the state.</p> <p><b>About Kala azar</b></p> <ul style="list-style-type: none"> <li>• Kala azar, which also known as visceral leishmaniasis.</li> <li>• There are three types of leishmaniasis: <ul style="list-style-type: none"> <li>✓ Visceral leishmaniasis, which affects multiple organs and is the most serious form</li> <li>✓ Cutaneous leishmaniasis, which causes skin sores and is the most common form.</li> <li>✓ Mucocutaneous leishmaniasis, which causes skin and mucosal lesions.</li> </ul> </li> <li>• It is the second largest parasitic killer in the world after malaria.</li> <li>• It is also one of the most dangerous neglected tropical diseases (NTDs).</li> <li>• It is caused by a parasite called Leishmania, which is transmitted through the bite of female phlebotomine sandflies</li> <li>• It attacks the immune system, and is almost always fatal if not treated.</li> <li>• Symptoms may include <u>fever, weight loss and swelling of the spleen or liver</u>.</li> <li>• The National Health Policy, 2002 had set the goal of kala-azar elimination by the year 2010 which was revised to 2015. This deadline was later extended twice to 2017, and then to 2020.</li> </ul>
<b>OMISURE</b>	<p>Indian Council of Medical Research has approved a made in India testing kit, named Omisure, for detecting the omnicron variant of the SARS-COV-2 Corona Virus.</p> <p><b>Key Points</b></p>

	<ul style="list-style-type: none"> <li>• It is manufactured by Tata Medical and Diagnostics.</li> <li>• The test is compatible with all standard Real Time PCR Machines</li> <li>• The kit can also detect other variants as well</li> <li>• It used S-Genes Target Failure (SGTF) strategy and S-Genes Mutation Amplification (SGMA) both.             <ul style="list-style-type: none"> <li>✓ 'S' Gene, ORF, 'N' gene, RdRp, 'E' gene are viral genes that are targeted to detect Covid-19.</li> </ul> </li> <li>• The kit will be manufactured for both domestic and international market.</li> </ul>
<p><b>Fairbank's Disease</b></p>	<ul style="list-style-type: none"> <li>• This disease also known as Multiple Epiphyseal Dysplasia (MED).</li> <li>• It is a <b>rare genetic disorder</b> that affects the growing ends of bones.</li> <li>• Bones usually elongate by a process that involves the <b>depositing of cartilage at the ends</b> of the bones, called <b>ossification</b>. This cartilage then mineralizes and hardens to become bone. In MED, this process is defective</li> <li>• Symptoms are joint pain in the hips and knees, early-onset arthritis, a waddling walk, and mild short stature as adults.</li> <li>• Most people are diagnosed during childhood, but mild cases may not be diagnosed until adulthood.</li> <li>• MED patient usually requires management of pain and orthopedic procedures.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Acromegaly</b> is a hormonal disorder that leads to the abnormal growth of hands, feet and face.</p> <p>This disorder is mainly caused due to the excessive production of the Growth Hormone (GH) produced by the <b>Pituitary gland</b></p> </div>
<p><b>Lassa Fever</b></p>	<p>Lassa fever has been detected in UK. The cases are linked to travel to West African countries.</p> <ul style="list-style-type: none"> <li>• It is a viral haemorrhagic fever that is primarily transmitted to humans via contact with Mastomys rats. It is found in West Africa and was first discovered in 1969 in Lassa, Nigeria.</li> <li>• The death rate associated with this disease is low, at around <b>1%</b>. But the death rate is higher for certain individuals, such as pregnant women in their 3<sup>rd</sup> trimester.</li> <li>• A person can become infected if they come in contact with items of food that is contaminated with the <b>urine or faeces of an infected rat</b> (zoonotic disease).</li> <li>• It can also be spread, <b>though rarely</b>, if a person comes in contact with a sick person's infected bodily fluids or through mucous membranes such as the eyes, nose or the mouth</li> </ul>
<p><b>Nipah virus infection (NiV)</b></p>	<p>Scientists at Pune's Indian Council of Medical Research were able to detect the presence of <b>IgG antibodies</b> against Nipah virus infection (NiV) in some bats.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>About Antibody</b></p> <ul style="list-style-type: none"> <li>• Antibody, also called immunoglobulin, a protective protein produced by the immune system in response to the presence of a foreign substance called antigen.</li> <li>• Antibodies recognize and capture antigens to remove them from the body.</li> </ul> </div> <p><b>Different Types of Antibodies</b></p> <ul style="list-style-type: none"> <li>• <b>IgG</b> - It is the main antibody in blood and it has a powerful ability to bind to bacteria and toxins, and thus it takes on an important role in the biological defense system.</li> <li>• <b>IgM</b> - It is constructed of five units of basic Y-shaped structures and is mainly</li> </ul>

	<p>distributed to the blood. Produced first upon pathogen invasion by B cells, IgM has a key role in the initial immune system defense for protecting the body.</p> <ul style="list-style-type: none"> <li>➤ <b>B cells, also known as B lymphocytes, are a type of white blood cell of the lymphocyte subtype. They function in the humoral immunity component of the adaptive immune system</b></li> <li>• <b>IgA</b> - It is mainly present as monomers, but it forms dimers in secretions such as bowel fluid, nasal discharge, and saliva, to prevent bacterial invasion from a mucous membrane. It is also present in breast milk.</li> <li>• <b>IgD</b> - It is present on the surface of B cells and it is reported to play a role in the induction of antibody production and the prevention of respiratory tract infections.</li> <li>• <b>IgE</b> - It is believed that IgE was originally related to immunity reactions to parasites. By binding to mast cells, IgE is believed to be involved in allergies such as pollinosis.</li> </ul>
<b>Hepatitis B</b>	<p>Many countries including the US and UK reported mysterious cases of a few children being diagnosed with Hepatitis B.</p> <ul style="list-style-type: none"> <li>• It is an <b>infection in the liver</b> which happens because of the Hepatitis B virus or HBV.</li> <li>• The virus usually spreads through blood, semen or other body fluids.</li> <li>• A vaccine can prevent hepatitis B, but there's no cure if you have the condition.</li> <li>• When it is acute, the virus lasts a small time and doesn't always necessarily need treatments.</li> <li>• Although it can get serious and lead to life-threatening diseases like organ scarring, liver failure and even cancer. The most common symptoms are jaundice, fever, fatigue that lasts for weeks or even months, vomiting, loss of appetite, and pain in joints or belly.</li> <li>• World Hepatitis Day is observed on July 28 every year.</li> <li>• In 2016, the World Health Assembly (WHA) adopted the resolution that viral hepatitis should be eliminated by 2030.</li> </ul>

REPORTS/INDEXES

India State of Forest Report- 2021

The Ministry of Environment, Forests and Climate Change (MoEFCC) released the India State of Forest Report- (ISFR) 2021.

About India State of Forest Report

- ISFR is an assessment of India's forest and tree cover.
- It is published every **two years** by the **Forest Survey of India** under MoEFCC.
- The first survey was published in 1987, and ISFR 2021 is the 17th.
- Three categories of forests are surveyed – **very dense forests** (canopy density over 70%), **moderately dense forests** (40-70%) and **open forests** (10-40%).
- **Scrubs** (canopy density less than 10%) are also surveyed but not categorized as forests.

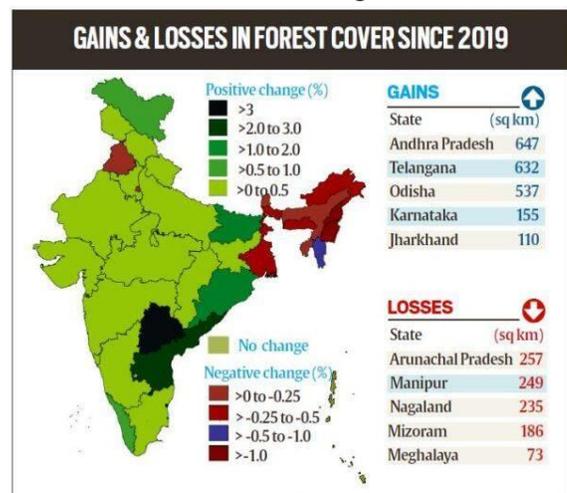
Key Findings Of This Report

A. Total Forest & Tree Cover

- Forest and tree cover in country has increased by **2,261 square kilometres** since the last assessment in 2019.
- The total forest and tree cover was 80.9 million hectares, which accounted for **24.62%** of the geographical area of the country.
  - ✓ India's forest cover: 7,13,789 square kilometres, 21.71% of the country's geographical area, an increase from 21.67% in 2019.
  - ✓ Tree cover has increased by 721 sq km. Tree cover is defined as all tree patches of size less than one hectare occurring outside the recorded forest area. This covers trees in all formations including scattered trees.
- 17 States and Union Territories had more than 33% of their area under forest cover.

B. State-wise Cover

- **Largest Forest Cover:** Madhya Pradesh followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.
- **Highest Increase** in forest cover: Andhra Pradesh (647 sq. km), Telangana (632 sq. km) and Odisha (537 sq. km).
- **Highest % Increase** in forest cover: Telangana (3.07%), Andhra Pradesh (2.22%) and Odisha (1.04%).
- The top five States in terms of forest cover as a percentage of their total geographical area were Mizoram (84.53%), Arunachal Pradesh (79.33%), Meghalaya (76%), Manipur (74.34%) and Nagaland (73.90%).
- The **north-eastern state account** for 7.98% of total geographical area but 23.75% of total forest cover. The forest cover in this region has shown an overall decline of 1,020 sq km in forest cover.



C. Mangrove Cover

- The total mangrove cover in the country had increased by **17 sq. km**, to reach 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).

**D. Bamboo Cover**

- Bamboo forests have grown from 13,882 million culms (stems) in 2019 to 53,336 million culms in 2021.

**E. Carbon Stock**

- The total carbon stock in forests was estimated to be 7,204 million tonnes, an increase of 79.4 million tonnes from 2019. The annual increase in the carbon stock is 39.7 million tonnes.

**F. Forest Cover In Tiger Reserve**

- For the first time ISFR 2021 assessed forest cover in tiger reserve, tiger corridor and the Gir forest.
- The forest cover in the **tiger corridor** has increased by **37.15 sq. km (0.32%)** from 2011-2021 but decreased by 22.6 sq. km (0.04%) in tiger reserve.
  - ✓ Forest cover has increased in 20 tiger reserves in these 10 years, and decreased in 32.
  - ✓ Buxa (West Bengal), Anamalai (Tamil Nadu) and Indravati reserves (Chhattisgarh) have shown an increase while the highest losses have been found in Kawal (Telangana), Bhadra (Karnataka) and the Sunderbans reserves (West Bengal).
  - ✓ Pakke Tiger Reserve in Arunachal Pradesh has the highest forest cover, at nearly 97%.

**India Ranks 3<sup>rd</sup> Globally In Forest Area Gain**

The Department of Economic Affairs said in annual Economic Survey that India ranks 3<sup>rd</sup> globally in **average annual net gain in forest area** from 2010-2020. Much of India's increase in forest cover from 2011-21 is attributed to enhancement in **very dense forest cover**, which rose by approximately 20% during the period.

**Other Findings**

- India added an average of 2,66,000 hectares of forest area every year during the period of 2010-2020.
- India's total forest cover was 7,13,789 sq km in 2021, reflecting an increase of 3.14% over 2011 even as it remained the tenth-largest country by forest area in the world.
- India's Forest cover area accounts for 2% of world's total forest area in 2020.
- The top 10 countries account for 66% of the world's forest area. Of these Brazil (59%), Peru (57%), Democratic Republic of Congo (56%) and Russia (50%) have half or more of their total geographical area under forests.

**2<sup>nd</sup> & 3<sup>rd</sup> Part of The Sixth Assessment Report (AR6)**

The Intergovernmental Panel on Climate Change (IPCC) released the second part of 6<sup>th</sup> assessment report.

**Important Finding of The 2<sup>nd</sup> part of Report**

- More than 3.5 billion people (45% of global population), were living in areas most vulnerable to climate change.
- If the temperature rise crossed the threshold of 1.5°C from pre-industrial times, then many changes could be irreversible.
- Global sea levels will likely rise 44-76 cm this century if governments meet their current emission-cutting pledges.
- Vector-borne and water-borne diseases such as malaria or dengue are increasing due to climate change, especially in subtropical regions of Asia.
- Communicable, respiratory, diabetic and infectious diseases as well as infant mortality rates are likely to increase with the rise in temperature.

**India Specific Findings**

- The report identifies India as one of the vulnerable hotspots, with many regions and important cities facing a very high risk of climate disasters such as floods, sea level rise and heat waves.
- Urban India is at greater risk than other areas with a projected population of 877 million by 2050, nearly double of 480 million in 2020.
- Mumbai is at high risk of sea-level rise and flooding, Ahmedabad faces serious danger of heat-waves. Several cities, including Chennai, Bhubaneshwar, Patna & Lucknow, are approaching dangerous levels of heat and humidity.

### Significance

- The latest report assesses for the first time the **regional and sectoral** impacts of climate change. It covers the *risks and vulnerabilities* of mega-cities around the world.
- It has warned of several climate change-induced disasters over the next two decades, even if strong action is taken to reduce emissions of greenhouse gas emissions.
- Also for the first time, the IPCC report has looked at the **health impacts of climate change**.

### 3<sup>rd</sup> Part of The Sixth Assessment Report

- The 1st part of the report was published in 2021 on the **physics of climate change**.
- The 2nd part of the report was published in March 2022 about the **impacts, risks and vulnerabilities of climate change and adaptation options**.

### Important Finding of 3<sup>rd</sup> Part

- In 2019, global net anthropogenic Greenhouse gas (GHG) emissions were at 59 Gigatonnes of carbon dioxide equivalent (**GtCO<sub>2e</sub>**), 54% higher than in 1990.
- Net anthropogenic GHG emissions continue to increase during the period 2010-2019, as have cumulative net CO<sub>2</sub> emissions since 1850.
  - Net emissions refer to emissions accounted for after deducting emissions soaked up by the world's forests and oceans.
- Average annual GHG emissions during 2010-19 were higher than in any previous decade, but the **growth rate** of 1.3% per year between 2010 and 2019 was **lower** than 2.1% per year between 2000 and 2009.
- Least Developed Countries (LDCs) **average per capita emissions** in the period 1990-2019 were only 1.7 tonnes CO<sub>2e</sub>, compared to the global average of 6.9 tCO<sub>2e</sub>.
  - Globally, **41% of the world's population** lived in countries emitting less than **3 tCO<sub>2e</sub> per capita in 2019**
  - The **10% households** with the **highest per capita emissions** contribute a disproportionately large share to global household GHG emissions.
- Globally, net anthropogenic GHG emissions have increased in all major regions since 2010. An increasing share of emissions can be attributed to urban areas.
- Variations in **regional and national per capita emissions** partly reflect different development stages, but they vary widely even at similar income levels.
- At least **18 countries have reduced GHG emissions** for more than 10 years.
- The **unit cost of many low-emission technologies** has declined steadily since 2010.
- Innovation lags behind in developing countries due to weak enabling conditions.
- Global GHG emissions are projected to peak between 2020 and before 2025 in the latest global **model paths**(best-case scenario, known as the C1 pathway) that limit warming to 1.5 °C with no or limited overshoot
  - Overshoot refers to global temperatures crossing the 1.5°C threshold temporarily, but then being brought back down using technologies that suck CO<sub>2</sub> out of the atmosphere

**About The Report**

- The Assessment Reports, the first of which had come out in 1990.
- It is the most comprehensive evaluations of the state of the earth's climate.
- The four subsequent assessment reports came out in 1995, 2001, 2007 and 2015.
- Each assessment report has built on the work of the previous ones, adding more evidence, information and data, so that most of the conclusions about climate change and its impacts have far greater clarity, certainty and wealth of new evidence now, than earlier.
- These reports, on their own, are not **policy prescriptive**. They do not tell countries or governments what to do. They are only meant to present factual situations with as much scientific evidence as is possible.

**About (IPCC)**

- It is an intergovernmental body of the United Nations established in 1988 by World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP).
- Headquarter is at Geneva (Switzerland), it serves to provide policy makers with a regular assessment of the scientific basis of climate change, its impacts and future risks, and adaptation and mitigation options.

*{For more details on first part of AR6 refer Quick Revision Part 1, Page 61}*

**World Air Quality Report 2021**

World Air Quality Report released recently which is prepared by Swiss organisation IQAir.

**About this Report**

- The report is based on PM2.5 air quality data from 6,475 cities in 117 countries, regions and territories around the world.
- The data used to create this report was generated by tens of thousands of regulatory and low-cost air quality monitoring stations operated by governments, non-profit organizations, research institutions etc.

**Highlights of this report**

- Air pollution continued to spike to unhealthy levels in 2021.
- The report revealed that not a single country managed to meet the WHO's air quality standard in 2021
- Bangladesh was the most polluted country, followed by Chad, Pakistan and Tajikistan. **India was the fifth most polluted country.**
- **New Delhi** continues to be the world's most polluted capital city for the fourth consecutive year.
- The index listed 35 Indian cities with the worst air quality tag for 2021 with Rajasthan's **Bhiwadi** topping the list followed closely by Uttar Pradesh's Ghaziabad.
- In 2021, 48% of India's cities exceeded 50 µg/m<sup>3</sup>, or more than 10 times the WHO guideline.
- The estimated daily economic cost of air pollution is estimated at \$8 billion (USD), or 3 to 4 percent of gross world product.

**Air Quality Database**

According to the WHO's air quality database 2022, almost the entire global population (99%) breathes air that exceeds WHO's air quality limits. WHO for the **first time** has taken ground measurements of annual mean concentrations of NO<sub>2</sub>. It also includes measurements of Particulate Matter with diameters equal or smaller than 10 µm (PM<sub>10</sub>) or 2.5 µm (PM<sub>2.5</sub>).

**Major Findings**

- More than **6,000 cities in 117 countries** are now monitoring air quality but their residents are still breathing unhealthy levels of fine particulate matter and nitrogen dioxide.

- People in low and middle-income countries suffer the highest exposure.
- Particulate matter, especially PM 2.5, is capable of penetrating deep into the lungs and entering the bloodstream, causing various diseases.
- NO<sub>2</sub> is associated with respiratory diseases, particularly asthma, leading to respiratory symptoms.
- In the 117 countries monitoring air quality, the air in 17% of cities in high-income countries falls below WHO's air quality guidelines for PM 2.5 or PM 10.
- In low and middle-income countries, air quality in less than 1% of the cities complies with WHO recommended thresholds.
- WHO is calling for rapid intensification of actions to adopt or revise and implement national air quality standards.

### State Energy and Climate Index

NITI Aayog has launched the State Energy & Climate Index (SECI) Round 1.

#### About Index

- SECI is the **first index** that aims to track the efforts made by **States and UTs** in the climate and energy sector.
- It ranks the states' performance on **6 parameters**, namely, (1) DISCOM's Performance (2) Access, Affordability and Reliability of Energy (3) Clean Energy Initiatives (4) Energy Efficiency (5) Environmental Sustainability; and (6) New Initiatives.
- These parameters have been devised keeping in mind India's goals for climate change and clean energy transition.
- The index is based on **2019–20 data**.

#### Major Findings of this Report

- **Categorization:** Based on the outcome of SECI scores, states and union territories have been categorised into three groups -- **front runners (SECI score >= 46), achievers (SECI score between 36-46), and aspirants (SECI score < =36).**

<b>Larger States Category</b>	<ul style="list-style-type: none"> <li>• <u>Gujarat, Kerala and Punjab</u> have been ranked as the top three performers</li> <li>• Jharkhand, Madhya Pradesh and Chhattisgarh were the bottom three States</li> </ul>
<b>Smaller States category</b>	<ul style="list-style-type: none"> <li>• Goa, Tripura and Manipur are the top performers.</li> </ul>
<b>Among UTs</b>	<ul style="list-style-type: none"> <li>• Chandigarh, Delhi and Daman &amp; Diu/Dadra &amp; Nagar Haveli are the top performers</li> </ul>

- Punjab was the best performer in discom performance while Kerala topped in access, affordability and reliability category.
- Haryana was the best performer in clean energy initiative among larger States and Tamil Nadu in the energy efficiency category.

### UNEP Report on Noise Pollution

- The United Nations Environment Programme (UNEP) commissioned a report, **Annual Frontiers Report 2022**.
- The report identifies the challenges posed by noise, wildfires and the disruption of biological rhythms of plants, animals and ecological cycles.
- The chapter titled Listening to Cities: From Noisy Environments to Positive Soundscapes draws attention to noise pollution and its long-term physical and mental health impacts.

- According to the WHO, sound levels less than **70 decibel (dB)** are not damaging to living organisms, regardless of how long or consistent the exposure is. Exposure for more than 8 hours to constant noise beyond 85 dB may be hazardous.

**Major Highlights of this report**

- **Dhaka** (Bangladesh) is ranked as the noisiest city in the world, followed by **Moradabad**, Uttar Pradesh and Pakistan's **Islamabad** at third
  - Moradabad in Uttar Pradesh was shown as having a dB range from 29 to 114
  - Dhaka had a maximum value of 119 dB.
- The list ranked 5 Indian cities among the most noisy cities in the world which are **Moradabad , New Delhi ,Asansol, Jaipur, Kolkata**
- **Irbid, Jordan** is ranked as the **quietest city** in world, followed by Lyon, France and Madrid, Spain.

**Laws related to Noise Pollution in India**

- Central Pollution Control Board (CPCB) is mandated to track noise levels, set standards as well as ensure, via their state units, that sources of excessive noise are controlled.
  - Noise emanating from industry is regulated by State Pollution Control Boards / Pollution Control Committees (SPCBs / PCCs) for states / Union territories under the Air (Prevention and Control of Pollution) Act, 1981.
  - The CPCB also measures noise levels before and after Diwali in major cities, to publicise the impact of firecrackers.
- Noise pollution is regulated separately under the **Noise Pollution (Regulation and Control) Rules, 2000.**
  - Earlier, noise pollution and its sources were addressed under the **Air (Prevention and Control of Pollution) Act, 1981.**
- Additionally, **noise standards** for motor vehicles, air-conditioners, refrigerators, diesel generators and certain types of construction equipment are prescribed under the **Environment (Protection) Rules, 1986.**
- The Supreme Court of India had banned playing of music on loudspeakers after 10pm.
- Awaaz Foundation is a NGO in India working to control noise pollution from various sources through advocacy, PIL, awareness, and educational campaigns since 2003.

**Permissible Limits of Noise Levels Laid by CPCB.**

Area/ Zone	Category of Area / Zone	Limits in dB(A) Leq Day Time (from 6.00 a.m. to 10.00 p.m.)	Limits in dB(A) Leq Night Time (from 10.00 p.m. to 6.00 a.m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

**Global Wind Report 2022**

The Global Wind Report for 2022 was published by the Global Wind Energy Council (GWEC).

**Major Highlights of the Report**

- Every year wind power installations worldwide must quadruple from 94 gigawatts (GW) installed in 2021 within this decade to meet global climate goals (Paris agreement & Net Zero targets).
- **Capacity installed in 2021**
  - **New installations in 2021 of 93.6 GW** brought global cumulative wind energy capacity to **837 GW**, a year-on-year (YoY) growth of 12%.

- The **onshore wind market added 72.5 GW** worldwide. That is **18% lower** than the previous year due to a slowdown in China and the US, the world's two largest wind markets.
- The offshore wind market enjoyed its best ever year in 2021, with 21.1GW commissioned. More than three times the capacity of offshore wind compared to 2020 was installed

**Offshore wind**

- In 2022 New offshore installations likely to decline to the 2019 / 2020 levels. Decline will be primarily due to the reduction of installations in China.
- However, market growth is expected to regain momentum from 2023, eventually passing the 30GW-mark in 2026.
- Offshore wind energy generation increases return on investment, along with reducing greenhouse gas emissions, said a report by the World Resources Institute.
- Carbon dioxide emissions can reduce by 0.3-1.61 giga tonnes every year by 2050 if offshore wind energy generation is scaled up.

Potential of Wind Energy in India

S. No.	State	Wind Potential at 120 m (GW)
1	Gujarat	142.56
2	Rajasthan	127.75
3	Maharashtra	98.21
4	Tamil Nadu	68.75
5	Madhya Pradesh	15.40
6	Karnataka	124.15
7	Andhra Pradesh	74.90
<b>Total 7 windy states</b>		<b>651.72</b>
8	Other States	43.78
<b>Total</b>		<b>695.50</b>

**Scope of the Wind Energy in India**

- In India, more than 1.4 GW of wind was installed in 2021, exceeding the 1.1 GW of installations during the previous year.
- Government has set a target of installing 5 GW of offshore capacity by 2022 and 30 GW by 2030.
  - **India is yet to develop its offshore wind energy facility.**
- India can generate 127 GW of offshore wind energy with its 7,600 km of coastline.
- The Indian wind market outlook for 2022 and 2023 is projected at 3.2 GW and 4.1 GW of onshore wind installations, respectively.

**Government Initiative for Wind Energy**

- **National offshore wind energy policy (2015)** - Ministry of New and Renewable Energy will act as the nodal Ministry for development **of Offshore Wind Energy** in India and work in close coordination with other government entities.
- **National Solar-Wind Hybrid Policy (2018)** - The main objective of the Policy is to provide a framework for promotion of large grid connected wind-solar PV hybrid system for optimal and efficient utilization of transmission infrastructure and land.

**Global Wind Energy Council (GWEC)**

- It was established in 2005 to provide a reliable and representative platform for the entire wind energy sector at an international level.
- Its mission is to ensure that wind power is established as one of the world's leading energy sources, providing substantial environmental and economic benefits.

**Corruption Perception Index**

- India ranks 85 in Transparency International's corruption index. The score is stagnant over past decade.
- This year, the top countries are **Denmark, Finland and New Zealand**, each with a score of 88. Norway (85), Singapore (85), Sweden (85), Switzerland (84), the Netherlands (82), Luxembourg (81) and Germany (80) complete the top 10.
- **South Sudan (11), Syria (13) and Somalia (13)** remain at the bottom of the index.

**Key Points**

- Concerns over the country’s democratic status, as fundamental freedoms and institutional checks and balance are mentioned.
- The report highlighted concern over the risk to journalist and activists who have been victim of attacks by the Police, political militants, criminal gangs and corrupt local officials.

**Transparency International**

- Transparency International is an NGO which has headquarter in Germany.
- It aims to take action to combat global corruption with civil societal anticorruption measures.
- The index , ranks 180 countries and territories by their perceived levels of public sector

**Publications of Transparency International**

1. Corruption perception Index
2. Global Corruption Report
3. Corruption Barometer
4. Bribe payers Index

**Democracy Report 2022**

India ranked **93 in the Liberal Democratic Index (LDI)** out of 179 countries. It is annual report published by V-Dem Institute at Sweden’s University of Gothenburg. The report is titled as Democracy Report 2022: Autocratisation Changing Nature?

**Key Points Of The Report**

- The level of democracy enjoyed by the average global citizen in 2021 is down to 1989 levels.
- The report classified countries into **four regime** types based on their score



- India is on the top ten autocratiser in the world and is classified as **electoral autocracy**
- **Sweden** has topped the LDI index, other Scandinavian countries such as Denmark and Norway, along with Costa Rica and New Zealand are on top five in liberal democracy.
- Autocratisation is spreading rapidly, with a record of 33 countries autocratising.
- Signalling a sharp break from an average of 1.2 coups per year, 2021 saw a record 6 coups, resulting in 4 new autocracies: Chad, Guinea, Mali and Myanmar.
- The number of liberal democracies shrunk to 34 from 42 in 2012.
- Closed autocracies or dictatorship has rose from 25 to 30 in 2021.
- Repression of civil society organisations worsened in 44 countries over past ten years.

**Reason For Changing Nature Of Autocratisation**

- The largest driver of Autocratisation is toxic **polarisation**, a dominant trend in **40 countries** as opposed to **5 countries** in **2011**.
- Misinformation as key tool used by autocratising government to sharpen polarisation.
- Repression of civil society and censorship of media.
- Decisive autonomy for the electoral management body (EMB) deteriorated in 25 countries.

**State of World Population Report 2022**

Recently, the **United Nations Population Fund’s (UNFPA)** flagship State of World Population(SoWP) Report 2022 titled “Seeing the Unseen: The case for action in the neglected crisis of unintended pregnancy” was launched.

**Five Key Facts from the 2022 SoWP**

1. Rising Unintended Pregnancies.
2. Lack of Safe, Modern Methods of Contraception
3. Rising Rape-Related Pregnancies
4. Impact of Humanitarian Emergencies

### United States Commission on International Religious Freedom Annual Report 2022

- The United States Commission on International Religious Freedom (USCIRF) has released its 2022 Annual Report.
- The report recommended to **designate India**, China, Pakistan, Afghanistan and 11 other nations as "**Country of Particular Concern**" in the context of **status of religious freedom**.
  - The recommendation was made to the US government.
  - The recommendations of the USCIRF are **not binding on the US Government**.
- This was for the 3<sup>rd</sup> consecutive year that the USCIRF has recommended to the US State Department to designate India as a "Country of Particular Concern".
- USCIRF is a U.S. federal government commission created by **International Religious Freedom Act of 1998**. The commission has 9 commissioners out of which three are appointed by US president, four by the opposition and two by the ruling party.
- Its principal responsibilities are
  - To review the facts and circumstances of violations of religious freedom internationally
  - To make policy recommendations to the President, the Secretary of State and the Congress.

### Global Cybersecurity Outlook 2022

- The World Economic Forum (WEF) has released a first ever report on cybersecurity in the form of Global Cybersecurity Outlook 2022.
- The report identifies the *trends* and analyses the *near-term future cybersecurity challenges*.
- The accelerated shift to remote working during the COVID-19 pandemic coupled with recent high-profile cyberattacks have resulted in bringing this report.

#### Key Findings

- Three critical challenges faced by the businesses are:



- Ransomware attacks are followed by social-engineering attacks as the second-highest concern for cyber leaders; number three on this list is malicious insider activity.
- A malicious insider is defined as an organization's current or former employees, who misuse their authorized access to critical assets in a manner that negatively affects the organization.
- Small and medium-sized enterprises (SMEs) are seen as a key threat to supply chains, partner networks and ecosystems. The leaders are concerned about the cyber resilience of SMEs in their ecosystem.

### Manuals and a Newsletter of Indian Cyber Crime Coordination Centre (I4C) Released

- Govt has released following 3 Manuals and a Newsletter of the I4C under the Cyber and Information Security Division (CIS) of the Ministry of Home Affairs.



Cyber Hygiene for Cyber Space - Dos and Don'ts – Basic Manual

Cyber Hygiene for Cyber Space - Dos and Don'ts – Advanced Manual

Quarterly Newsletter – CyberPravah

- The manuals are part of a focussed awareness campaign for prevention of cyber-crimes and to inculcate cyber hygiene in rural areas, industrial bodies, and the general public.
- o I4C is also spreading mass awareness through various social media handles in the name of 'CyberDost'.

### Trends in World Military Expenditure, 2021 - SIPRI Report

A report by the Stockholm International Peace Research Institute (SIPRI) on World Military Expenditure has been released.

#### Key finding of SIPRI report published in 2022

##### Global military expenditure

- It has reached an all-time high of \$2.1 trillion, **passing \$2 trillion in 2021**. This was the seventh consecutive year that spending increased.

##### Top 5 military spenders

- United States, China, India, United Kingdom and Russia were the top five defence spenders, together accounting for 62% of the global expenditure.
- US military spending amounted to \$801 billion in 2021, a drop of 1.4% from 2020. The US military burden decreased slightly from 3.7% of GDP in 2020 to 3.5% in 2021.

##### India's military spending

- India's military spending of \$76.6 billion ranked **third highest** in the world.
- This was up by **0.9%** from 2020 and by **33%** from 2012.
- In a push to strengthen the indigenous arms industry, **64% of capital outlays** in the military budget of 2021 were earmarked for acquisitions of domestically produced arms.

#### About SIPRI

- SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- Established in **1966**, SIPRI is based in **Stockholm, Sweden**. It is regularly ranked among the most respected think tanks worldwide.

### World Employment and Social Outlook Trend 2022

The International Labour Organization (ILO) has recently released the **World Employment and Social Outlook Trends 2022**.

#### Highlights Of The Report

- It warns of slow and uncertain recovery, with uneven labour market prospects across the globe, due to the pandemic. Also, wider economic risks such as accelerating inflation may play a role.
- It estimates the equivalent of around 52 million fewer jobs in 2022 versus pre-Covid levels. Overall, around 207 million people are estimated to be unemployed in 2022.

- Disruptions are set to continue into 2023 when there will still be around 27 million fewer jobs.
- It also cautions that the overall impact on employment is significantly greater than represented in these figures because many people have left the labour force.
- The differences are deepening inequalities **within and among countries** and weakening the economic, financial and social fabric of almost every nation, regardless of development status.

**International Labour Organization (ILO)**

- Founded in 1919 as a part of **Treaty of Versailles**, the ILO is a specialized agency of United Nations with a mandate to advance **social and economic justice** through setting international labour standards.
- It brings together governments, employers and workers representatives of **187 member States**, to set labour standards, develop policies and devise programmes promoting decent work for all women and men.
- Headquartered in **Geneva**, the ILO received the **Nobel Peace Prize in 1969**, for improving fraternity and peace among nations, pursuing decent work and justice for workers, and providing technical assistance to other developing nations.

**Inequality Kills Report**

Oxfam has released a report titled '**Inequality Kills**', which highlights the growing inequality across the world. It is a British founded **confederation of 21 independent charitable organisations** focusing on the alleviation of **global poverty**.

**Highlights Of The Report**

- The pandemic has increased economic inequalities across the world. For 99% of the global population, incomes have fallen and over 160 million more people have been forced into poverty, while the **ten richest people doubled their fortunes** since the start of the pandemic.
- Inequality is also at play in the climate crisis, with the **world's richest 1% emitting more than twice as much CO2 as the poorest 50% of the world**.
- Women, ethnic minorities and developing countries have been the hardest hit by growing inequality during the COVID-19 pandemic.

**Indian Scenario**

- The collective wealth of India's 100 richest people hit a record high of Rs 57.3 lakh crore (USD 775 billion). In the same year, the share of the bottom 50% of the population in national wealth was a mere 6%.
- During the pandemic (March 2020 to November 30, 2021), the wealth of Indian billionaires increased from Rs 23.14 lakh crore (USD 313 billion) to Rs 53.16 lakh crore (USD 719 billion).
- More than 4.6 crore Indians, meanwhile, are estimated to have fallen into extreme poverty in 2020, nearly half of the global new poor.
- Increase in indirect tax (for e.g. on fuel) and reduction in corporate tax (from 30% to 22%) led to a situation where poor, marginalised and the middle class paid high taxes despite going through the pandemic, while the rich made more money without paying their fair share.

**International Intellectual Property Index**

The 10th edition of International Intellectual Property Index compiled by the US Chambers of Commerce was released. The index evaluates intellectual property rights in 55 global economies, across 50 unique indicators.

**Key Points From The Index**

- Since the inaugural edition of the Index, the average score of economies has increased by 1.50%—from 55.72% in **2012** to 57.22% in 2022.

- The improvement was most significant in the patents and international treaties categories
- Out of the 53 economies included in both the ninth and tenth editions, 45 economies saw a net improvement in their scores. UAE, Nigeria, and Peru had the largest improvements in score. United States earned the top score again in the current edition with 95.4%.
- **Parameters:** It ranks countries based on 50 unique indicators. These indicators are divided across nine categories of protection: 1) Patents 2) copyrights 3) trademarks 4) design rights 5) trade secrets 6) commercialization of IP assets 7) enforcement 8) systemic efficiency and 9) membership and ratification of international treaties.
- Overall, India is ranked **43** out of 55 countries. India's overall score has increased from 38.40% (19.20 out of 50) in the ninth edition to 38.64% (19.32 out of 50) in the 10th edition.

### Building Digital Skills report

- Amazon Web Services, Inc (AWS), an Amazon.com company, released findings from a new research report titled, '**Building Digital Skills for the changing workforce**'.
- The report is based on a survey of organizations and workers in both technology and non-technology roles, across Australia, India, Japan, New Zealand, Singapore and South Korea.
- **Digital skills** are defined as skills needed to use digital devices, communication applications, and networks to access and manage information, from basic online searching and emailing to specialist programming and development.

### Key Findings

- The seven countries will need to train an estimated **86 million** more workers over the next year in digital skills to keep pace with technological advancements – equivalent to 14% of their current total workforce.
- Over the next year, the number of Indian workers requiring digital skills for their jobs is projected to increase by 27.3 million, representing 7% of India's workforce.
- The ability to use cloud-based tools as well as online collaboration, accounting, and customer relationship management (CRM) software would be the most in-demand skill required by the employers by 2025, followed by technical support skills and cybersecurity skills.
- 95% of workers in India reported that they need more digital skills to cope with changes in their jobs due to the pandemic. About 63% of the workers felt they would require training in cloud-related skills by 2025 to progress in their careers.
- Despite this, only 45% of employers in India have a training plan in place, which could affect their competitiveness in areas of productivity, innovation, and employee retention.

### Export Preparedness Index 2021

- NITI Aayog, in partnership with the Institute of Competitiveness, recently released the **Export Preparedness Index (EPI) 2021**.
- **Aim:** To assess the readiness of the states, in terms of their export potential and their performance.
- Its primary goal is to generate competition among all Indian states ('Coastal', 'Landlocked', 'Himalayan', and 'UTs/City-States')
- It can be used by states and UTs to benchmark their performance against their peers and analyse potential challenges to promote export-led growth at the subnational level.
- It intends to bring about favourable export-promotion policies, create the necessary infrastructure for exports, and assist in identifying strategic recommendations for improving export competitiveness.
- It ranks states on **four key pillars – Policy, Business Ecosystem, Export Ecosystem and Export Performance** and **11 sub-pillars**

### Key Findings

- In India, export is an inalienable component of India's economic growth as exports have been contributing roughly 20% on average to the GDP of India for the past decade.
- India has been showing positive statistics in exports since the beginning of FY 2021-22 and in December 2021 India achieved the highest ever export of 37 billion USD a 37% jump over December 2020.

### Rankings

- **Gujarat**, for the second consecutive year, has topped the EPI, followed by Maharashtra, Karnataka, Tamil Nadu and Haryana in the top five. Most of the coastal states are top performers.
- UTs/states like Lakshadweep, Arunachal Pradesh, Mizoram, Ladakh & Meghalaya were placed at the bottom.

### Challenges

- EPI 2021 brings out three major challenges to India's export promotion. These are:



### World Economic Outlook

International Monetary Fund recently released its latest World Economic Outlook.

#### Highlights

- The **global growth** has been projected at 3.6% in 2022 and 2023, down from 6.1% in 2021. The downgrade largely reflects the war's direct impacts on Russia and Ukraine and global spillovers.
- The IMF has lowered India's growth projection from its previous projection, by 0.8% points to **8.2%** in 2022. However, India will still be the fastest-growing major economy in the world.
- In 2021, India registered a growth rate of 8.9%. By 2023, India is estimated to grow at 6.95%

#### World Economic Outlook

- The World Economic Outlook report is published twice a year by IMF.
- It presents an analysis of global economic developments during the near and medium term.
- It gives an overview as well as detailed analysis of the world economy, by considering issues affecting industrial countries and developing economies. It also addresses important topics of current interest in the world.