



# ENLITE IAS

Enlightening minds. Lightening journeys

## *Fortnightly Current Affairs Magazine*

Dec 1-15



# CBDC



## Central Bank Digital Currencies

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## POLITY

### 1. Nagaland Statehood Day

#### In News

Recently Nagaland celebrated their Statehood day

- Nagaland became the 16th State of the Union of India on 1st December 1963(*13th Amendment Act, 1963*).
- It is bounded by *Assam* in the West, *Myanmar* (Burma) in the east, *Arunachal Pradesh* and part of *Assam* in the North, and *Manipur* in the South.

## Hornbill Festival



**Why in news?**

- Vice President attends the inauguration ceremony of Hornbill festival.
- The 23rd edition of the Hornbill Festival will be held from December 1 to 10.

**Hornbill Festival**

- Hornbill Festival is celebrated in Nagaland.
- Aim - To encourage inter-tribal interaction.
- The Hornbill Festival also known as the 'Festival of festivals'.
- The festival was first held in the year 2000.
- It is named after the Indian hornbill, the large and colourful forest bird which is displayed in the folklore of most of the state's tribes.
- Festival highlights include the traditional Naga Morungs exhibition and the sale of arts and crafts, food stalls, herbal medicine stalls, flower shows and sales, cultural medley – songs and dances, fashion shows etc



### 2. Multi-State Cooperative Societies (Amendment) Bill, 2022

#### In News

The Central Government recently introduced the Multi-State Cooperative Societies (Amendment) Bill, 2022 in Lok Sabha.

#### **About:**

The Bill proposes to amend the Multi-State Co-operative Societies Act, 2002 in light of the *97th Constitutional Amendment Act* of 2011 which inserted *Part IXB* in the Constitution.

➤ **Highlights of the Bill**

- ✓ **Establishment of Cooperative election authority:** The authority consists of a chairperson, a vice-chairperson and a maximum of three members to be appointed by the *Centre*.
- ✓ **Establishment of a Fund & concurrent audit:** The Bill seeks for the establishment of *Cooperative Rehabilitation, Reconstruction and Development Fund* for revival of “sick multi-state cooperative societies”. It also proposes “*concurrent audit*” for such multi-state societies with an annual turnover or deposit of more than the amount as determined by the *Centre*.
- ✓ **cooperative ombudsman:** It proposes to appoint one or more *cooperative ombudsman* to inquire into members’ complaints and adjudicate within a period of *three months* from the date of receiving the complaint
- ✓ **Cooperative information officer:** It contains the Provisions for the appointment of *cooperative information officer*.
- ✓ **Merger of cooperative society:** The Bill proposes merger of *any cooperative society* into an existing multi-state cooperative society. As per the present law, only multi-state cooperative societies can amalgamate themselves and form a new multi-state cooperative society.

➤ **Cooperative Societies**

- ✓ A co-operative society is a voluntary association of individuals having common needs who join hands for the achievement of common economic interest.
- ✓ Its aim is to serve the interest of the poorer sections of society through the principle of self-help and mutual help.

➤ **97th Constitutional Amendment Act 2011:**

- ✓ It established the right to form cooperative societies as a fundamental right (*Article 19*).
- ✓ It included a new Directive Principle of State Policy on the Promotion of Cooperative Societies (*Article 43-B*).
- ✓ It added a new *Part IX-B* to the Constitution titled "The Co-operative Societies" (Articles 243-ZH to 243-ZT).

### **3. Recognition of National or State Party**

#### **In News**

Recently, the Aam Aadmi Party (AAP) is on track to be recognised as a national party by the Election Commission of India (ECI).

#### **Criteria for recognition as a National Party:**

- The *ECI has laid down* the technical criterion for a party to be recognised as a national party.

- Election Commission (EC) has amended its rules, whereby it will review the national and state party status of political parties every ten years instead of the five years.
- AAP will become the ninth party to be recognised as a national party.


National Parties in India	
<p><b>Why in news?</b></p> <ul style="list-style-type: none"> <li>With 12.9% seats, AAP is set to be recognised as the 9th national party by the Election Commission of India (ECI).</li> </ul> <p><b>Criteria for National Party</b></p> <ul style="list-style-type: none"> <li>It is 'recognised' in at least four states.</li> <li>If its candidates polled at least 6% of valid votes in any four or more states in the last Lok Sabha or Assembly elections and have at least four MPs in the last Lok Sabha polls.</li> <li>If it has won at least 2% of the total seats in Lok Sabha from not less than three states.</li> </ul>	<p><b>Criteria for State Party</b></p> <ul style="list-style-type: none"> <li>At least 6% vote share in the last Assembly election and at least 2 MLAs.</li> <li>6% vote share in the last LS elections from that state and at least one MP from that state.</li> <li>At least 3% of the total number of seats or three seats, whichever is more, in the last Assembly elections.</li> <li>At least one MP for every 25 members or any fraction allotted to the state in Lok Sabha.</li> <li>At least 8% of total valid votes in the last Assembly election or Lok Sabha election from the state.</li> </ul>
<p><b>Advantages of being a National Party</b></p> <ul style="list-style-type: none"> <li>Right to have reserved symbol for its candidates contesting across the country</li> <li>Entitled to land or building for national headquarters at Delhi.</li> <li>Candidates need only one proposer to file nominations (2 in case of other parties)</li> <li>Get dedicated broadcast slots on Doordarshan and All India Radio during general elections.</li> <li>Can have up to 40 Star campaigners (20 for other parties)</li> <li>Expenditure on campaigning and star campaigners isn't added to the candidate's spending limit.</li> </ul>	<div style="background-color: #ffeb3b; padding: 5px; text-align: center;"><b>Other Eight National Parties in India</b></div>

#### 4. Ladakh's demand of Sixth Schedule In News

Several political groups in Ladakh have been demanding that land, employment, and the cultural identity of Ladakh, should be protected under the Sixth Schedule.


#### **Sixth Schedule**

- The Sixth Schedule under **Article 244** provides for the formation of autonomous administrative divisions — Autonomous District Councils (ADCs) — that have some legislative, judicial and administrative autonomy within a state.
- The Sixth Schedule applies to the North-eastern states of **Assam, Meghalaya, Mizoram (three Councils each), and Tripura (one Council)**.

  
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Empowering Aspirants

## Sixth Schedule

<p><b>Why in news?</b></p> <ul style="list-style-type: none"> <li>Political groups in Ladakh demand statehood possible inclusion of Ladakh under the Sixth Schedule of the Constitution</li> </ul> <p><b>Sixth Schedule</b></p> <ul style="list-style-type: none"> <li>Related Article - Article 244</li> <li>Aim - Protects tribal population and inclusion in socio-economic development.</li> <li>Benefit of Inclusion - It provides for the formation of autonomous administrative divisions — Autonomous District Councils (ADCs) that have some legislative, judicial, and administrative autonomy within a state.</li> </ul>	<p style="text-align: center;"><b>Sixth Schedule Applicable Areas</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p><b>MEGHALAYA</b></p> <ul style="list-style-type: none"> <li>● Khasi Hills Autonomous District Council</li> <li>● Jaintia Hills Autonomous District Council</li> <li>● Garo Hills Autonomous District Council</li> </ul> </td> <td style="width: 50%; padding: 5px;"> <ul style="list-style-type: none"> <li>● Mara Autonomous District Council</li> </ul> <p><b>TRIPURA</b></p> <ul style="list-style-type: none"> <li>● Tripura Tribal Areas Autonomous District Council</li> </ul> </td> </tr> <tr> <td style="width: 50%; padding: 5px;"> <p><b>MIZORAM</b></p> <ul style="list-style-type: none"> <li>● Chakma Autonomous District Council</li> <li>● Lai Autonomous District Council</li> </ul> </td> <td style="width: 50%; padding: 5px;"> <p><b>ASSAM</b></p> <ul style="list-style-type: none"> <li>● Dima Hasao Autonomous Council</li> <li>● Karbi Anglong Autonomous Council</li> <li>● Bodoland Territorial Council</li> </ul> </td> </tr> </table>	<p><b>MEGHALAYA</b></p> <ul style="list-style-type: none"> <li>● Khasi Hills Autonomous District Council</li> <li>● Jaintia Hills Autonomous District Council</li> <li>● Garo Hills Autonomous District Council</li> </ul>	<ul style="list-style-type: none"> <li>● Mara Autonomous District Council</li> </ul> <p><b>TRIPURA</b></p> <ul style="list-style-type: none"> <li>● Tripura Tribal Areas Autonomous District Council</li> </ul>	<p><b>MIZORAM</b></p> <ul style="list-style-type: none"> <li>● Chakma Autonomous District Council</li> <li>● Lai Autonomous District Council</li> </ul>	<p><b>ASSAM</b></p> <ul style="list-style-type: none"> <li>● Dima Hasao Autonomous Council</li> <li>● Karbi Anglong Autonomous Council</li> <li>● Bodoland Territorial Council</li> </ul>
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**What are Autonomous District Councils (ADCs) ?**

- Term - 5 years
- Composition - ADCs have up to 30 members
  - Exception - Bodoland Territorial Council in Assam is an exception with more than 40 members and the right to make laws on 39 issues.
- Powers - ADCs can make laws, rules, and regulations with regard to land, forest, water, agriculture, village councils, health, sanitation, village- and town-level policing, inheritance, marriage and divorce, social customs and mining

## 5. ST Status to Gond Community

### In News

The Rajya Sabha passed the Bill to extend ST status to Gond community in four districts of UP. It aims to move the Gond community from the Scheduled Castes list to Scheduled Tribes list.

### About

- The Bill seeks to amend the Constitution (Scheduled Tribes) (Uttar Pradesh) Order, 1967 (ST Order) and the Constitution (Scheduled Castes) Order, 1950 (SC Order) with respect to its application to Uttar Pradesh.

- It will ensure the inclusion of the Gond community in the Scheduled Tribes list in four districts of Uttar Pradesh:

## Gond Community

**Why in news?**

- The Rajya Sabha passed the Bill to extend ST status to Gond community in four districts of UP.

**Gond Community**

- The term Gond refers to tribal peoples who live all over India's Deccan Peninsula.
- Most describe themselves as Gonds (hill people) or as Koi or Koitur.
- They live in the states of Madhya Pradesh, Maharashtra, Telangana, Andhra Pradesh, Bihar, and Odisha.
- The majority speak unintelligible dialects of Gondi which is an unwritten language of the Dravidian family.
- Persa Pen is the most distinctive feature of Gond religion: Like many other tribes, Gonds worship a high god known as Baradeo, whose alternate names are Bhagavan, Sri Shambu Mahadeo, and Persa Pen.
- Festivals - The Gond observe two major festivals. 'Kestapur Jathra' is marked with worshipping the snake deity – Nagaba and Madai festival is celebrated to mark the occasion of meeting relatives settled in other parts of the country.



### Process of inclusion in ST list

- The process to include tribes in the ST list begins with the recommendation from the respective State governments, which are then sent to the Tribal Affairs Ministry, which reviews and sends them to the Registrar General of India for approval followed by the National Commission for Scheduled Tribes' approval before the list is sent to the Cabinet for a final decision
- *Recommendation from the respective State governments* → *Tribal Affairs Ministry* → *Registrar General of India for approval* → *National Commission for Scheduled Tribes* → *Cabinet decision*

## 6. Appointment of Supreme Court Judges

### In News

Union government has notified the elevation of Justice Dipankar Dutta to the Supreme Court.

### Procedure for judicial appointments

- **CJI**
  - ✓ The CJI and the Judges of the SC are **appointed by the President** under **clause (2) of Article 124** of the Constitution.
  - ✓ From 1950 to 1973, the practice was to appoint the senior most judge of the SC as the CJI. This established convention was violated in 1973 and 1977.



- ✓ This discretion of the government was curtailed by the **SC in the Second Judges Case (1993)**, in which the SC ruled that the senior most judge should alone be appointed to the office of the CJI.
  
- **Supreme court Judges**
  - ✓ Every Judge of the Supreme Court shall be appointed by the **President** by warrant under his hand and seal after consultation with such of the Judges of the Supreme Court and of the High Courts in the States as the President may deem necessary for the purpose(**Art 124**)
  
- **High court Judges**
  - ✓ **Article 217** of the Constitution: It states that the Judge of a High Court shall be appointed by the **President** in consultation with the Chief Justice of India (CJI), the Governor of the State.
  
- **Collegium System**
  - ✓ It is the system of appointment and transfer of judges that has evolved through **judgments of the Supreme Court**, and **not by an Act of Parliament or by a provision of the Constitution**.
  - ✓ The collegium is headed by the **Chief Justice of India** and **comprises four other senior-most judges of the court**.

## **ENVIRONMENT**

### **1. Coastal Red Sand Dunes - Erra Matti Dibbalu**

#### **In News**

Recently, Scientists urged the Andhra Pradesh government to protect glacial-period coastal red sand dunes of Visakhapatnam.

#### **About:**

- Distribution: Such red sand deposits are rare and have been reported only from three places in the tropical regions in South Asia such as *Teri Sands in Tamil Nadu, Erra Matti Dibbalu in Visakhapatnam and one more site in Sri Lanka.*
- They *do not occur in equatorial regions or temperate* regions due to many scientific reasons.

#### **Uniqueness in the Site:**

- During that late Quaternary period, the sea level rose to as much as 150 feet and fell away a number of times to the current level.
- Between these oscillating sea levels, the coast was submerged and exposed over and over again, huge volumes of clay, silt, and sand covered the coast from where the sea water had receded.

#### **Significance of the Site**

- The site was home to the prehistoric man and the excavations at several places in the region revealed stone implements of three distinctive periods and also the pottery of the Neolithic man.

# Erra Matti Dibbalu

## Why in news?

- Scientists urged **Andhra Pradesh** govt. to protect glacial-period coastal red sand dunes of Vizag.
- Significance of Protection - This site needs to be protected to study the impact of climate change as Erra Matti Dibbalu have seen both the glacial and the warm periods.

## Coastal Red Sand Dunes/Erra Matti Dibbalu

- **Formation**
  - Formed around 12,000 years ago due to sea-land interaction.
  - Comprises a mixture of sand (40-50%), silt and clay (another 50%) with oxidation imparting the unique red colour.

## • Significance

- Geological - They represent the geological history of the late Quaternary period and carry the imprints of the fall of sea level and its subsequent rise, the impact of climate, monsoon and geological processes on the sediments.
- Anthropologically and archeologically - They possibly contain mesolithic and neolithic cultural materials as well.

## • Recognition of Erra Matti Dibbalu

- It was recognised as a national geo-heritage site in 2014 and as a protected site by the Andhra Pradesh Government in 2016.
- The Geological Survey of India (GSI) declares geo-heritage sites/ national geological monuments for protection and maintenance.

### Do you Know?

Similar stretch of red sand dunes is Tamil Nadu, which has the Teri dune complex.



## 2. Wild Life (Protection) Amendment Bill, 2022

### In News

The Rajya Sabha passed the Wild Life (Protection) Amendment Bill, 2022 which seeks to give effect to India's obligations under the Convention on International Trade on Endangered Species of Wild Fauna and Flora ('CITES').

### Key Highlights of the Bill

- **Provides much more power at the hands of the Central Government:** It give powers to central government to notify a conservation reserve
- **Implement the provisions of the CITES :**
  - ✓ This amendment proposed a *new schedule* for species listed in the Appendices under CITES.
- **Reduces the number of schedules from Six (currently) to Four now:** The new bill removes the schedule for vermin species

- **Schedule I** :Animal species that will enjoy the highest level of protection
- **Schedule II** : Animal species that will be subject to a lesser degree of protection
- **Schedule III** :Protected Plant species
- **Schedule IV**: Specimens listed in the Appendices under CITES (scheduled specimens)
- **Control of Sanctuaries to Chief Wildlife warden**: The Act entrusts the **Chief Wildlife Warden** to control, manage and maintain all sanctuaries in a state. The Chief Wildlife Warden is appointed by the **state**
- **Voluntary surrender of captive animals**: The bill provides for any person to voluntarily surrender any captive animals, without any compensation and consequent authority over the animal)
- **Exception for ‘live elephant’**: The Bill **allows for commercial trade** in elephants This is contrary to the previous act (Wildlife (Protection) Act, 1972) which specifically prohibits trade in Wild Animals including captive and wild elephants.
- **CITES- Convention on International Trade in Endangered Species of Wild Fauna and Flora**
  - ✓ **Participation in CITES is voluntary**, but once a nation becomes a party to CITES, that nation is **legally bound** under the convention..
  - ✓ CITES was drafted as a result of a resolution adopted in 1963 at a meeting of members of the International Union for Conservation of Nature (IUCN) and entered into force in July **1975**.
  - ✓ The CITES Secretariat is administered by UNEP (The United Nations Environment Programme) and is located at **Geneva, Switzerland**.
  - ✓ India is a **signatory** to the CITES.

### **3. Bt Brinjal Biopiracy**

#### **In News**

The Supreme Court (SC) has ordered the Karnataka High Court to continue hearing public interest litigation (PIL) on biopiracy which it had sent to the National Green Tribunal (NGT) in 2013

#### **About**

- **Biopiracy**:  
Biopiracy is the term used to refer to the use of bio-resources without proper authorisation from the countries and people concerned without compensatory payment.
- **Bt brinjal**  
Brinjal has been genetically modified by inserting a protein gene from the soil bacterium *Bacillus thuringiensis* to give protection against certain pests.

#### **GM Crops in India**

- A GM or transgenic crop is a plant that has a novel combination of genetic material obtained through the use of modern biotechnology.
- **Bt cotton** is India's first genetically modified crop, to be approved for commercialization.
- In India, the **Genetic Engineering Appraisal Committee (GEAC)** is the apex body that allows for commercial release of GM crops.
- Penalty: Use of the unapproved GM variant can attract a jail term of 5 years and fine of Rs 1 lakh under the **Environmental Protection Act, 1986**.

#### 4. Medicinal plant species in IUCN Red List

##### In News

Three medicinal plant species found in the Himalayas have made it to the **IUCN Red List** of Threatened Species following a recent assessment.

<b>Himalayan Medicinal Plants Enter IUCN Red List</b>	
<p><b>Meizotropis pellita</b></p> <ul style="list-style-type: none"> <li>• IUCN Status - Critically endangered</li> <li>• Known as Patwa, a perineal shrub, endemic to Uttarakhand, rich in antioxidants, and used in essential oils.</li> </ul>	
<p><b>Fritillaria cirrhosa</b></p> <ul style="list-style-type: none"> <li>• IUCN Status - Vulnerable</li> <li>• Perennial bulbous herb, used in China for treatment of bronchial disorders, pneumonia and cough suppressant.</li> </ul>	
<p><b>Dactylorhiza hatagirea</b></p> <ul style="list-style-type: none"> <li>• IUCN Status - Endangered</li> <li>• A perennial tuberous species endemic to the Hindu Kush and Himalayan ranges of Afghanistan, Bhutan, China, India, Nepal, and Pakistan, extensively used in the Indian system of medicine to cure dysentery chronic fever, stomach ache etc..</li> </ul>	

#### 5. Hornbill

##### In News

Logo of Indian G20 presidency was unveiled recently at the hornbill festival.

- The hornbills (Bucerotidae) are a family of birds found in **tropical and subtropical Africa and Asia**.

- India is home to *nine species of hornbills*. The northeastern region has the highest diversity of hornbill species within India.
- The *great hornbill is the state bird of Arunachal Pradesh and Kerala*.
- They are the cultural symbols of some ethnic communities in the northeast, specifically the *Nyishi of Arunachal Pradesh*

**Conservation Status:**

- The **great hornbill** is evaluated as **vulnerable**.
- It is protected at the highest level under **Schedule I of the Wildlife Protection Act, 1972**

## **SCHEMES/INITIATIVES**

### **1. Nai Chetana Campaign**

#### **In News**

Nai Chetana, a gender campaign launched under the *National Rural Livelihoods Mission* in all States, is off to a start in Kerala too under the umbrella of the Kudumbashree Mission.

#### **About the Campaign**

- The 'Nai Chetna' campaign was launched on the *International Day for the Elimination of Violence against women* on 25th November 2022. It aims to bring the issue of gender-based violence into focus and make women aware of their rights and the mechanism available to help redress their grievances.
- The 'Nai Chetna' campaign is launched by the *Ministry of Rural Development*
- Implementing Agency: The Nai Chetana Campaign is being implemented by the *state governments in collaboration with the civil society organizations (CSOs)*

#### **Kudumbashree Mission**

- It is the poverty eradication and women empowerment programme implemented by the State Poverty Eradication Mission (SPEM) of the Government of Kerala.

#### **Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM)**

- It is a *centrally sponsored programme*, launched by the *Ministry of Rural Development* in 2011.
- Aim: The Mission aims at creating efficient and effective institutional platforms of the rural poor enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services

#### **Sub-Schemes:**

- **Mahila Kisan Shashaktikaran Pariyojana (MKSP).**  
In order to promote *agro-ecological practices* that increases the income of *women farmers* and reduces their input costs and risks.
- **SVEP and AGEY:**  
As part of its non-farm livelihoods strategy, DAY-NRLM is implementing Start-Up Village Entrepreneurship Programme (SVEP) and Aajeevika Grameen Express Yojana (AGEY).
  - ✓ SVEP aims to support entrepreneurs in rural areas to set up *local enterprises*.
  - ✓ AGEY aims to provide safe, affordable and community monitored *rural transport services* to connect remote rural villages.
- **Deendayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY)** aims at building placement-linked *skills of the rural youth* and placing them in relatively higher-wage employment sectors of the economy.

➤ **RSETIs:**

NRLM in partnership with 31 Banks and State Governments is supporting **Rural Self Employment Institutes (RSETIs) for skilling rural youth** to take up gainful self-employment.

**2. Amalgamation of ODOP with DEH Initiative**

**In News**

One District One Product (ODOP) approach of **Ministry of Food Processing Industries** has been operationally merged with 'Districts as Export Hub (DEH)' initiative of **Ministry of Commerce and Industry**.

➤ **ODOP** is an approach adopted under the **Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) Scheme** under **Ministry of Food Processing Industries** in 2018.

➤ '**Districts as Export Hub**' Initiative of Department of Commerce, **Ministry of Commerce & Industry** aims to convert each district into an export hub..

➤ **Implementation:**

✓ It is implemented by Directorate general of foreign trade (**DGFT**), Department of Commerce, with the Department for Promotion of Industry and Internal Trade (**DPIIT**) under **Ministry of Commerce and Industry**

✓ **State Export Promotion Committee (SPEC)** and **District Export Promotion Committee (DEPC)** have been constituted.

✓ DEPC is constituted in all districts of India, except districts of the state of West Bengal.

➤ **PMFME Scheme under Ministry of Food Processing Industries**

✓ Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) Scheme is a **centrally sponsored scheme** launched **under the Aatmanirbhar Bharat Abhiyan**.

✓ PMFME Scheme aims to **enhance the competitiveness** of existing individual micro-enterprises in the unorganized segment of the food processing industry and **promote formalization** of the sector.

✓ **Beneficiaries:** PMFME scheme envisions to directly assisting the 2,00,000 micro food processing units for providing financial, technical, and business support for the up-gradation of existing micro food processing enterprises.

**3. PM SVANidhi Scheme**

**In News**

The Government of India has extended the PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) Scheme beyond March 2022



➤ **PM SVANidhi Scheme**

- ✓ The scheme was announced as a part of the Economic Stimulus-II under the Atmanirbhar Bharat Abhiyan.
- ✓ It has been implemented since 1st June 2020, for providing affordable working capital loans to street vendors to resume their livelihoods that have been adversely affected due to **Covid-19 lockdowns**.
- ✓ It is a **Central Sector Scheme** fully funded by **Ministry of Housing and Urban Affairs**
- ✓ **Eligibility:** The Scheme is available for beneficiaries belonging to only those States/UTs which have notified **Rules and Scheme under Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014**.
- ✓ **Street vendors:** The Scheme is extended to **all street vendors in urban areas** (Earlier the Scheme was available to all street vendors engaged in vending on or before March 24, 2020.)
- ✓ It has been extended with the following new provisions:
  - Extension of lending period till **December 2024**;
  - Introduction of **3rd loan** of up to Rs 50,000 in addition to 1st & 2nd loans of Rs10,000 and Rs20,000 respectively.
  - To extend ‘SVANidhi Se Samridhi’ component for all beneficiaries of PM SVANidhi scheme across the country;

**4. Pradhan Mantri Adi Adarsh Gram Yojna (PMAAGY)**

**In News**

The Union Ministry of Tribal Affairs is now working to develop 36,428 villages with at least 50% tribal population and 500 Scheduled Tribes across the country into ‘model tribal’ villages.

- **Pradhan Mantri Adi Adarsh Gram Yojna** is the revamped version of the **Scheme of Special Central Assistance to Tribal Sub-Scheme (SCA to TSS)**
- The scheme is for implementation during 2021-22 to 2025-26 by the **Ministry of Tribal Affairs**
- **Components**
  - i. Preparing Village Development Plan based on the needs, potential, and aspirations;
  - ii. Maximizing the coverage of individual / family benefit schemes of the Central / State Governments;
  - iii. Improving the infrastructure in vital sectors like health, education, connectivity and livelihood;
- The Scheme is a **centrally sponsored scheme** with 100% grant from government of India.

**5. Environment Education, Awareness & Training (EEAT) Scheme**

**In News**

The EEAT scheme has been revamped during the current financial year into '*Environment Education Programme*'.

**About:**

- Environment Education, Awareness, and Training (EEAT) is a *central sector scheme of the Ministry of Environment, Forestry, and Climate Change (MoEF&CC)* that was launched in 1983-84.
- Its goal is to *raise environmental awareness* among all segments of society and to mobilise people's participation in environmental conservation.
- To *encourage student involvement* in environmental protection, The Scheme has two major programmes, namely,
  - ✓ **National Green Corps (NGC) Programme:**  
Eco-clubs are formed in schools and colleges to educate students to educate students and to spread awareness on environmental issues.
  - ✓ **National Nature Camping Programme (NNCP):**  
Organization of field visits/ nature camps in different Protected Areas/ Nature Parks/ Tiger Reserves of the country for students
- The above programmes were *implemented through State Nodal Agencies* designated by the respective State Governments/ Union Territory (UT) Administrations.

**5. Scheme for Providing Education to Madrasas/Minorities (SPEMM)**

**In News**

The Parliamentary Standing Committee on Social Justice and Empowerment has enquired with the Union Government for the delay in approving the continuation of the Scheme for Providing Education to Madrasas/Minorities (SPEMM).

- *Sub-Schemes:*
  - ✓ **Scheme for Providing Quality Education in Madrasas (SPQEM):** It seeks to bring about *qualitative improvement* in Madrasas to enable Muslim children attain standards of the National education system in formal education subjects.
  - ✓ **Infrastructure Development of Minority Institutes (IDMI):** It has been operationalised to *augment Infrastructure* in Private Aided/Unaided Minority Schools/Institutions in order to enhance the quality of education to minority children.

## Scheme for Providing Education to Madrasas/Minorities (SPEMM)



### Why in news?

- The Parliamentary Standing Committee on Social Justice and Empowerment has enquired with the Union Government for the delay in approving the continuation of the Scheme for Providing Education to Madrasas/Minorities (SPEMM).

### Scheme for Providing Education to Madrasas/Minorities (SPEMM)

- Aim - SPEMM seeks to provide financial assistance to madrasas and minority institutes.
- Implementing Agency - Department of School Education and Literacy under the Ministry of Education.
- Sub-Schemes:
  1. Scheme for Providing Quality Education in Madrasas (SPQEM); It seeks to bring about qualitative improvement in Madrasas to enable Muslim children attain standards of the National education system in formal education subjects.



2. Infrastructure Development of Minority Institutes (IDMI): It has been operationalised to augment Infrastructure in Private Aided/Unaided Minority Schools/Institutions in order to enhance the quality of education to minority children.

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## INTERNATIONAL ORGANISATIONS/INITIATIVES


### 1. India's G20 Presidency

- India has formally assumed the presidency of G-20 on December 1, 2022 and will hold the presidency till 30th November 2023.
- India will host the G-20 leaders' summit in 2023 in New Delhi.
- India's theme as stated by the Prime Minister is — ***“One Earth, One Family, One Future”***.

### The G20 Grouping

- Origin: The G20 was formed in 1999 in the backdrop of the financial crisis of the late 1990s that hit East Asia and Southeast Asia in particular.
- Its aim was to secure global financial stability by involving middle-income countries.
- Members:
  - Argentina, Australia, Brazil, Canada, China, France, Germany, Japan, India, Indonesia, Italy, Mexico, Russia, South Africa, Saudi Arabia, South Korea, Turkey, the United Kingdom, the United States, and the European Union.
- Presidency of G20: The presidency of the G20 rotates every year among members.
- **Troika:**
  - The country holding the presidency, together with the previous and next presidency-holder, forms the 'Troika' to ensure continuity of the G20 agenda

### G20 Grouping



**G20 Grouping**

- It is an informal group of 19 countries and the European Union (EU).
- It has representatives of the International Monetary Fund and the World Bank.
- Headquarters - It does not have a permanent secretariat or Headquarters.

**Facts about G20 Grouping**

- Consists of two-thirds of the world's population.
- It account 85% of global Gross Domestic Product (GDP), 80% of global investment and over 75% of global trade.

**Recent Development**

- Formation of G20 Troika with members like Indonesia, Italy and India.
- India convene the G20 Leaders' Summit for the first time in India in 2023 in September.

**G20 members countries**



Note - European Union is also member

## **2. India Assumes Presidency of UN Security Council**

### **In News**

On 1st December, India assumed the monthly rotating presidency of the UN Security Council (UNSC) for the second time in its two-year tenure as an elected member of the Council in 2021-22.

- The theme of this event is “*Threats to International Peace and Security Caused by Terrorist Acts: Global Approach to Counter Terrorism — Challenges and Way Forward*”

### **United Nations Security Council (UNSC)**

- It is one of the UN’s six main organs and is aimed at maintaining international peace and security.
  - ✓ The other 5 organs of the United Nations are—the *General Assembly (UNGA)*, the *Trusteeship Council*, the *Economic and Social Council*, the *International Court of Justice*, and the *Secretariat*.
- It held its first session on 17th January 1946 in Westminster, London and its headquarters is at *New York City*.
- Membership: The Council is composed of 15 Members:
  - ✓ **Permanent members** with veto power: China, France, Russia, the United Kingdom and the United States.
  - ✓ **Ten non-permanent members** of 2022: Elected for two-year terms by the General Assembly
- **India entered the UNSC for the eighth time.**
- Functions and Powers:
  - ✓ To maintain international peace and security in accordance with the principles and purposes of the United Nations;
  - ✓ To investigate any dispute or situation which might lead to international friction;
  - ✓ To call on Members to apply economic sanctions and other measures not involving the use of force to prevent or stop aggression;
  - ✓ To take military action against an aggressor;

### **UNSC Elections:**

- Each year the General Assembly elects five non-permanent members (out of 10 in total) for a two-year term.
- The 10 non-permanent seats are distributed on a **regional** basis as follows:
  - Five for African and Asian States.
  - One for the Eastern European States.
  - Two for the Latin American and Caribbean States;
  - Two for Western European and other States

### 3. Wassenaar Arrangement

#### In News

India will assume the chairmanship of the Wassenaar Arrangement (WA), a multilateral technology control agreement, on 1 January 2023, for a period of one year.

- India joined the Wassenaar Arrangement, a multilateral export control regime, in 2017 and became its 42nd member.

## Wassenaar Arrangement



#### Why in news?

- India to assume chairmanship of Wassenaar arrangement on 1 Jan 2023.

#### About

- Established in 1996
- Its predecessor was the Cold War-era Coordinating Committee for Multilateral Export Controls (COCOM), which was created to restrict exports to the former Soviet Union and Eastern bloc.
- Headquarters - Vienna , Austria

#### Aim and Objectives

- To promote “greater responsibility” and transparency among its members in exports of weapons and dual-use goods.
- Controlling the movement of technology, material or components to countries or entities which undermine international security and stability.
- To prevent “destabilizing accumulations”

#### Nature

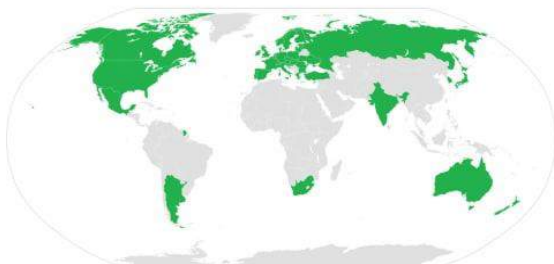
- It is a voluntary multilateral export control regime.
- Member states exchange information on various issues like transfer of conventional arms and dual-use goods and technologies.

#### Membership

- 42 members mostly NATO and EU states
- P5 (except China) of UNSC

#### Wassenaar Arrangement Plenary

- The primary is a decision-making body and is chaired on a rotation basis annually.
- The decisions of the plenary are taken by consensus.



## Wassenaar Arrangement

- Participating States are required to report their arms transfers and transfers/denials of certain dual-use goods and technologies to destinations outside the Arrangement on a **six-monthly basis**.
- The group works by regularly exchanging information in respect of technology, **both conventional and nuclear-capable**, that is sold to, or denied to countries outside the grouping.

## 4. Lusophone world

### In News

India is to strategically engage with a new geopolitical grouping, the Lusophone (Portuguese-speaking countries) as Delhi wants to leverage the untapped potential and the historical connect.

India is also hosting International Lusophone Festival in Goa

### About Lusophone

- Lusophones are peoples that speaks Portuguese as a native or as common second language and nations where Portuguese features prominently in society
- The Lusophone world is spread in nine countries across four continents, and Portuguese is the most widely-spoken language in the Southern Hemisphere.
- In 1996 Community of Portuguese Language Countries (CPLP), also known as Lusophone Commonwealth was formed.
  - ✓ CPLP is a multilateral forum with 9 member states and 32 associate observers
  - ✓ India is an associate Observer.
  - ✓ Members : Angola, Brazil, Cabo Verde, Guinea Bissau, Mozambique, Portugal, Sao Tome and Principe ; while Timor Leste and Equatorial Guinea joined later.
- Goa has had historical linkages with the Lusophone world.

## Lusophone World



### Why in news?

- India is strategically engaging with a new geopolitical grouping: the Lusophone (Portuguese-speaking countries).
- In line with it, India is hosting the International Lusophone Festival in Goa.

### Lusophone World

- The Lusophone world is spread over nine countries across four continents, and Portuguese is the most widely-spoken language in the Southern Hemisphere.



## 5. India-Central Asia meeting of NSAs

### In News

India's National Security Advisor recently chaired the first India-Central Asia meeting of NSAs and Secretaries of Security Councils in Delhi. It is the very first India-Central Asia meeting of NSAs.

- The Central Asia region (CA) comprises the countries of Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan.

## India - Central Asia Meet



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### Why in news?

- India hosted a conclave of top security officials from Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan with a focus on the evolving security situation in Afghanistan.
- This year was the 30th anniversary of the establishment of diplomatic ties between India and Central Asian countries.

### Key Points of Meet

- Support for a peaceful, stable, and secure Afghanistan, emphasizing respect for its sovereignty, unity, and territorial integrity and urging non-interference in its internal affairs.
- The participants supported India's proposal to include the Chabahar port within the framework of the International North-South Transport Corridor.
- The communique also called for the early adoption of the UN Comprehensive Convention on International Terrorism (CCIT), which India had first proposed in 1996.



### Significance of Central Asia for India

- Historical - Part of ancient silk route.
- Strategic - Bridge between Asia and Europe.
- Countering China's growing influence.
- Economic - Availability of new market for Indian goods. Source of energy resource for India's energy need through Turkmenistan-Afghanistan-Pakistan-India (TAPI) and Iran -Pakistan-India (IPI) pipeline projects.
- Connectivity - By International North-South Transport Corridor (INSTC)
- War on Drugs





**Key Highlights of the meeting:**

- **Chabahar port & INSTC**  
The participants supported India’s proposal to include the Chabahar port within the framework of the International North-South Transport Corridor that connects Iran to Russia via Central Asia,
- **Uzbekistan’s Termez Transport and Logistics Hub:** Uzbekistan’s creation of the “Multifunctional Transport and Logistics Hub” in *Termez* that helped channel aid to Afghanistan.
- **TAPI Project: Turkmenistan–Afghanistan–Pakistan–India (TAPI) Pipeline**, also known as Trans-Afghanistan Pipeline (natural gas pipeline) project has run into trouble over the Afghan conflict, and breakdown of India-Pakistan ties, and the NSAs agreed on the importance of TAPI in expanding connectivity.

**6. Sino-India clash at Yangtse**

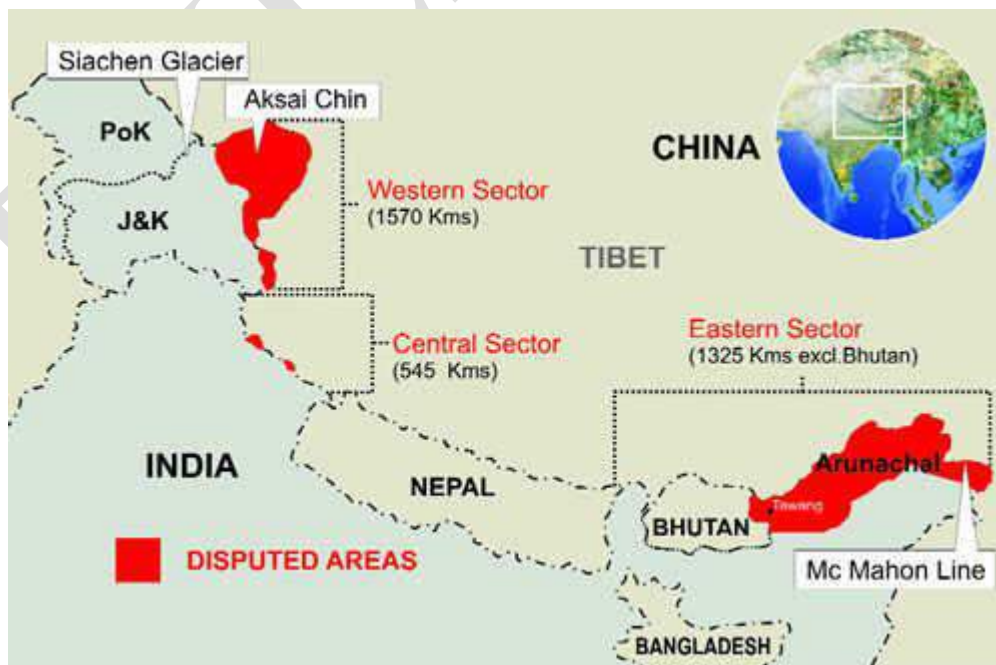
**In News**

Recently the Chinese troops unilaterally tried to alter the status quo on the Line of Actual Control (LAC) in Arunachal Pradesh

**Location of Clash:**

- Soldiers of the two sides clashed in an area called *Yangtse*, in the upper reaches of *Tawang* sector in *Arunachal Pradesh*.

**Areas of dispute between India & China**



➤ **The Western sector:**

- ✓ India shares a 2152 km long border with China, and territorial disputes over *Aksai Chin region of Jammu and Kashmir*, with both countries claiming the region as their own.
- ✓ The recent dispute is around the region of the *northern bank of Pangong Tso lake, Demchok and the Galwan Valley*.

➤ **The middle sector:**

- ✓ India roughly shares about a 625 km long boundary with China with a few minor disputes regarding *Tibet*.

➤ **The Eastern Sector:**

- ✓ India shares a 1,140 km long boundary with China and this boundary line is called *McMahon Line*.
- ✓ The major dispute here is around the region of *Tawang Valley of Arunachal Pradesh, Chumbi Valley (Doklam Tri-Junction) which India shares with Bhutan*.

## ECONOMY

### **1. RBI's Modified Digital Lending Norms**

#### **In News**

The modified guidelines on digital lending by the Reserve Bank of India (RBI) have come into effect from 1st December, 2022.

#### **What is digital Lending**

- Digital lending entails *lending through websites or mobile applications* while utilising technology for authentication and credit scoring and other services.

#### **Applicability**

- The banking authority has said that *only firms that the RBI regulates or those who are legally authorised* to do so may engage in the lending sector.
- The *three categories* into which the central bank has categorised all digital lenders are as follows:
  - ✓ Entities that are *under RBI regulation* and are allowed to do loan operations.
  - ✓ Entities that are *not under the RBI's regulation but are authorised* to conduct lending under *other statutory* or regulatory provisions.
  - ✓ Entities that *lend outside the scope of any law* or regulation.
- The central bank's regulatory framework is focused on the digital lending ecosystem of regulated entities and the Lending Service Provider (LSPs) engaged by them.
- The lenders in the other categories are not subject to the new regulations, thus they are free to develop suitable criteria for digital lending based on the working group's recommendations.

#### **Other notable points**

- Loans must be credited to borrowers' bank accounts directly and without the use of a third party.
- Digital lending entities and not the borrowers should pay fees or charges payable to Lending Service Provider (LSPs).
- Grievance Redressal Mechanism - Current guidelines allow for the borrower to complain to the Integrated Ombudsman Scheme of the RBI if their grievance was not resolved by the bank within 30 days.
- Data Protection & Privacy

## 2. Panel for Gas Pricing Freedom

### In News

A government-appointed gas price review panel, led by Kirit Parikh, submitted its report to the government, recommending a floor and ceiling price for legacy fields and complete pricing freedom starting 1 January 2026.

### History of Pricing in this sector

- **Administered Price Mechanism** (1970s to 2002) - Government regulated sourcing and import of crude, its refining till end consumer.
- Based on **Industrial Policy of 1991** Govt dismantled of the Administered Price mechanism 2002.
- **Import parity pricing formula**- Oil Marketing Companies (OMCs) were made free to set retail product prices
- Even after the dismantlment of APM in 2002 consumer sensitive petroleum products were insulated from high oil prices by the Public Sector Oil Marketing Companies
- **In 2010 and 2014** respectively, **prices of petrol and diesel have been market-determined**
- India imports more than 55% of its LPG requirement. **Prices of imported LPG** in the country are based on **Saudi Contract Price (CP)**
- **For domestic LPG**, the **Government continues to modulate the effective price to consumer** to insulate the common man from rise in international prices.

### Committee Recommendation

- The committee recommended that India should have completely free and market-determined pricing of natural gas extracted from legacy fields, which account for over 70 per cent of the total natural gas produced in India.
- It recommended market-determined pricing for gas produced from legacy fields by January 1, 2027.

## 3. Central Bank Digital Currency (CBDC)

### In News

Reserve Bank of India (RBI) has announced the launch of India's much-awaited Central Bank Digital Currency (CBDC), a sort of official cryptocurrency, for retail users from December 1. The pilot will initially cover the four cities of Mumbai, New Delhi, Bengaluru, and Bhubaneswar and later will be extend to the whole country.

### Central Bank Digital Currency (CBDC)

- Reserve Bank broadly defines CBDC as the **legal tender** issued by a central bank in a digital form.
- It is **akin to sovereign paper currency** but takes a different form, **exchangeable at par with the existing currency** and shall be accepted as a **medium of payment**, legal tender and a safe store of value.
- CBDCs would appear as **liability on a central bank's balance sheet**.
- CBDC could **coexist with and complement existing forms of money**, promoting innovation and efficiency.

### **Positives**

CBDC's features include:

- **Reduction in operational costs** involved in physical cash management,
- Fostering **financial inclusion**, bringing innovation in payments system, adding efficiency to the settlement system.
- The use of **offline feature in CBDC** would also be beneficial in **remote locations** and offer availability and resilience benefits when electrical power or mobile network is not available.
- Use of CBDC is expected to make the **inter-bank market more efficient**.

### **Type of CBDC to be issued**

- CBDC can be classified into two broad types viz. **general purpose or retail (CBDC-R) and wholesale (CBDC-W)**.
- **Retail CBDC**
  - ✓ Available for use by all viz. private sector, non-financial consumers and businesses
- **Wholesale CBDC**
  - ✓ Intended for the settlement of interbank transfers
  - ✓ designed for restricted access to select financial institutions.

### **Present status**

- RBI has launched pilots of CBDC in both Wholesale and Retail segments.
- The pilot in wholesale segment, known as the **Digital Rupee -Wholesale (₹-W)**, was launched on November 1, 2022.
- The pilot in retail segment, known as **Digital Rupee-Retail (₹-R)**, was launched on December 01, 2022.
- CBDC pilot launched by the RBI in retail segment has components based on **blockchain technology**.

#### 4. Changes in UPI

##### In News

RBI governor recently announced an additional function for Unified Payments Interface (UPI) platforms.

##### About the New changes to UPI

- **The current function:** The UPI currently includes functionality to undertake *recurring payments and single-block payments*.
- **Changes:** It is now being enhanced to *allow customers to block funds in their accounts for multiple payments of specific nature*.
- **Significance:**
  - ✓ This is expected to *improve the ease of making payments* for online shopping and investments in securities.
  - ✓ With the new feature, the *merchant can make multiple debits* up to a permitted amount.
  - ✓ The feature will also be helpful in the *purchase of government securities using the RBI's retail direct scheme*.

##### About Unified Payments Interface (UPI)

- Unified Payments Interface (UPI) is an *instant real-time payment system* developed by *National Payments Corporation of India (NPCI)*.
- The interface facilitates inter-bank peer-to-peer (*P2P*) and person-to-merchant (*P2M*) transactions.
- **Transfer of funds:** It is used on mobile devices to instantly transfer funds between two bank accounts. *The mobile number* on the device is required to be registered with the bank.
- The **UPI ID** of the recipient can be used to transfer money.
- **Function & regulation:** It runs as an *open-source application* programming interface (*API*) on top of Immediate Payment Service (*IMPS*) and is regulated by the Reserve Bank of India (RBI).

## SCIENCE AND TECHNOLOGY

### 1. The Square Kilometer Array Observatory (SKA)

#### **In News**

Construction of the SKA-Mid array, to be located in the *Karoo desert in South Africa*, and the The SKA-Low array, in *Western Australia north of Perth*, has begun after 30 years of preparations and a year and a half of preconstruction work

#### **Square Kilometer Array (SKA) Telescope:**

- Location: The telescope, proposed to be the *largest radio telescope in the world*, will be located in *Africa and Australia*.
- Some of the questions that scientists hope to address using this telescope:
  - ✓ The beginning of the universe.
  - ✓ How and when the first stars were born.
  - ✓ The life-cycle of a galaxy.
  - ✓ Exploring the possibility of detecting technologically-active civilisations elsewhere in our galaxy.
  - ✓ Understanding where gravitational waves come from
- It *measures neutral hydrogen* over cosmic time and *accurately times the signals from pulsars* in the Milky Way
- The *SKA-Mid array in Karoo wil scan for radio waves* using 197 dishes each 50 feet (15 meters) in diameter.
- The *SKA-Low array in Australia* will rely on 131,072 dipole antennas to detect radio waves.
- The telescopes, which will have a *total collecting area of one square kilometer*

#### **Radio Telescopes:**

- Radio telescope consists of a radio receiver and an antenna system that is used to detect radio-frequency radiation *between wavelengths of about 10 metres (30 megahertz [MHz]) and 1 mm (300 gigahertz [GHz])* emitted by extraterrestrial sources, such as stars, galaxies, and quasars.
- *Radio waves*, which have *much longer wavelengths than visible light, penetrate through dust and debris*, allowing astronomers to peer into regions of space that are obscured from other types of observatories.

### 2. BioSentinel Science Experiment

#### **In News**

*Yeast cells on NASA's BioSentinel science experiment* launched on *Artemis 1* are now getting warmed up and rehydrated for what the space agency claims is the *first long-duration biology experiment in space*.

## The BioSentinel Experiment

- To study the *impact of dangerous radiation environments in space on human* when man begins long distance deep space travels
- The small *satellite called BioSentinel* developed by scientists *at NASA's* Ames Research Center helps in understanding what is needed to protect these astronauts.
- Researchers are sending a "*model organism*" that they understand very well—*yeast*—to space.
- High radiation in space can damage both our cells and yeast cells, causing breaks in the intertwined strands of DNA.
- According to NASA, *the cellular process to repair DNA damage is very similar in humans and yeast.*

## 3. SpaceTech Innovation Network: ISRO

### In News

The Indian Space Research Organisation (ISRO) has signed an MoU with Social Alpha, a multistage innovation curation and venture development platform to launch *SpaceTech Innovation Network (SpIN)*.

### SpaceTech Innovation Network (SpIN)

- SpIN is *India's first dedicated platform* for innovation, curation, and venture development for the burgeoning *space entrepreneurial ecosystem*.
- The SPIN platform would create a *level playing field* for various stakeholders.
- Public-private collaboration:
- SpIN will primarily focus on facilitating space tech entrepreneurs in three distinct innovation categories:
  - ✓ Geospatial Technologies and Downstream Applications
  - ✓ Enabling Technologies for Space & Mobility
  - ✓ Aerospace Materials, Sensors, and Avionics.
- Social Alpha is a multistage innovation curation and venture development platform for science and technology start-ups.

## 4. NAVigation with the Indian Constellation (NavIC)

### In News

The Indian Space Research Organisation (ISRO) is introducing *the L1 frequency in all its future satellites* with an aim to *promote the civilian use of NAVigation* with the Indian Constellation (*NavIC*).

### About

- The *seven satellites in the NavIC constellation* so far *use two frequencies* for providing positioning data — *L5 and S band*.



- The *next satellites, starting from NVS-01 onwards*, will have an *L1 band* for civilian navigational use.
- The *L1 frequency is one of the most commonly used frequencies in the Global Positioning System (GPS)*

### Navigation with Indian Constellation (NavIC)

- NavIC is an *independent stand-alone navigation satellite system* developed by the Indian Space Research Organisation (*ISRO*)
- NavIC consists of *eight satellites* and *covers the whole of India's landmass and up to 1,500 km (930 miles) from its boundaries.*
- NavIC is *an indigenous positioning system* that is under *Indian control.*
- **L Band**
  - ✓ Operating *frequency* range of *1–2 GHz* in the radio spectrum.
  - ✓ *Wavelength* range: *30–15 cm*
  - ✓ Benefits:
    - Has a *low bandwidth* due to its *low frequency*
    - Easiest to implement for many applications due to this low frequency.
  - ✓ Applications:
    - Radars, global positioning systems (GPS), radio, *telecommunications, and aircraft surveillance.*
- **S-Band**
  - ✓ Operating *frequency* range of *2 to 4 GHz* in the radio spectrum.
  - ✓ Applications: Radar systems such as *surface ship radar, weather radar* and various communication satellites.

## 5. NASA's Orion Capsule

### In News

*NASA's Orion space capsule* splashed down safely in the Pacific on Sunday, completing the *Artemis 1 mission* -- a more than 25-day journey. It sets the stage for *Orion's next trip*, which will be a *loop around the Moon with astronauts* on board.

### NASA's Artemis Programme

- *Artemis* is NASA's *next-generation lunar exploration mission.*
- NASA aims to establish a sustainable *presence on the Moon to prepare for missions to Mars*
- Artemis programme will help NASA attain the following objectives:
  - ✓ To *land humans on the moon by 2024* and *explore more of the lunar surface.*
  - ✓ NASA will land the *first woman and first person of colour* on the Moon.
  - ✓ It will *send astronauts to new locations, starting with the Moon's South Pole*, where *no human has ever been before.*
- **Space Launch System (SLS):** Artemis will be launched on the SLS, the *most powerful rocket in the world.* The SLS rocket was designed for *missions beyond the low-earth orbit (LEO).*

- Orion spacecraft: Astronauts will be *sent aboard the Orion spacecraft from the Earth to lunar orbit.*



### Artemis I Mission

- Artemis I is *an uncrewed mission of NASA.*
- It will *test the agency's Space Launch System (SLS) rocket and Orion crew capsule.*
- Artemis I will be the first in a series of increasingly complex missions.
- The primary goals of Artemis I are to *demonstrate Orion's systems* in a spaceflight environment.

## 6. End-to-end Encryption

### In News

As part of a privacy effort, Apple announced that it will now provide full end-to-end encryption.

### End-to-end encryption

- End-to-end encryption is a *communication process that encrypts data being shared between two devices.*
- It *prevents third parties* like cloud service providers, *internet service providers (ISPs) and cybercriminals from accessing data* while it is being transferred.
- Features:
  - ✓ Uses an algorithm that *transforms standard text into an unreadable format.*
  - ✓ This format can only be unscrambled and *read by those with the decryption keys,* which are only *stored on endpoints* and not with any third parties.

## 7. Fusion energy Breakthrough

### In News

Scientists in the United States have achieved a *net gain in energy for the first time from a nuclear fusion reaction* which is considered as the most dependable source of energy in future.

### **Fusion Technologies:**

- **Fission Process:** *Nucleus of a heavier element is split into those of lighter elements* in a controlled manner.
- **Fusion Process:**
  - ✓ Here, the **nuclei of two lighter elements are made to fuse together** to form the nucleus of a heavier atom.
  - ✓ The *fusion of two nuclei of a heavier isotope of hydrogen, called tritium* produces at least *four times as much energy as the fission of a uranium atom*.
  - ✓ Fusion is also *a carbon-free source of energy* and has *negligible radiation risks*.
  - ✓ Fusion reactions *happen only at very high temperatures* which is *10 times* the temperature that exists at the *core of the Sun*
- A large amount of energy is released in both these processes, but *the energy released is more in fusion than fission*.

### **ITER (International Thermonuclear Experimental Reactor)**

- An *International collaborative* project in *southern France for nuclear fusion research* and engineering megaproject
- *When operational* it would become the *biggest machine anywhere in the*.
- *India joined the ITER project in 2005*.

## **8. Base Editing**

### **In News**

Scientists in the United Kingdom testing a *new form of cancer therapy, gene therapy* that relied on a *new technique called 'base editing'*. reported *success* in a teenaged girl, Alyssia, with a form of cancer called T-cell acute lymphoblastic leukaemia.

### **Base Editing**

- *A person's genetic code is several permutations of four bases: Adenine (A), Guanin (G), cytosine (C), and thymine (T).*
- Scientists have been able to *zoom into a precise part of the genetic code to alter* the molecular structure *of just one base, effectively changing its genetic instructions*.
- Base-editing is an ultraprecise version of CRISPR gene editing
- *CRISPR-Cas9 works by cutting a disease-causing gene out of the DNA double helix* before stitching it back up.
- *Instead of making a full cut, base editors nick a single strand of DNA*, while *simultaneously changing a single letter of DNA on the other strand*. The cell then repairs that nick and uses the just-edited DNA as its template.

- The technology gives researchers an *unprecedented level of specificity, being able to make changes to the base elements of genetic code, or the nucleotides* nicknamed A, C, G, and T.
- **Limitations**
  - ✓ Base editors can *only change a single letter of genetic code*, and researchers haven't yet figured out how to make all the changes. For instance, *base editing can change an A to a G but not an A to a T*.
  - ✓ Newer technology, like *prime editing*, can write and edit longer stretches of letters.
- **Prime editing :**
  - ✓ Prime editing is a '*search-and-replace*' *genome editing technology* in molecular biology by which the genome of living organisms may be modified.
  - ✓ The technology *directly writes new genetic information into a targeted DNA site*.

## **HISTORY/ART & CULTURE**

### **1. J C Bose: A Satyagrahi Scientist (1858 – 1937)**

#### **In News**

Recently, the Ministry of Culture has organized an international conference on the contributions of J C Bose: A Satyagrahi Scientist” on his 164th birth anniversary.

#### **About:**

- He was a Plant Physiologist and physicist who *invented the crescograph*, a device for measuring the growth of plants.
- Scientific Contribution:
  - ✓ Acharya Jagadish Chandra Bose was a *biologist, physicist, botanist and an early writer of science fiction*.
  - ✓ Bose discovered *wireless communication*(even before Guglielmo Marconi) and was named the Father of Radio Science by the Institute of Electrical and Electronics Engineering.
  - ✓ He was responsible for the expansion of *experimental science in India*.
  - ✓ Bose is considered the *father of Bengali science fiction*. A *crater on the moon has been named in his honour*.
  - ✓ He *founded Bose Institute*, a premier research institute of India and also one of its oldest. Established in 1917.
  - ✓ He constructed automatic recorders capable of registering extremely slight movements, such as quivering of injured plants, which Bose interpreted as *a power of feeling in plants*.
- *Books: His books include Response in the Living and Non-Living (1902) and The Nervous Mechanism of Plants (1926).*

### **2. Sri Aurobindo**

#### **In News**

The Prime Minister of India will participate in a programme commemorating Sri Aurobindo’s 150th birth anniversary.

#### **About Sri Aurobindo (1872 – 1950)**

- **Indian Revolutionary Movement:**
  - ✓ From *1902 to 1910 he partook in the struggle to free India* from the British.

- ✓ He edited the *patriotic journal Bande Mataram* to propagate radical methods and revolutionary tactics.
- ✓ He was arrested thrice by the British — twice for sedition and once for conspiring to “wage war”.
- ✓ He was *imprisoned in 1908 (Alipore Bomb case)*.
- 1910, he fled British India and found refuge in the French colony of Pondicherry (Puducherry), gave up overt political activities and embraced spiritual pursuits.
- In Pondicherry he founded a community of spiritual seekers, which took shape as *the Sri Aurobindo Ashram in 1926*.
- **Literary Works:**
  - ✓ English newspaper - Bande Mataram (in 1905)
  - ✓ Bases of Yoga
  - ✓ Bhagavad Gita and Its Message
  - ✓ The Future Evolution of Man
  - ✓ Rebirth and Karma
  - ✓ Savitri: A Legend and a Symbol
  - ✓ Hour of God Teachings
- **Achievements:** In 1943, he was nominated for the Nobel Prize for literature and in 1950, for the Nobel Peace Prize.

## **DEFENCE**

### **1. Exercise Yudh Abhyas**

#### **In News**

China expressed concern over the India-US joint military exercise Yudh Abhyas being held in Uttarakhand, about 100 km from the LAC.

#### **Exercise Yudh Abhyas**

- Exercise Yudh Abhyas is the *largest running joint military training* and defence cooperation endeavour between *India and the US*.
- Interestingly, this is the *only India-US service exercise continuing in bilateral format*.
- The exercise was started in 2004 under the US Army Pacific Partnership Program. The exercise is *hosted alternately between both countries*.

#### **Other Exercises between India and the US:**

- Exercise Tiger Triumph (Humanitarian Assistance and Disaster Relief exercise)
- Exercise Vajra Prahar (Special Forces' Exercise)
- Cope India (Air Force).
- Malabar Exercise (Quadrilateral naval exercise of India, USA, Japan and Australia).
- Red Flag (US' multilateral air exercise)

## 2. 12<sup>th</sup> Edition of Exercise Agni Warrior

### **In News**

The 12th Edition of Exercise Agni Warrior, a bilateral exercise between the Singapore & Indian Army, culminated at Field Firing Ranges, Maharashtra.

### **Other Exercises between India and Singapore**

- Bold Kurukshetra (Army)
- Joint Military Training (Air Force)
- Trilateral Maritime Exercise SIMTEX (With Thailand).

## **INDEX/REPORTS**

### 1. Global Report on Health Equity for Disables

#### **About:**

Released by the World Health Organization (WHO). It was released ahead of the International Day of Persons with Disabilities (December 3).

### 2. GLAAS Report 2022

#### **In News**

The Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) report was released by the World Health Organization (WHO) and UN-Water.

#### **About**

- **WASH - WHO WATER, SANITATION AND HYGIENE strategy 2018-2025**
  - ✓ WASH is an acronym that stands for the interrelated areas of **Water, Sanitation and Hygiene**.
  - ✓ The WHO WASH Strategy has been developed in response to Member State Resolution WHA64.4 and **the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs)**.
  - ✓ The WHO vision for WASH - **To substantially improve health** through the **safe management of the water, sanitation and hygiene** services in all settings.
  - ✓ **WHO, as a technical agency, does not directly implement WASH infrastructure projects, and recognizes that infrastructure is insufficient** to attain sustainable and effective service delivery
  
- WHO's 13th General Programme of Work (GPW) 2019–2023 describes how the Organization's work will contribute to the **health of three billion:-**
  - **one billion** becoming "healthier populations" through multisectoral actions and addressing **environmental risk factors and health determinants**;
  - **one billion** benefiting from **better emergency preparedness** and response;
  - **one billion with universal health coverage (UHC)**.



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