

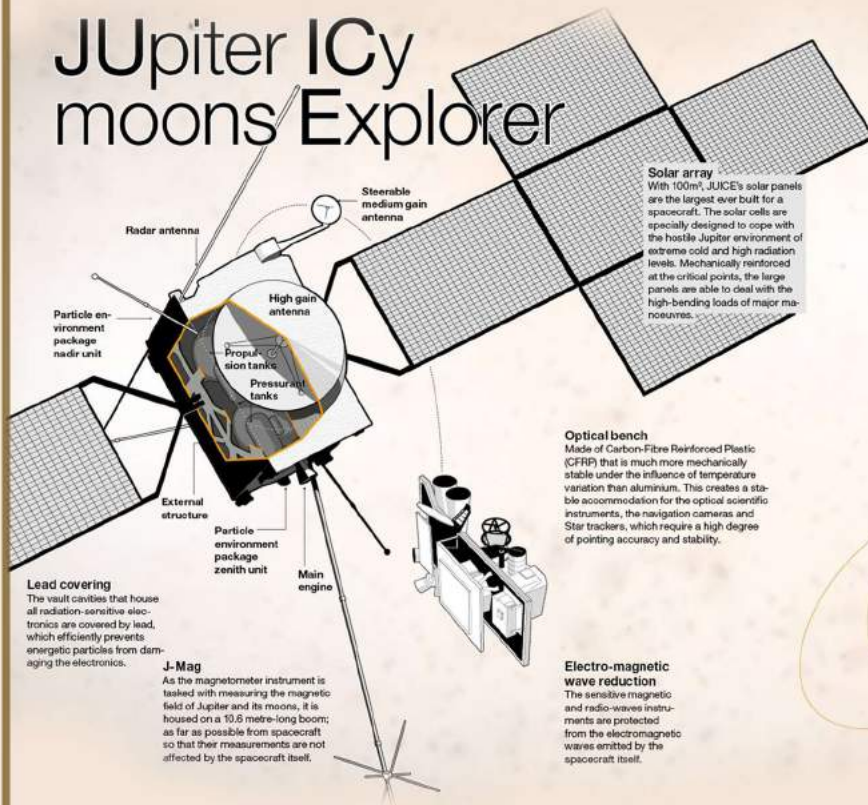


# ENLITE IAS

**FORTNIGHTLY CURRENT AFFAIRS MAGAZINE**

April 16 - 30

## Jupiter Icy moons Explorer



**Solar array**  
With 100m<sup>2</sup>, JUICE's solar panels are the largest ever built for a spacecraft. The solar cells are specially designed to cope with the hostile Jupiter environment of extreme cold and high radiation levels. Mechanically reinforced at the critical points, the large panels are able to deal with the high-bending loads of major manoeuvres.

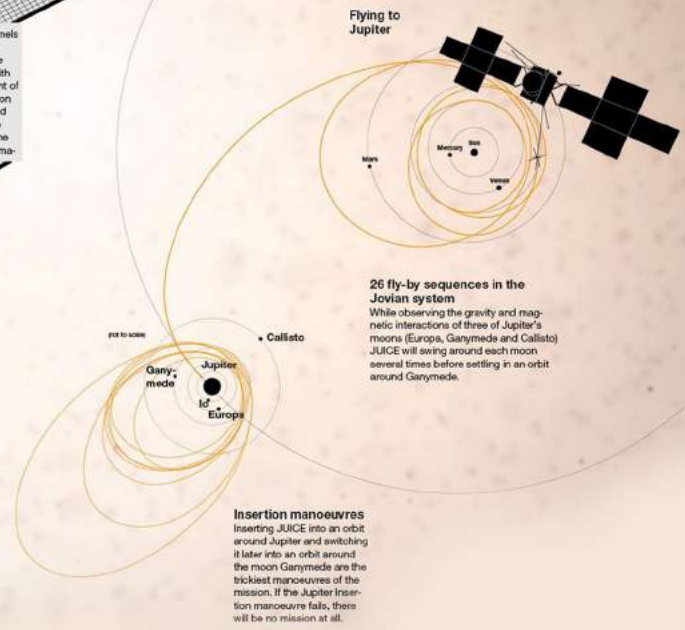
**Optical bench**  
Made of Carbon-Fibre Reinforced Plastic (CFRP) that is much more mechanically stable under the influence of temperature variation than aluminium. This creates a stable accommodation for the optical scientific instruments, the navigation cameras and Star trackers, which require a high degree of pointing accuracy and stability.

**Electro-magnetic wave reduction**  
The sensitive magnetic and radio-waves instruments are protected from the electromagnetic waves emitted by the spacecraft itself.

**Lead covering**  
The vault cavities that house all radiation-sensitive electronics are covered by lead, which efficiently prevents energetic particles from damaging the electronics.

**J-Mag**  
As the magnetometer instrument is tasked with measuring the magnetic field of Jupiter and its moons, it is housed on a 10.6 metre-long boom; as far as possible from spacecraft so that their measurements are not affected by the spacecraft itself.

JUICE is the first European mission to Jupiter; its overarching theme is the emergence of habitable worlds around gas giants. JUICE will investigate the Jupiter system, with a focus on its icy moons and the possibly ocean-bearing worlds of Europa, Ganymede and Callisto.



Flying to Jupiter

**26 fly-by sequences in the Jovian system**  
While observing the gravity and magnetic interactions of three of Jupiter's moons (Europa, Ganymede and Callisto) JUICE will swing around each moon several times before settling in an orbit around Ganymede.

**Insertion manoeuvres**  
Inserting JUICE into an orbit around Jupiter and switching it later into an orbit around the moon Ganymede are the trickiest manoeuvres of the mission. If the Jupiter insertion manoeuvre fails, there will be no mission at all.

## Jupiter Icy Moons Explorer (JUICE) mission



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## **POLITY**

### **1. White Paper**

#### **In News**

Congress demands White Paper on Pulwama attack.

#### **About White Paper**

- A white paper serves as a guide or *a report which collates and presents information on complex issues in a concise form.*
- The term *originated in Britain* and for decades its use was restricted to government-issued documents.
- The white papers help stakeholders understand an issue, identify roadblocks and find solutions to varied problems.
- It helps governments come up with their strategies on issues, and make informed and far-sighted decisions.
- It is *generally suggestive in nature* and invite opinions and discussions.

### **2. Civil Society Organizations (CSOs)**

#### **In News**

The future of India's civil society organisations.

#### **What are CSOs?**

- *CSOs are non-State, not-for-profit, voluntary entities* formed by people in the social sphere that are separate from the State and the market.
- They include community-based organizations as well as non-governmental organizations (NGOs).
- In the context of the *UN Guiding Principles Reporting Framework*, *CSOs do not include business or for-profit associations.*
- They play an essential role in contexts of state service reduction or lack of services, particularly in countries of protracted crisis.

#### **Problems faced by CSOs in India**

- Civil society is being vilified as disruptive to India's development trajectory
- The ability of civil society to shape policy and public discourse has shrunk drastically.
- There has been a systematic clampdown on CSOs lobbying for greater constitutional and civic freedoms.
- The access of CSOs to resources are restricted by:



- Cancelling Foreign Contribution (Regulation) Act clearances
- Revoking 12A/80-G licences
- Imposing retrospective taxes
- Pressuring private companies and philanthropists to redirect funding.

### 3. Social Security Code

#### In News

On the code on social security for platform-based gig workers.

#### About Social security code 2020

- The ***Code on Social Security, 2020*** is a code to amend and consolidate the laws relating to social security.
- Its goal is to extend social security to all employees and workers either in the organised or unorganized or any other sectors.
- It brings *unorganised sector, gig workers and platform workers* under the ambit of social security schemes.
- The act amalgamates *nine central labour enactments* relating to social security.
- Every establishment shall mandatorily obtain registration under this Code, including the establishments already registered under any Central Act.
- Workers under different categories shall be required to register under applicable Chapters in the Code.
- Any employee or worker employed in the unorganised sector must establish their identity through aadhar numbers for seeking benefits available under the Code.
- The Code creates a ***distinction between 'unorganised workers', 'gigs', and 'platform workers'***.
- The Code elaborates on the framing of schemes which includes 'education' for unorganised workers and 'creche' for gigs and platform workers under its coverage.

### 4. Triple tests for Altruistic surrogacy

#### In News

Karnataka HC evolves '*triple tests*' to help couple facing legal hurdles to have a surrogate child.

#### About Surrogacy

- Surrogacy is an arrangement, often supported by a legal agreement.

- *In surrogacy a woman agrees to delivery/labour on behalf of another couple or person, who will become the child's parent after birth.*

### **About Triple Test**

- The triple tests Includes:
  - Genetic test, Physical test, Economy test.
- Needs of the tests:
  - Men experience a decrease in sperm health with age, so husband would have to undergo genetic test so that the child is not born with any disorder.
  - The couple have to undergo a physical test to ascertain their physical capacity to manage the child as the life of the surrogate child should become miserable if they are infirm to handle the child.
  - Economy test by filling statements on their assets and liabilities before the authorities concerned to ensure that they can protect the future of the child.

### **Altruistic surrogacy**

- Altruistic surrogacy refers to those surrogacy agreements where the surrogate *does not* receive monetary compensation.

### **Commercial surrogacy**

- Commercial Surrogacy is a type of surrogacy where the surrogate mother carries the child in her womb and delivers the child to the intending couple in return of monetary benefits.

## **5. Dima Hasao Peace Pact**

### **In News**

Dima Hasao insurgent group signs peace pact with Assam, Centre.

### **About Dima Hasao**

- Dima Hasao district earlier called North Cachar Hills district, is an administrative district in the state of Assam.
- The district headquarters are located at Haflong. Dima Hasao district occupies an area of 4,888 square kilometres.

### **Dimasa National Liberation Army (DNLA)**

- The Dimasa National Liberation Army (DNLA) group announced its formation through a press release in 2019.
- The group claimed that it is committed to revamp the national struggle and fight for the liberation of a sovereign, Independent Dimasa Nation.

- The organization is for and to develop a sense of brotherhood among the Dimasa and also to rebuild the trust and faith among the Dimasa society for regaining the Dimasa Kingdom.
- The group has established a '*government-in-exile*' called 'Dimasa Peoples' Supreme Council.'

#### **About the Peace Pact**

- The DNLA signed a peace agreement with the State Government and the Centre.
- The agreement will put a complete end to insurgency.
- The DNLA representatives have agreed to give up violence, surrender and join the mainstream.
- More than 168 armed cadres of DNLA surrendered with their weapons and joined the mainstream.
- It provides for the appointment of a Commission under Paragraph 14 of the Sixth Schedule to the Constitution of India.



## ENVIRONMENT

### 1. Flamingos

#### In News

Thousands of flamingos come to Navi Mumbai and Thane Creek.

#### About Flamingos

- Flamingos are a *type of wading bird* in the family Phoenicopteridae.
- There are four flamingo species distributed throughout the Americas (including the Caribbean), and two species native to Afro-Eurasia.
- Flamingos have bright pink feathers, stilt-like legs, and S-shaped neck. They range from about 90 to 150 cm (3 to 5 feet) tall.
- Flamingos are highly gregarious birds. Flocks numbering in the hundreds may be seen in long, curving flight formations and in wading groups along the shore.
- The greater flamingo breeds in large colonies on the coasts of the *Atlantic Ocean and Gulf of Mexico in tropical and subtropical America*.
- The lesser flamingo inhabits the lake district of East Africa and parts of South Africa, Madagascar, and India.

#### Flamingos in India

- Thousands of greater and lesser flamingos fly into *Mumbai*, forming a sea of pink along the 26-km-long Thane Creek, the DPS lake in Nerul and Sewri.
- These migratory birds ***generally fly from Kutch in Gujarat and the Sambhar Lake in Rajasthan to Mumbai.***
- Approximately 1,33,000 flamingos were observed across the Thane Creek Flamingo Sanctuary, Sewri, Nhava and adjacent zones.
- The recent construction activities around Sewri and Thane Creek would pose a threat to the ecosystem.

### 2. Cumbum Grapes

#### In News

Tamil Nadu's Cumbum grapes get Geographical Indication tag.

#### About the Cumbum Grapes

- The Cumbum valley located at the Western Ghats in Tamil Nadu is known as the '***Grapes city of South India***'
- They cultivate a variety of grape called the *Panneer Thatchai*.
- The Panneer grapes were first introduced in Tamil Nadu by a French priest in 1832.
- This variety which is also known as *Muscat Hamburg*.

- It constitutes almost 85% of the grape-growing areas in Tamil Nadu.
- The agro climate and the soil condition of the Cumbum region is very conducive for the cultivation of the Muscat variety.
- This variety is popular for its quick growth and early maturity and the crop is available in the market almost throughout the year.

## Cumbum Grapes




### Why in news?

- Cumbum grapes get a Geographical Indication tag.

### Cumbum Grapes

- It is a variety of grapes grown in the Cumbum Valley located at the Western Ghats in Tamil Nadu.
- The unique feature is that these grapes are harvested all through the year as opposed to only during January and April in the rest of India.
- Soil - Sandy loams, sandy clay loams, red sandy soils, shallow to medium black soils and red loams.
- Climate - Hot and dry climate
- Temperature - 15-40 C



**SWEET AND JUICY**

- Theni district constitutes about 90 per cent of the grape growing area in Tamil Nadu
- The black-seeded variety is largely cultivated in pockets of Cumbum Valley
- Though over 400 varieties of grapes exist, the 'Paneer' variety from Cumbum has a unique origin of 100 years of existence, providing bursts of juicy sweetness
- It can be raised in a period of 120 days at three intervals throughout the year and not as a seasonal fruit
- The Mullaipertiyar row pushed down the Kerala market share for Cumbum grapes from 80 per cent to just 10 pc

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### 3. Mangrove Pittas

#### In News

First-ever census finds 179 mangrove pitta birds in two coastal Odisha districts.

#### About Mangrove Pittas

- The *mangrove pitta (Pitta megharencha)* is a passerine bird native to the Indian subcontinent.
- It inhabits scrub jungle, deciduous and dense evergreen forest.
- It breeds in the forests of the Himalayas, hills of central and western India, and migrates to other parts of the peninsula in winter.
- It is usually shy and hidden in the undergrowth where it picks insects on the forest floor.
- It has a distinctive two note whistling call which is heard at dawn and dusk.
- Mangrove pitta birds are a nearly threatened species found in few pockets of eastern India
- The first-ever census of mangrove pitta birds carried out in two coastal districts of Odisha.
- The census birds were mainly focused on the mangrove patches all along the coasts.
- In this census, a total of 179 individual mangrove pitta birds were counted.

## Mangrove Pitta



#### Why in news?

- In the first ever census of mangrove pitta birds carried out in two coastal districts of Odisha, 179 such birds were sighted.

#### Key Findings

- Mangrove pitta birds are found in a few pockets of eastern India, including Bhitarkanika in Odisha and the Sundarbans in West Bengal.
- The highest concentration of the birds has been found in the mangroves near the
- Mahipura river mouth inside the Bhitarkanika National Park

#### Mangrove Pitta

- Native to Southeast Asia and South Asia
- Distribution - Bangladesh, India, Indonesia, Malaysia, Myanmar, Singapore, and Thailand



- Habitat - It is found in mangrove and nipa palm forests

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### 4. Mount Annapurna

#### In News

Indian mountaineer Baljeet Kaur, who went missing from Nepal's Mt. Annapurna, found alive.

#### About Mt Annapurna



- It is a mountain situated in the *Annapurna Mountain range of Gandaki Province, north-central Nepal*.
- *Annapurna I is world's 10th highest peak*.
- The area surrounding is the first and largest conservation area in Nepal.
- It is 8,091 metres (26,545 ft) above sea level and is well known for the difficulty and danger involved in its ascent.
- The entire massif and surrounding area are protected within the 7,629-square-kilometre (2,946 sq mi) Annapurna Conservation Area.
- The Annapurna Conservation Area is home to several world-class treks, including Annapurna Sanctuary and Annapurna Circuit.

## Mount Annapurna



### Mount Annapurna

- It is a mountain situated in the Annapurna mountain range of Gandaki Province, north-central Nepal.
- Annapurna I is world's 10th highest peak.
- The area surrounding is the first and largest conservation area in Nepal.
- It is 8,091 metres (26,545 ft) above sea level and is well known for the difficulty and danger involved in its ascent.
- First climbers had reached Annapurna I peak in 1950.
- The team of French expedition led by Maurice Herzog, who with Louis Lachenal reached the top in 1950.
- The entire massif and surrounding area are protected within the 7,629-square-kilometre (2,946 sq mi) Annapurna Conservation Area.
- The Annapurna Conservation Area is home to several world-class treks, including Annapurna Sanctuary and Annapurna Circuit.



## 5. Hasdeo Aranya Forest

### In News

Protests in Hasdeo Aranya | 10 years with a coal mine for a backyard.

### About Hasdeo Aranya

- Hasdeo Aranya is a forest in the Indian state of Chhattisgarh in central India.

- The forests area is considered as the lungs of Chhattisgarh.
- The forest is 170,000 hectares in area and is home to a diverse ecology.
- It is on top of the *Hasdeo Arand coalfield* in the north of Chhattisgarh.
- The ***Hasdeo River*** which is a tributary of the ***Mahanadi River*** runs through the forest.
- The Hasdeo Arand forest is estimated to be home to 10,000 people from the ***Gond, Oraon*** and other tribes.
- A Wildlife Institute of India report estimated that around 60–70% of the annual income of the local communities came from forest based resources.

#### **About Hasdeo movement**

- It is a movement launched by activists against coal mining in the Hasdeo forests of Chhattisgarh.
- The tribals and activists had protested against the operation of three coal mines in the region: the *Parsa East Kente Basan (PEKB), Parsa, and Kente extension*.
- Over the last 10 years *Hasdeo Aranya Bachao Sangharsh Samiti (HABSS)* an association of villagers in Fatehpur, Ghatbarra, and Hariharpur, have taken out protest marches from time to time.

## **SCHEMES/INITIATIVES**

### **1. Inclusive Development (Samaveshi Vikaas)**

#### **In News**

Launch of the *Inclusive Development (Samaveshi Vikaas) campaign* by the PM during the National Panchayati Raj Day Programme.

#### **About Samaveshi Vikaas**

- Government have launched nine campaigns under the theme Inclusive Development
- It is under the Azadi Ka Amrit Mahotsav-Inclusive Development (Samaveshi Vikaas).
- The entire campaign is termed “Samaveshi Vikaas”, which finds its foundation rooted in the concept of “*Convergence*” and “*Reaching the last mile*”.
- It aimed at targeted interventions through all States/UTs, districts and gram Panchayats.
- It focusses on selected campaigns in the areas of employment generation, health, social inclusion, social security and livelihood creation.
- A website has been designed to capturing and monitoring the progress of these campaigns.
- The website will provide real-time progress of various activities under Samaveshi Vikaas campaigns.
- The campaigns are designed to have a whole of society approach, ensuring 100% outreach to the beneficiaries of the campaigns.

### **2. FoSCoS**

#### **In News**

FoSCoS web application of FSSAI to be available in regional languages.

#### **About FoSCoS**

- *Food Safety Compliance System (FoSCoS)* is an enhanced version of Food Licensing and Registration System (FLRS).
- FoSCoS is built using latest technology with a vision to have modern on stop pan-India IT platform for food safety regulatory needs.
- FoSCoS is conceptualized as the umbrella system which is integrated with FSSAI’s other existing IT platforms.
- The integrations will be done one by one in future until FoSCoS evolves from a licensing platform to a unified compliance platform.
- FoSCoS shall be integrated with other platforms of Government of India such as GST, PAN, MCA etc.

### **Food Licensing and Registration System (FLRS)**

- Food Licensing and Registration System (FLRS) was launched in 2012 for issuance of pan-India FSSAI Licenses and Registration.
- It had evolved incrementally and organically with changing regulatory needs.
- It was hosted on a secure data center at NIC and available 24\*7 to all the stakeholders.

### **3. Vibrant Village Programme (VVP)**

#### **In News**

***Vibrant Villages Programme (VVP)*** along China border to be integrated with ***PM Gati Shakti mega project***.

#### **About VVP**

- Vibrant Village Programme is a scheme launched by the central government in the union budget of FY2022.
- It targets to ***provide comprehensive development of villages on the border with China***.
- It gives emphasize to the improvement in the quality of life of people living in identified border villages.
- The development in these villages will *help prevent migration, and thus also boost security*.
- The VVP aims to address all the issues like *backwardness, illiteracy, and lack of basic facilities and infrastructure in border areas*.
- These villages are at the border in the states of Arunachal Pradesh, Sikkim, Uttarakhand and Himachal Pradesh and the Union Territory of Ladakh.
- The programme also intends to *leverage tourism potential through promotion of local, cultural, traditional knowledge and heritage* in the border areas.
- It aims at development of sustainable eco-agribusinesses on the concept of “***One village-One product***” through community-based organisations, cooperatives, SHGs, NGOs etc.

#### **About PM Gati Shakti Project**

- Prime Minister Gati Shakti is an Indian megaproject worth 1.2 trillion United States dollars to provide competitive advantage for manufacturing in India.
- It is also known as ***National Master Plan for Multi-modal Connectivity***.
- The digital platform of Gati Shakti brings 16 Ministries including Railways and Roadways together.
- It will help integrated planning and coordinated implementation of infrastructure connectivity projects.
- It will allows government departments to break operational silos.



## Vibrant Villages Programme



### Why in news?

- Vibrant Villages Programme planned to merge with PM Gati Shakti programme.

### Vibrant Villages Programme

- Ministry - Ministry of Home Affairs
- Funding - Centrally Sponsored
- Vibrant Villages Programme (VVP) has been announced in the Finance Minister's Budget Speech 2022.
- Objective
  - It focuses livelihood generation, road connectivity, housing, rural infrastructure, renewable energy, television and broadband connections.
  - This objective will be met by strengthening infrastructure across villages located near the Line of Actual Control (LAC).
  - Under the programme, residential and tourist centres will be constructed.



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## 4. PM CARES Fund

### In News

Why PM CARES Fund is not subject to public audit or covered under RTI, asks Congress.

### About PM CARES Fund

- The Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund (PM CARES Fund) was created in 2020, following the COVID-19 pandemic in India.
- The primary objective of the fund is to deal with any kind of emergency or distress situation.
- PM CARES Fund has been registered as a *Public Charitable Trust*.

### Objectives of the Fund

- To undertake and support relief or assistance of any kind relating to a public health emergency or any other kind of emergency.
- To render *financial assistance, provide grants of payments of money* or take such other steps by the Board of Trustees to the affected population.

- 60% of its funds coming from public sector undertakings (PSUs).

## PM-CARES Fund



### PM-CARES Fund

- Full form - Prime Minister's Citizen Assistance and Relief in Emergency Situations (PM-CARES) Fund
- It was set up to accept donations and provide relief during the Covid-19 pandemic, and other similar emergencies.
- PM-CARES was set up as a public charitable trust with the trust deed registered on March 27, 2020.
- It can avail donations from the foreign contribution and donations to fund can also avail 100% tax exemption.
- Composition - Prime Minister is the ex-officio Chairman of the PM CARES Fund and Minister of Defence, Minister of Home Affairs and Minister of Finance, Government of India are ex-officio Trustees of the Fund.
- It is not subject to public audit or covered under the Right to Information (RTI) Act.



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## 5. CGTMSE Scheme

### In News

Launch of the revamped CGTMSE Scheme.

- **Ministry:** Ministry of Micro, Small & Medium Enterprises

### About the Scheme

- Credit Guarantee Scheme (CGS) was launched to strengthen credit delivery system and facilitate flow of credit to the MSME sector.

- CGTMSE extends them helping hand by providing guarantee to enable them access credit leading to setting up viable micro and small enterprises.
- Government of India and SIDBI set up the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) to operationalise the scheme.

#### **About Revamped Scheme**

- Union Ministry for MSME has launched the revamped CGTMSE Scheme in Mumbai.
- CGTMSE has been provided with an additional corpus support of ₹9,000 crore in the Union Budget for FY 2023-24 to revamp its Scheme.
- It will help to provide guarantee for additional ₹2 lakh crore to Micro & Small Enterprises.
- The major revamp measures were launched and disseminated to the lending institutions.
- The modifications included reduction in guarantee fees for loans upto ₹1 crore by 50% bringing the minimum guarantee fee to the level of 0.37% pa only.
- Another major change is raising of ceiling for guarantee from ₹2 crore to ₹ 5 crore.

## INTERNATIONAL ORGANISATIONS/INITIATIVES

### 1. Taiwan Strait

#### In News

U.S. warship sails through Taiwan Strait following China war games.

#### About Taiwan Strait

- **Taiwan Strait**, also called **Formosa Strait** is a 180-kilometer-wide strait separating the *island of Taiwan and continental Asia*.
- It is lying between the coast of China's Fukien province and the island of Taiwan (Formosa).
- The strait extends from *southwest to northeast between the South and East China seas*.
- The area lies in a typhoon zone.

#### Strategic Importance

- The Taiwan Strait is a subject of an international dispute over its political status.
- China claims sovereignty, sovereign rights and jurisdiction over the Taiwan Strait and regards the waterway as its internal territorial waters.
- This has drawn strong objections from the United States, Australia, France and Taiwan.

## Taiwan Strait



### Taiwan Strait

- Other Name - Formosa Strait
- It is a 180-kilometre-wide strait separating the island of Taiwan and continental Asia.
- The strait extends from southwest to northeast between the South and East China seas.
- The narrowest part is 130 km wide.
- It contains the Pescadores Islands which are controlled by the government of Taiwan.
- The chief ports are Amoy in mainland China and Kao-hsiung in Taiwan.
- Median line is informal dividing line in the Taiwan Strait between the Chinese mainland and Taiwan.



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## 2. Operation Kaveri

### In News

India launches *Operation Kaveri* to evacuate stranded citizens from war-hit Sudan.

### About Operation Kaveri


- *Operation Kaveri* was launched to evacuate Indians stuck inside *war-torn Sudan*.
- Around 3,000 Indians are stuck in various parts of Sudan, including capital *Khartoum* and in distant provinces like *Darfur*.
- India had earlier two C-130J heavy-lift aircraft in Jeddah and sent INS Sumedha in *Port Said* for the operation.
- The operation to evacuate Indians is being supervised by Minister of State for External Affairs.

### About Sudan crisis

- The political crisis in Sudan turned into a countrywide armed conflict.
- The disagreement over the Security Sector Reform (SSR) between the paramilitary Rapid Support Forces (RSF) and the Sudanese Armed Forces (SAF) turned into an armed confrontation.

(Prelims Note: Remember the names of places)

# Sudan





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**Why in news?**

- 61 dead after clashes between Sudan Army and rivals paramilitary enter second day

**Sudan**

- Sudan is a East African country.
- Capital - Khartoum
- Borders
  - Southwest - Central African Republic
  - West - Chad
  - North - Egypt , Red Sea
  - Northeast - Eritrea
  - Southeast - Ethiopia (Lake Nubia on the Sudanese-Egyptian border.)
  - Northwest - Libya
  - South - South Sudan
- The Blue Nile and White Nile rivers meet in Khartoum to form the Nile, which flows northwards through Egypt to the Mediterranean Sea.
- Climate - Savannah Climate



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### 3. CARICOM

#### In News

External Affairs Minister S Jaishankar co-chaired the 4th **India-CARICOM** ministerial meeting.

#### About CARICOM

- The Caribbean Community (CARICOM) is a grouping of twenty countries. It came into being in 1973.
- It is the result of signing of the *Treaty of Chaguaramas* by Prime Ministers of Barbados, Guyana, Jamaica and Trinidad and Tobago.
- The Treaty was revised in 2002 to allow for the eventual establishment of a *single market and a single economy*.
- It has fifteen Member States and five Associate Members.
- It comprises developing countries and all members and associate members are island states except Belize, in Central America and Guyana and Suriname in South America.

## CARICOM



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#### Why in news?

- India's External Affairs Minister co-chaired the 4th India-CARICOM ministerial meeting with his Jamaican counterpart.

#### CARICOM

- Full form - Caribbean Community
- It is an organization of Caribbean countries and dependencies originally established as the Caribbean Community and Commons Market in 1973 by the Treaty of Chaguaramas.
- Main Purposes:
  - Promote economic integration and cooperation among its members;
  - To ensure that the benefits of integration are equitably shared;
  - To coordinate foreign policy;
- Members:
  - Members - Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago.
  - Anguilla, Bermuda, the British Virgin Islands, the Cayman Islands, and the Turks and Caicos Islands have associate member status.
  - Aruba, Colombia, the Dominican Republic, Mexico, Puerto Rico, and Venezuela maintain observer status.
- The Chairmanship of the Community is rotated every six months among the member countries' Heads.
- Secretariat - The CARICOM Secretariat in Georgetown, Guyana



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- CARICOM rests on four main pillar:
  - Economic integration
  - Foreign policy coordination
  - Human and social development
  - Security
- It is the oldest surviving integration movement in the developing world.
- Its Single Market functions, and it is a respected voice in international affairs because of a coordinated foreign policy.

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**Anjali Surendranathan IFS**  
Second Secretary (Political) &  
Special Assistant to Ambassador  
UPSC 2017 AIR 26



Team Enlite has an excellent Civil Service preparation program with personalized guidance. I am sure that no other institute can have an amazing mentor like Mahesh sir who can make the preparation simple and enjoyable for the students.

**Anandu Suresh Govind IAS**  
Assistant Collector & SDM, Pardi  
UPSC 2018 AIR 127



I have done my complete preparation in general studies papers as well as optional subject (Philosophy) at Enlite IAS. I have also attended the current affairs classes and the Interview program there. I owe my success largely to the guidance and support I received from team Enlite and especially Mahesh Sir. I'm glad that I made the right choice in choosing the best institute.

**Arjun Mohan IAS**  
Additional District Magistrate (HQ)  
- Central Islands & Minicoy  
UPSC 2018 AIR 66



I cannot quantify in words the support provided by Team Enlite in helping me secure 66th rank in Civil Services Examination 2018. Personal care provided by the mentors - Abhilash sir, Mahesh Sir, Abu Sir helped me complete the syllabus in an efficient manner in less than seven months. True to their motto team Enlite enlightens anyone who associate with them and I owe my success completely to ENLITE IAS

**Dr. Aswathy Srinivas IAS**  
Subcollector, Thiruvananthapuram  
UPSC 2019 AIR 40



My decision to join and learn with Enlite IAS Academy was the turning point in my life. Words can't explain, the amount of sincere concerted efforts Mahesh sir and Abhilash sir put into everyone of us, including me. The learner centric environment at Enlite gave me the strength and confidence which ensured my overall success, stands testimony to their incredible way of work. This success is synonymous with Enlite for me. ENLITE IS LIGHT!!!

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## ECONOMY

### 1. India – Russia Trade imbalance

#### **In News**

Need to address trade imbalance, improve exports from India

#### **About India - Russia Trade imbalance**

- India's trade deficit with Russia has expanded sevenfold due to *its rising dependence on Russian crude oil*.
- India had a **trade deficit** of \$34.79 billion with Russia.
- India's Imports from Russia is \$37.27 billion, *two-thirds of the value of goods imported from the country was of crude oil*.
- In FY22, Russia was India's 25th largest trading partner but now it is India's *second-largest trade partner*.
- Problem with this imbalance:
  - Due to the Trade imbalance the Rupee-Ruble transaction is yet to take-off smoothly.

#### **How to bring down trade imbalance?**

- Russia is planning to import manufacturing equipment including machinery from India
- The government will have to issue a mandate that electronic bank realisation certificate (BRC), required to complete export transactions, is issued by Indian banks.

#### **What is Trade imbalance/deficit?**

- A country has a trade deficit when the value of its imports exceeds the value of its exports.
- When a country buys more than it sells, it has a trade deficit.
- Trade deficits can be damaging but they also bring welcome economic benefits.

### 2. National Health Claims Exchange (HCX)-Sandbox

#### **In News**

National Health Authority (NHA) invites participation on the 'National Health Claims Exchange (HCX)-Sandbox' under Ayushman Bharat Digital Mission (ABDM).

- Implementing Agency: **National Health Authority (NHA)**

#### **About HCX**

- It is a standardized health claim platform based on the Health Claim Exchange Specification (HCX).
- HCX as a new initiative under the **Ayushman Bharat Digital Mission (ABDM)**

- HCX will enable *interoperability* of health claims.
- It serves as a protocol for exchanging claims-related information among various actors, including payers, providers, beneficiaries, regulators, and observers.
- It is designed to be interoperable, machine-readable, auditable, and verifiable which helps ensure that the information being exchanged is accurate and trustworthy.
- It will act as a gateway for the Insurers/ TPAs to send responses for each FHIR based e-claim submitted by providers via the HCX through standard protocols (APIs).
- It will lead to reduction in operational overheads and increase the trust among payers and providers through a transparent and rule-based mechanism.

#### **HCX – Sandbox**

- Sandbox will *help the ecosystem test its specific components against the communication standards* and get certified to become a part of the system.

### **3. Circular Economy**

#### **In News**

India set to be major contributor to world's "*Circular Economy*".

#### **About Circular Economy**

- A circular economy is a *model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products for as long as possible.*
- A circular economy entails markets that give incentives to reusing products, rather than scrapping them and then extracting new resources.
- It is a systems solution framework that tackles global challenges like climate change, biodiversity loss, waste, and pollution.
- It implies reducing waste to a minimum.
- It will help the life cycle of products to extend.
- The circular economy is based on three principles:
  - Eliminate waste and pollution
  - Circulate products and materials (at their highest value)
  - Regenerate nature
- India's circular economy development route might generate an annual value of US\$ 218 billion (Rs 14 lakh crores) by 2030.
- In India 377 million people living in urban cities, produce approximately 55 million tonnes of Municipal Solid Waste (MSW) per year.
- Only 75-80% of the MSW gets collected; out of which only 22-28% is processed, and the rest is dumped in dump yards.

#### 4. National Financial Reporting Authority (NFRA)

##### In News

NFRA examines proposals on new standard for accounting of insurance contracts.

##### About NFRA

- **National Financial Reporting Authority (NFRA)** is an independent regulator set up to oversee the auditing profession and the Indian Accounting Standards under the *Companies Act 2013*.
- The functions of the NFRA are to:
  - *Recommend accounting and auditing policies* and standards to be adopted by companies for approval by the Central Government
  - Monitor and enforce compliance with accounting standards and auditing standards
  - Oversee the quality of service of the professions associated with ensuring compliance with such standards and suggest measures for improvement in the quality of service
  - Perform such other functions and duties as may be necessary or incidental to the aforesaid functions and duties.
  - Authority have power to *monitor and enforce compliance* with accounting standards and auditing standards.

##### New standards for Insurance contracts

- NFRA received proposal from the Institute of Chartered Accountants of India (ICAI) regarding switching to a new **Standard (Ind AS)** for accounting of insurance contracts.
- The new standard is Ind AS 117 and it will replace currently notified Ind AS 104, Insurance Contracts.
- Ind AS 117 is substantially converged with IFRS Standard adopted in over 140 countries.
- IFRS 17, originally issued by *the International Accounting Standards Board (IASB)*.
- It is first truly international IFRS Standard for insurance contracts to help investors.
- IFRS 17 has become effective from 1st January 2023.



## HISTORY/ART & CULTURE

### 1. Gond Painting

#### In News

Workshop on Tanjore, *Gond art* gets under way.

#### About the Gond Painting

- Gond painting is a famous folk art of the Gond tribal community of central India.
- Gond Painting also known as ***Pardhan painting or Jangarh Kalam***.
- The present-day Gond paintings have evolved from *Digna and Bhittichitra*.
- The Gonds paint *Digna*, a traditional geometric pattern on the walls and floors of the houses.
- *Bhittichitra* is painted on the walls of houses, and these paintings include images of animals, plants, and trees.
- Women use *natural colors* to paint the walls and floors of their homes.
- Gond tribal paintings are made on various festivals, rituals, and ceremonies such as *Diwali, Karva Chauth, Nag Panchami*, birth, marriage, etc.

#### About Gond Tribes

- The Gond tribe is one of the largest tribal communities in India.
- The word ‘Gond’ comes from the Dravidian expression ‘Kond’ which means ‘green mountain’.
- Gonds have a recorded history of 1400 years.
- These tribals live in *Madhya Pradesh, Telangana, Bihar, Maharashtra, Odisha, and Andhra Pradesh*.
- The main occupation of the Gond tribe is agriculture or daily wages.

## Gond Painting

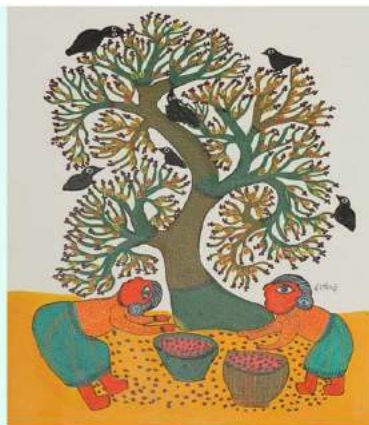


#### Why in news?

- Gond painting has been awarded the Geographical Indication (GI) tag

#### Gond Painting

- State - Madhya Pradesh
- The paintings, which are created by the Gond tribe.
- Theme - Depict nature, animals, and religious themes, and showcase their way of life.



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## 2. Pushkaram Festival

### In News

*Pushkaram festival* returns to the Ganga after a gap of 12 years.

### About Pushkar

- Pushkaram is an Indian festival dedicated to *worshipping of rivers*.
- It is a festival in which pilgrims will worship their ancestors and the sacred rivers.
- It is also known as Pushkaralu (in Telugu), Pushkara (in Kannada) or Pushkaram.
- It is celebrated at shrines along the banks of *12 major sacred rivers* in India.
- The celebration happens annually, *once in 12 years along each river*.
- Each river is associated with a *zodiac sign*, and the river for each year's festival is based on which sign *Jupiter* is in at the time.
- The 12 sacred rivers are ***Ganga, Yamuna, Godavari, Krishna, Kaveri, Bhima, Tapti, Narmada, Saraswati, Tungbhadra, Sindhu, and Pranhita.***
- The river for each year's festival is decided in accordance with *Brihaspati travel from one zodiac sign to another.*

## 3. Hakki Pakki Tribe

### In News

The Hakki Pikkis of Karnataka in the Sudanese civil war.

### About Hakki Pakki

- ***Hakkipikki*** is one of the major tribal communities in ***Karnataka***.
- In Kannada the word 'Hakki' stands for 'bird' and 'Pikki' stands for verb 'to catch', therefore, the community is known as the '*bird catcher*'. Bird catching is their traditional occupation.
- The Hakkipikki community migrated from the Northern India.
- Though the community lives in Southern part of India surrounded by Dravidian languages, they speak Indo Aryan language.
- Their mother tongue as '*Vaagri*'.
- The ***UNESCO*** has listed ***Hakkipikki*** is *one of the endangered languages*.

### Why they move to Sudan?

- The Hakki pakki make herbal medicines from gathering forest produce.
- They produce an informal tribal collective oil called Neelambari Adivasi Herbal Hair Oil.
- It participates in prominent tribal fairs in India and has seen interest from international travellers.

- Africa has its own indigenous medicine and these herbal healers from India found ready acceptance.
- There was a demand for non-western forms of healing in parts of Africa.

#### 4. Thirunelly temple

##### In News

Call to protect historically significant structures at Thirunelly temple.

##### About the Temple

- It is one of the most *ancient temples in Kerala*.
- It is also known as "*Sahyamala Kshetram*" and "*Kashi of the South*".
- It is believed that here the prathishta of Lord Vishnu was performed by Lord Brahma.
- It is the only temple in the world where the devotees *can perform all the rituals related to one's life, starting from birth to death and life after death*.
- It is located on the side of Brahmagiri hill.
- No proper records of the exact dates of establishment of temple exist.
- There exists documentary proof of the Thirunelli temple at the time of *Chera king Bhaskara Ravi Varma I (962–1019 CE)*.
- During that time Thirunelli was an important town and pilgrim center in South India.
- The temple has many historically significant structures, including the 600-year-old 'Vilakkumadom', an exquisite granite structure, at the Sree Mahavishnu Temple.

## Thirunelli Temple



### Why in news?

- The Indian National Trust for Art and Cultural Heritage (INTACH) has urged the government to conserve the 600-year-old 'Vilakkumadom', at the Sree Mahavishnu Temple at Thirunelli.

### Thirunelli Temple

- Location - Wayanad district, Kerala
- Architecture of Thirunelli Temple
  - The Thirunelli temple's architecture follows the traditional Kerala style.
  - The temple has an inner sanctorum, surrounded by a tile roof structure, and an open courtyard around it.
  - The east entrance of the temple is decorated with a granite lamp post.
  - The outer wall of the temple is bound by granite pillars that are cut in cubicle style, which is not commonly seen in Kerala.



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## 5. Raja Ravi Varma

### In News

Raja Ravi Varma's unfinished works to be unveiled.

### About Raja Ravi Varma

- Raja Ravi Varma was born in the erstwhile princely state of Travancore.
- He was known as the first modern Indian artist.
- He was one of the first Indian artists to *use oil paints and to master the art of lithographic reproduction of his work.*
- He is best known for *uniting Hindu mythological subject matter with European realist historicist painting style.*
- His works are one of the best examples of the fusion of European academic art with a purely Indian sensibility and iconography.
- Ravi Varma was noted for his paintings depicting episodes from the *story of Dushyanta and Shakuntala, and Nala and Damayanti, from the Mahabharata.*
- He received widespread acclaim after he won an award for an exhibition of his paintings at Vienna in 1873.
- His paintings were also sent to the World's Columbian Exposition held in Chicago in 1893 and he was awarded three gold medals.

## **SCIENCE AND TECHNOLOGY**

### **1. Jupiter Icy Moons Explorer (JUICE) mission**

#### **In News**

Europe's JUICE mission to launch for Jupiter's icy moons.

#### **About the Mission**

- The JUICE is an interplanetary spacecraft that was launched from Guiana Space Centre in the French Guiana by the European Space Agency (ESA).
- Mission will *explore Jupiter and three of its icy moons - Ganymede, Callisto, and Europa* in depth.
- It has a single orbital spacecraft with no lander. It will orbit Ganymede, the solar system's largest moon,
- It will be the first probe to orbit a planetary moon other than Earth's. It will take nearly eight years to reach the largest planet in the solar system.
- It will spend three years orbiting the planet and making close flybys of three of its main moons.
- It will carry 10 scientific instruments that will help scientists analyze Jupiter's moons and their potential to host life.
- The spacecraft is wrapped in 500 layered thermal insulation blankets to protect itself against temperatures expected to soar above 250 degrees Celsius.
- It has a record 85 square metres of solar panels to collect as much energy as possible near *Jupiter, where sunlight is 25 times weaker than on Earth.*

### **2. Electromagnetic Ion Cyclotron (EMIC) waves**

#### **In News**

Scientists probe characteristics of a form of plasma wave identified in the Indian Antarctic station.

#### **About EMIC waves**

- It is *a form of plasma waves*. These waves play an important role in precipitation of killer electrons.
- These are hazardous to space-borne technology/instruments.

#### **About Indian Antarctic station, Maitri**

- *Maitri* also known as Friendship Research Centre, is India's second permanent research station in Antarctica as part of the Indian Antarctic Programme.
- *Dakshin Gangotri* was the first scientific base station of India situated in Antarctica.

- **Maitri** is located at an ice free, rocky area on the *Schirmacher oasis*.
- It is an inland station about 100 km from the shore at an elevation of about 50 meters above sea level.
- The communication is through dedicated satellite channels providing connectivity for voice, video and data with India mainland.

**Electromagnetic Ion Cyclotron (EMIC) Waves**

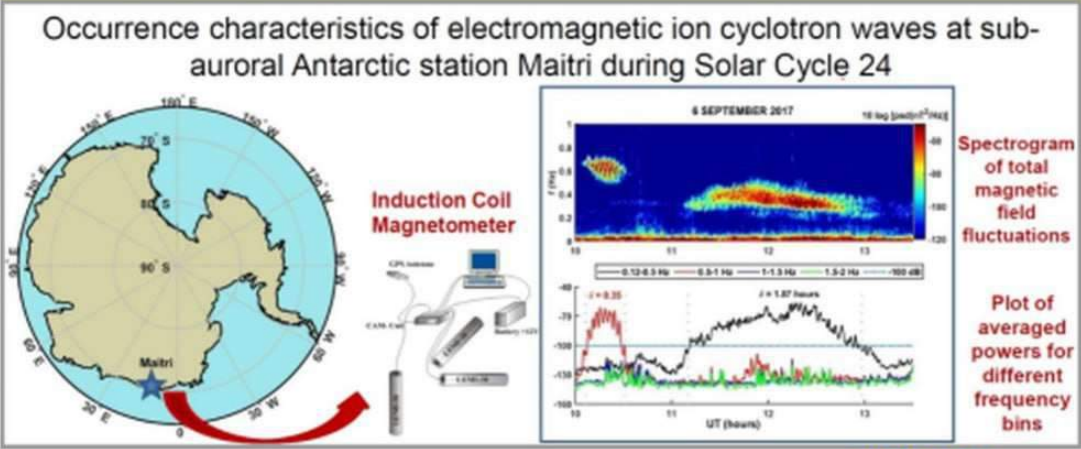


**Why in news?**

- A team of scientists from the Indian Institute of Geomagnetism (IIG), analysed data collected by the Induction Coil Magnetometer data, installed at the Indian Antarctic station Maitri to bring out several aspects of the ground observation of the Electromagnetic Ion Cyclotron (EMIC) waves.

**Electromagnetic Ion Cyclotron (EMIC) Waves**

- These are the discreet electromagnetic emissions observed in the Earth's magnetosphere.
- These waves are generated in the equatorial latitudes and propagate along magnetic field lines to their footprint in the high-latitude ionosphere.
- Their signatures can be recorded in both spaces as well as ground-based magnetometers.
- These waves are higher during magnetically disturbed days (53.1%) as compared to quiet days (41.1%).
- The dependence of EMIC occurrence on solar flux is evident and they are more frequent during the descending phase of the solar cycle.
- The interesting observational feature is the peak occurrence of EMIC in the noon-dusk sector, which is attributed to the presence of plasma plumes at that time in the Earth's magnetosphere.



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### 3. Quantum Mission

#### In News

Union Cabinet gives nod for ₹6,003 crore Quantum Mission.

#### About the Mission

- The mission aiming to seed, nurture and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT).
- The National Quantum Mission (NQM) is the mission where technology has not been adopted from any advanced country.

#### Mission Includes

- Mission involves developing “*intermediate scale*” quantum computers:
  - 20-50 physical ‘qubits’ in three years.
  - 50-100 physical qubits in five years and
  - 50-1,000 physical qubits in eight years.
- *Qubits’ or ‘quantum bits’ are the units of process by quantum computers.*

## National Quantum Mission (NQM)



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#### Why in news?

- The Union Cabinet recently approved the ₹6,003 crore National Quantum Mission (NQM).

#### National Quantum Mission (NQM)

- NQM will fund research and development of quantum computing technology and associated applications.
- Led by - Department of Science and Technology
- The mission will have defined milestones that are expected to be achieved over the course of eight years (2023-24 to 2030-31).
- India is the sixth country to have a dedicated quantum mission after the US, Austria, Finland, France and China.
- Four thematic hubs, or T-Hubs, with a focus on quantum computing, communication, sensing and metrology, and materials and devices.
- Objectives
  - Establish satellite-based secure quantum communications between ground stations within India, as well as with other countries, covering a range of 2000 km.
  - It will look to provide inter-city quantum key distribution over 2000 km.
  - Multi-node quantum network with quantum memories.



- Help to advance atomic technology with highly sensitive magnetometers and precision atomic clocks that serve communication, navigation, and timing.
- Aid in designing and synthesising quantum materials, including superconductors, novel semiconductor structures, and topological materials for the fabrication of quantum devices.

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#### 4. YZ Ceti b

##### In News

Why is a star-planet pair just 12 light-years away emitting radio signals?

##### What is YZ Ceti b?

- ***YZ Ceti b is a rocky, earth-sized exoplanet*** (a planet that orbits a star other than our sun) rotating around a small red dwarf star.
- It is 12 light-years from Earth, a handshake distance in astronomical terms.
- It is a terrestrial exoplanet that orbits an M-type star.
- Its mass is 0.7 Earths, it takes 2 days to complete one orbit of its star.
- It was discovered in 2017.

##### Recent discovery

- Astronomers have detected a repeating radio signal from this exoplanet that suggests the *presence of a magnetic field – one of the prerequisites for a habitable planet* – around it.
- The signals were a result of the interaction between the planet's magnetic field and the star.
- The radio waves were strong enough to be picked up on earth, confirmed the existence of an exoplanetary magnetic field.
- The presence of strong planetary magnetic fields should be common outside the solar system.
- The signals can only be produced if the exoplanet orbits very close to its parent star and has its own magnetic field to influence the stellar wind and generate the signals.

#### 5. TeLEOS-2 satellite

##### In News

ISRO to launch Singapore's TeLEOS-2 satellite on April 22.

##### About TeLEOS-2

- TeLEOS -2 is Singapore's second commercial Earth Observation Satellite.
- TeLEOS-1, the first Singapore commercial Earth Observation Satellite was launched by ISRO in 2015.
- It will be launched with the ***Polar Satellite Launch Vehicle C55 (PSLV-C55)*** mission.

##### About PSLV-C55

- The PSLV-C55 mission is a dedicated commercial mission through NSIL.
- TeLEOS-2 and Lumelite-4 satellites are intended to be launched into an eastward low inclination orbit by the mission.



- The mission has the *PSLV Orbital Experimental Module (POEM)*.
- The spent PS4 stage of the launch vehicle would be utilized as an orbital platform to carryout scientific experiments through non-separating payloads.

## PSLV-C55



### Why in news?

- PSLV-C55/TeLEOS-2 is launched successfully.

### PSLV-C55

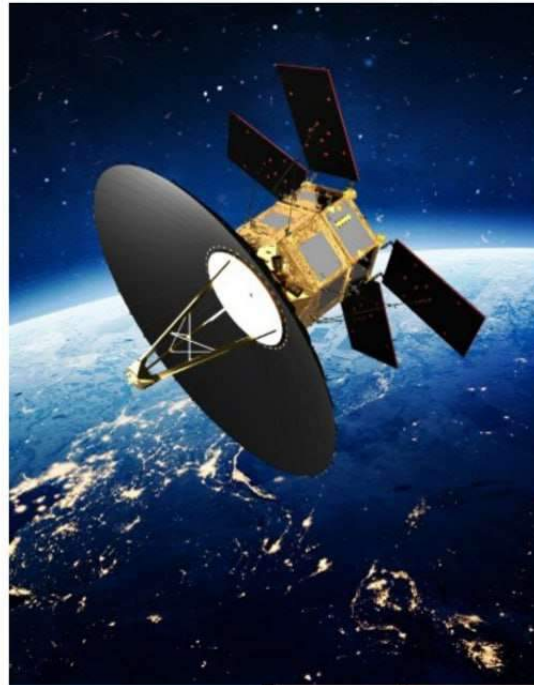
- This is a dedicated commercial mission through NSIL
- It carry TeLEOS-2 as primary satellite and Lumelite-4 as a co-passenger satellite.
- Both belong to Singapore.

### TeLEOS-2

- The TeLEOS-2 satellite is developed under a partnership between DSTA (representing the Government of Singapore) and ST Engineering.
- TeLEOS-2 carries a Synthetic Aperture Radar (SAR) payload.
- TeLEOS-2 will be able to provide all-weather day and night coverage, and capable of imaging at 1m full-polarimetric resolution.

### LUMILITE-4

- The LUMELITE-4 satellite is co-developed by the Institute for Infocomm Research (I2R) of A\*STAR and Satellite Technology and Research Centre (STAR) of the National University of Singapore.
- LUMELITE4 is an advanced 12U satellite developed for the technological demonstration of the High-Performance Space-borne VHF Data Exchange System (VDES).
- It aims to augment Singapore's e-navigation maritime safety and benefit the global shipping community.



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## 6. Multiple Sclerosis

### In News

Scientists fabricate protein that can help study diseases like multiple sclerosis.

### About Multiple Sclerosis

- Multiple sclerosis (MS) is the *most common demyelinating disease* in which the *insulating covers of nerve cells in the brain and spinal cord are damaged*.
- It is an unpredictable disease of the central nervous system that disrupts the flow of information within the brain, and between the brain and body.

# Multiple Sclerosis



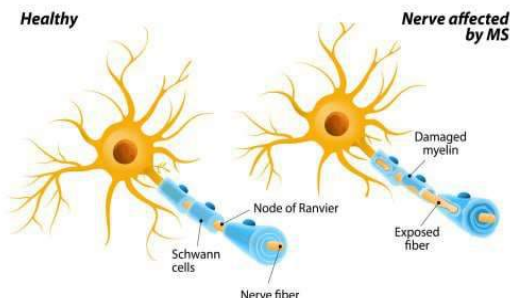
#### Why in news?

- Scientists fabricate protein that can help study diseases like multiple sclerosis.

#### Multiple Sclerosis

- Multiple sclerosis (MS) is the most common demyelinating disease in which the insulating covers of nerve cells in the brain and spinal cord are damaged.
- It is an unpredictable disease of the central nervous system that disrupts the flow of information within the brain, and between the brain and body.
- It impacts the brain, spinal cord and optic nerves.
- The immune system attacks the protective sheath (myelin) that covers nerve fibers and causes communication problems.
- Signs and symptoms of MS vary widely between patients and depend on the location and severity of nerve fiber damage.
- Specific symptoms can include double vision, visual loss, muscle weakness, and trouble with sensation or coordination.
- Some people with severe MS may lose the ability to walk independently or ambulate at all.
- Treatments attempt to improve function after an attack and prevent new attacks.

### MULTIPLE SCLEROSIS



### Main symptoms of Multiple sclerosis

#### Central:

- Fatigue
- Cognitive impairment
- Depression
- Anxiety
- Unstable mood

#### Visual:

- Nystagmus
- Optic neuritis
- Diplopia

#### Speech:

- Dysarthria

#### Throat:

- Dysphagia

#### Musculoskeletal:

- Weakness
- Spasms
- Ataxia

#### Sensation:

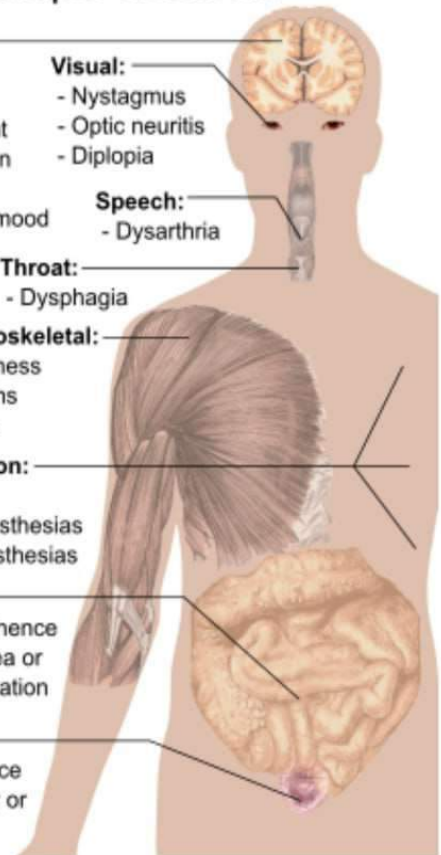
- Pain
- Hypoesthesias
- Paraesthesias

#### Bowel:

- Incontinence
- Diarrhea or constipation

#### Urinary:

- Incontinence
- Frequency or retention





### Myelin Basic Protein (MBP)

- It is a major protein component of myelin sheath, which is a protective membrane that wraps around the axon of nerve cells and acts as a model protein.
- MBP helps in compactification of the myelin sheath.
- Researchers used a technique called the *Langmuir-Blodgett (LB) technique* to form monolayers of pure myelin basic protein at the air-water and air-solid interfaces.

## 7. LockBit ransomware

### In News

What is LockBit ransomware and why is it targeting macOS?

### About LockBit Ransomware

- **LockBit** ransomware is malicious software designed to block user access to computer systems in *exchange for a ransom payment*.
- It was first reported in 2019.

## LockBit Ransomware



### Why in news?

- Recent reports emerged that for the first time, the LockBit Ransomware was found to be targeting Mac devices.

### LockBit Ransomware

- It is malicious software designed to block user access to computer systems in exchange for a ransom payment.
- It was formerly known as "ABCD" ransomware, but it has since grown into a unique threat within the scope of extortion tools.
- It is a subclass of ransomware known as a 'crypto virus' due to forming its ransom requests around financial payment in exchange for decryption.
- It focuses mostly on enterprises and government organizations rather than individuals.
- It functions as ransomware-as-a-service (RaaS). Willing parties put a deposit down for the use of custom for-hire attacks, and profit under an affiliate framework.



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### **How it works?**

- It works as a self-spreading malware.
- It does not require additional instructions once it has successfully infiltrated a single device with access to an organizational intranet.
- It hides executable encryption files by disguising them in the .PNG format, thereby avoiding detection by system defences.
- It uses phishing tactics and other social engineering methods to impersonate trusted personnel or authorities to lure victims into sharing credentials.

### **Targets on macOS?**

- **LockBit** is now working to create encryptors targeting Macs for the first time.
- It is revealed that it is a test, rather than an actual ready-to-use ransomware.
- They are developing tools to target macOS and further increase the scope of attacks to bring in more financial gains for the operation.

## **8. Notifiable disease**

### **In News**

Malaria will soon be a **notifiable disease** across India

### **What is a Notifiable Disease?**

- A notifiable disease is *any disease that is required by law to be reported to government authorities.*
- The collation of information allows the authorities to monitor the disease, and provides early warning of possible outbreaks.
- Each state, region, or country maintains a list of notifiable diseases.
- The lists are not static; diseases are added or removed based on current public health needs.
- Notifiable diseases may be classified on the urgency of reporting and assigned varying time requirements.

### **Malaria in India**

- Currently malaria is a notifiable disease in 33 States and Union Territories in India.
- In India malaria is not just a public health issue but also a social, economic, and political challenge that requires the cooperation of all stakeholders.
- *India witnessed 85.1% decline in malaria cases and 83.36% decline in deaths during 2015-2022.*
- There is availability of near-real time data monitoring through an integrated health information platform (HIP-Malaria Portal).

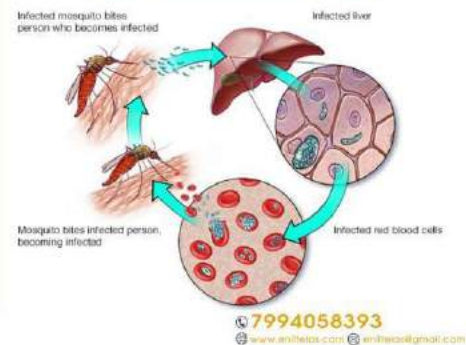
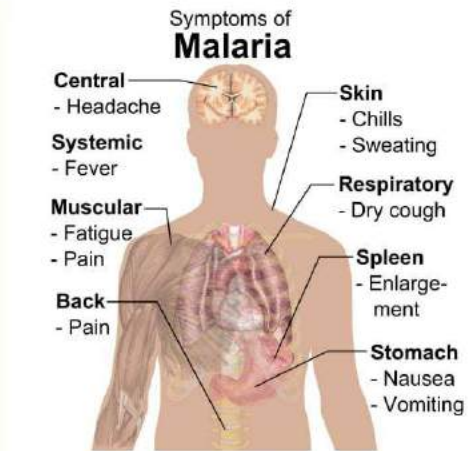
## Malaria

### Why in news?

- April 25 marks World Malaria Day.
- Malaria is all set to become a notifiable disease across India, with Bihar, Andaman and Nicobar Islands and Meghalaya too in the process of putting the vector borne disease in the category.

### Malaria

- Malaria is a life-threatening mosquito borne blood disease caused by plasmodium parasites.
- It is predominantly found in the tropical and subtropical areas of Africa, South America as well as Asia.
- It is preventable as well as curable.
- Spread - The parasites spread through the bites of infected female Anopheles mosquitoes



## 9. Zero Shadow Day

### In News

Zero Shadow Day in Bengaluru.

### About Zero Shadow Day

- Zero Shadow Day is a *phenomenon that occurs twice a year, where the Sun's position is directly overhead, casting no shadows on the Earth's surface.*
- It happens twice a year, for places between  $+23.5$  and  $-23.5$  degrees latitude (places between the Tropic of Cancer and Tropic of Capricorn)
- The dates will vary for different locations on Earth. This phenomenon occurs when the *Sun's declination becomes equal to the latitude of the location.*
- On a zero-shadow day, when the sun crosses the local meridian, the sun's rays will fall exactly vertical relative to an object on the ground and one cannot observe any shadow of that object

- The Sun is almost never exactly overhead at noon, but usually transits a bit lower in altitude, a bit to the north or a bit to the south.
- The Sun, in its highest point of the day, will move from 23.5 degrees south of the celestial equator to 23.5 degrees north of the equator (*Uttarayan*), and back again (*Dakshinayan*), *in a year*.
- The northern most and southern most points are the two solstices, and the crossing of the Sun across the equator are the two equinoxes.

## 10. Web3

### In News

The third-gen web is about public good.

### About Web3

- The third-gen web is termed as '**Web3**'.
- Web3 is **decentralised, privacy-oriented, blockchain-driven and crypto-asset friendly**.
- Web3 will radically transform the manner in which data is generated, monetised, shared and circulated.
- It advocates *decentralised data storage systems* with the objective of unshackling the oligopolistic grip of technology behemoths over data.
- Web3 has file-sharing systems called the Inter-Planetary File System.
- This system is cryptographically protected, more secure and capable of functioning off Internet and off blockchains.
- Web3 seeks to *overcome the data storage barriers* of blockchains.
- Important element of Web3 is the strategic role it assigns to non- custodial wallets that function as digital passports for users to access blockchain-enabled transaction platforms.

## 11. Lunar Polar Exploration Mission (LUPEX)

### In News

Japanese team reviews Lunar Polar Exploration mission with ISRO.

### About LUPEX Mission

- **LUPEX Mission** is a robotic lunar mission concept by *Indian Space Research Organisation (ISRO) and Japan Aerospace Exploration Agency (JAXA)*.
- LUPEX mission is envisaged to explore the permanently shadowed regions or the dark side of the moon.
- The main objective of the mission is to confirm the presence of water in the polar regions of the moon.

- The Lunar Polar Exploration mission (LUPEX), also known as *Chandrayaan-4*.
- The mission would demonstrate new surface exploration technologies related to vehicular transport and lunar night survival for sustainable lunar exploration in Polar Regions.
- It would utilize a feature matching algorithm and navigational equipment derived from JAXA's Smart Lander for Investigating Moon (SLIM) mission.
- The launch vehicle for the mission will be a Japanese rocket.
- The lander system will be developed by ISRO and the Rover by JAXA. The landing point will be the *south pole of the moon*.

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## DEFENCE/MILITARY EXERCISES

### 1. INIOCHOS-23

#### In News

Participation of Indian Air Force in Exercise INIOCHOS-23.

#### About the Exercise

- Exercise INIOCHOS-23, a multi-national air exercise hosted by the Greece Air Force.
- The exercise will be conducted at the Andravida Air Base in Greece.
- Participating countries are – Cyprus, France, India, Italy, Jordan, Saudi Arabia, Slovenia, Spain, USA, Austria and Canada.
- This will be the third exercise that the IAF will be taking part in simultaneously.
- The *Exercise Cope India with the U.S.* is underway at Kalaikunda and four Rafale fighters are taking part in a multilateral exercise Orion hosted by France.

### Exercise INIOCHOS - 23



#### Why in news?

- The Indian Air Force (IAF) will be participating in Exercise INIOCHOS - 23, a multinational air exercise hosted by the Greece Air Force from April 24 to May 4.

#### Exercise INIOCHOS - 23

- The exercise will be conducted at the Andravida Air Base in Greece and the IAF will be participating with four Su30 MKI and two C17 aircraft.
- The objective of the exercise is to enhance international cooperation, synergy and interoperability amongst the participating Air Forces.
- The exercise will be conducted in a realistic combat scenario involving multiple types of air and surface assets and it will also enable the participating contingents to engage in professional interactions, providing valuable insight into each other's best practices.



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### 2. BMD Interceptor

#### In News

India conducts successful trial of BMD interceptor missile.

### About BMD interceptor

- The **Indian Ballistic Missile Defence Program** is an initiative to develop and deploy a *multi-layered ballistic missile defence system* to protect India from ballistic missile attacks.
- It was *launched in 2000 after Kargil War*.
- It is a double-tiered system consisting of two land and sea-based interceptor missiles.
- They are named:
  - *Prithvi Air Defence (PAD) missile for high altitude interception.*
  - *Advanced Air Defence (AAD) Missile for lower altitude interception.*

### About the new Sea- based BMD missile

- It is a *sea-based endo-atmospheric interceptor missile*.
- It is jointly developed by *Defence Research and Development Organisation (DRDO) and Indian Navy*.
- The maiden flight trial was successfully conducted off the coast of Odisha in the Bay of Bengal.
- The purpose of the trial was to engage and neutralize a hostile ballistic missile threat.
- It will elevate India into the elite club of nations having Naval BMD capability.

## 3. Ajeya Warrior – 2023

### In News

**Indo-UK Joint Military Exercise “Ajeya Warrior – 2023” to commence.**

### About the Exercise

- *Exercise Ajeya Warrior is a bilateral military exercise between India and UK.*

### Exercise Ajeya Warrior 2023



#### Why in news?

- Indian Army contingent will participate in the 7th edition of the bilateral training exercise 'Ajeya Warrior 2023'.

#### Exercise Ajeya Warrior 2023

- Bilateral training exercise between the armies of India and the UK.
- It aims to improve interoperability between the two forces while carrying out operations in accordance with UN mandates.
- The exercise will witness the participation of an infantry company from India and a unit of equal strength from the British Army.
- The soldiers of both countries will practice using each other's weapons, war tactics, equipment, war strategies, and procedures for conducting combined military operations in difficult situations.



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- It is conducted alternatively in the United Kingdom and India, the last edition was held at Chaubatia, Uttarakhand.
- Ajeya Warrior – 2023 is the 7th edition of joint military exercise and is being conducted at Salisbury Plains, United Kingdom.

#### 4. Project 15B

##### In News

Imphal, Indian Navy's third Ship of **Project 15B** sails for maiden sea trials.

##### About Project 15B

- The *Visakhapatnam-class destroyers*, also classified as the P-15 Bravo class, or simply **P-15B**.
- It is a class of guided-missile destroyers currently being built for the Indian Navy (IN).
- It is an upgraded derivative of its predecessor, *the Kolkata class*, with improved features of stealth, automation and ordnance.
- It was designed by the Warship Design Bureau (WDB), the Indian Navy's in-house design organization.
- It is being built by Mazagon Dock Shipbuilders Ltd, Mumbai.
- It has a maximum speed of 30 knots.
- Approximately *75% of the content of the project is indigenous*.
- It can carry:
  - Medium Range Surface-to-Air Missiles
  - BrahMos Surface-to-Surface Missiles
  - Indigenous Torpedo Tube Launchers
  - Anti-Submarine Indigenous Rocket Launchers

## INDEX/REPORTS

### 1. State Energy Efficiency Index 2021-22 (SEEI)

#### **In News**

Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana, front-runners in State Energy Efficiency Index 2021-22.

- **Published by:** Ministry of Power and New & Renewable Energy
- **Developed by:** *Bureau of Energy Efficiency (BEE)* and Alliance for an Energy-Efficient Economy (AEEE).

#### **About the Index**

- It was released during the RPM (Review, Planning and Monitoring) meeting of States and State Utilities in New Delhi.
- It assesses the annual progress of states and UTs in energy efficiency implementation.
- SEEI 2021-22 has an updated framework of 50 indicators aligned with national priorities.

#### **Key Findings**

- Five states - *Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana* - are in the Front Runner category (>60 points).
- Telangana and Andhra Pradesh showed the most improvement since the last index.

#### **Why this Index?**

- The SEEI tracks progress in managing states' and *India's energy footprint*, driving energy efficiency policies and programmes at the state and local level.
- It aims at driving decarbonisation efforts and achieve a more sustainable future.
- It is designed to help track progress on state goals for energy savings and reduction in emission intensity.

### 2. IPCC AR 6 Report

#### **In News**

Shri Bhupender Yadav says the *IPCC AR 6 Report* reemphasizes that development is our first defence against climate change.

#### **About the Report**

- The Sixth Assessment Report (AR6) of the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) assess scientific, technical, and socio-economic information concerning climate change.

- It has contributions by its three Working Groups and a Synthesis Report, three Special Reports, and a refinement to its latest Methodology Report.
- The Working Groups are:
  - The Working Group I contribution to the Sixth Assessment Report, Climate Change 2021: The Physical Science Basis.
  - The Working Group II contribution, Climate Change 2022: Impacts, Adaptation and Vulnerability
  - The Working Group III contribution, Climate Change 2022: Mitigation of Climate Change
  - The Synthesis Report, Climate Change 2023: Synthesis Report informs the 2023 Global Stocktake under the United Nations Framework Convention on Climate Change.

### Findings

- It focused on the foundational consensus of the climate science behind the causes and effects of human greenhouse gas emissions.
- It included much more detail on the regional effects of climate change.
- The report quantifies *climate sensitivity* as between 2.5 °C (4.5 °F) and 4.0 °C (7.2 °F) for each doubling of carbon dioxide in the atmosphere
- The Report reinforces the scientific view that **CO<sub>2</sub> is the primary GHG that needs to be drastically reduced** to achieve the global temperature goal as agreed in the Paris Agreement.
- It says *to achieve 1.5 degree target the world would need to cut emissions by 50% by the year 2030 and by 100% by the year 2050.*

### 3. State of world population report 2023

#### In News

India's population to edge ahead of China's by mid-2023, says U.N.

- **Publisher: UN Population Fund (UNFPA)**

#### About the report

- The State of World Population is an annual report published by the United Nations Population Fund (UNFPA).
- Each edition covers and analyses developments and trends in world population and demographics.
- It shed light on specific regions, countries and population groups and the unique challenges they face.



- The 2023 report will discuss the milestone of 8 billion recently reached by the human population and the narratives surrounding population change.
- It uses probabilistic approaches to take into consideration both the previous experiences of a certain nation and the past experiences of other countries under comparable conditions.
- It utilized the '*Cohort Component Method*' as it is the universally accepted method of making population projections.

### **Findings of the Report**

- ***India will become the most populous nation*** in the world by *mid-2023* surpassing China.
- It states that *68% of India's population is between the ages of 15 and 64, and about 25% of the population is under 14 years old, 18% between 10 and 19 years, 26% between 10 and 24 years, and 7% over 65.*
- The ***population growth rate of India fell below the world population growth rate for the first time in 2018***
- Eight countries will account for half the projected growth in global population by 2050.
- India has a time-bound opportunity to benefit from the demographic dividend.
- It must convert the opportunity into “economic benefits through additional investments in health, education, and quality jobs for young people.
- It recommended that governments introduce policies with gender equality and rights.

## **4. State of the Global Climate in 2022 Report**

### **In News**

UN reports 'off the charts' melting of glaciers.

- ***Publisher: World Meteorological Organization (WMO)***

### **About the Report**

- It provides a broad view of the climate at a global scale.
- The WMO State of the Global Climate report 2022 focuses on seven key climate indicators – greenhouse gases, temperatures, sea level rise, ocean heat and acidification, sea ice and glaciers.
- They are used to monitor the domains most relevant to climate change.
- It also highlights the impacts of climate change and extreme weather.

### **Findings of the Report**

- The last eight years have been the warmest ever recorded.
- Concentrations of greenhouse gases such as carbon dioxide hit new peaks.
- Antarctic sea ice fell to its lowest extent on record and the melting of some European glaciers

- Sea levels are also at a record high, having risen by an average of 4.62 millimetres per year between 2013 and 2022.
- Record high temperatures were recorded in the oceans.
- Around 90% of the heat trapped on Earth by greenhouse gases.
- The global mean temperature in 2022 was 1.15 C above the 1850-1900 average.
- The greenhouse gas concentrations reached new global highs in 2021.
- The world's reference glaciers saw an average thickness loss of more than 1.3 metres between October 2021 and October 2022.
- The Alps smashed records for glacier melt due to a combination of little winter snow, an intrusion of Saharan dust in March 2022.

## 5. First Census on Water Bodies

### In News

First national census on waterbodies puts Kerala's count at 55,734.

- **Ministry:** Ministry of Jal Shakti

### About the Census

- The Ministry of Jal Shakti has conducted the first-ever census of water bodies across the nation.
- The census provides a comprehensive inventory of India's water resources, including natural and man-made water bodies like ponds, tanks, lakes etc.
- The census was launched under the centrally sponsored scheme, "**Irrigation Census**".
- It is in convergence with the 6th Minor Irrigation Census in order to have a comprehensive national database of all water bodies.
- It covered all the water bodies located in rural as well as urban areas that are in-use or not in-use.
- It took into account all type of uses of water bodies like irrigation, industry, pisciculture, domestic/ drinking, recreation, religious, ground water recharge etc.
- It collect data on the encroachment of water bodies.

### The key features/findings

- 24,24,540 water bodies have been enumerated in the country.
- 97.1% (23,55,055) are in rural areas and only 2.9% (69,485) are in urban areas.
- 78% water bodies are man-made water bodies whereas 22% are natural water bodies.
- Top 5 States in terms of number of water bodies are *West Bengal, Uttar Pradesh, Andhra Pradesh, Odisha and Assam*.
- Top 5 constitute around 63% of the total water bodies in the country.
- **59.5% of water bodies are ponds, followed by tanks (15.7%), reservoirs (12.1%).**

- 55.2% of water bodies are owned by private entities whereas 44.8% of water bodies are in the domain of public ownership.
- Maximum public water bodies are owned by Panchayats, followed by State Irrigation/State WRD.
- Maximum private water bodies are in hands of Individual owner/farmer followed by group of individuals and other private bodies.
- Major water bodies are used in Pisciculture followed by Irrigation.

## 6. National Health Accounts Estimates Report

### In News

National Health Accounts Estimates for India (2019-20) released.

- **Published by:** National Health Systems Resource Centre

### About National Health Account (NHA) estimates

- The National Health Account (NHA) estimates for India 2019-20 is the seventh consecutive NHA estimates report.
- The NHA estimates are prepared by using an accounting framework based on the internationally accepted standard of System of Health Accounts, 2011.
- India now has a continuous series of NHA estimates for the country, from 2013-14 to 2019-20.
- It enable the policymakers to monitor the progress in different health financing indicators of the country.
- These estimates are comparable internationally.

### Key findings

- It clearly show that government expenditure for healthcare continues to be the priority.
- The share of **Out-of-Pocket Expenditure (OOPE)** in total Health Expenditure (THE) declined from **62.6% to 47.1%**.
- The continuous decline in the OOPE in the overall health spending show progress towards ensuring financial protection and Universal Health Coverage for citizens.
- Report highlights the increased public spending in primary healthcare.
- Two-thirds of public health spending must be in Primary Health systems.
- The share of Government Health Expenditure (GHE) in the overall GDP of the country has increased from 1.13% in 2014-15 to 1.35% in 2019-20.
- GHE has doubled from Rs. 1,108 to Rs. 2,014 between 2014-15 to 2019-20.
- General Government Expenditure (GGE), the share of health sector spending has steadily increased from **3.94% to 5.02%**.

- The share of primary healthcare in Current Government Health Expenditure (CGHE) has increased from 51.3% in 2014-15 to 55.9% in 2019-20.
- The increase in Social Security Expenditure (SSE) on healthcare is another positive trend.

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# WE LIGHTENED THEIR JOURNEY'S THEY CREATED US

**SMILNA SUDHAKAR – IFoS**  
AGMUT Cadre  
UPSC2019 Rank : 458



I owe the largest share of my success to the tireless and constant support of the Enlite IAS academy team. Being part of such a committed group of Individuals has truly been an enriching and rewarding experience. I am deeply indebted to Mahesh sir and Abhilash sir, both of whom exemplify the true spirit of Enlite. They have been pillars of support throughout the entire process, helping me navigate and overcome every obstacle that this journey has thrown at me.

**PRASAD KRISHNAN IRS**  
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**MANOJ MADHAV S IFS**  
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I attended philosophy optional enrichment program @ ENLITE IAS. The unique insights I got during the course played a vital role in my success in the civil service examination. Also 90% of the questions in the exam directly appeared from the class room sessions. It helped in tuning my Interview preparation to an optimum level.

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