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# 7 MONTHS CURRENT AFFAIRS

(January 2023 - July 2023)

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## 7 MONTHS CURRENT AFFAIRS

(JAN 2023 TO JULY 2023)

Sl. No.	Topic and its Content
	<b>FOR THE MONTH OF JULY</b>
1	<p><b><u>THE U.S. SUPREME COURT BAN ON RACE-BASED ADMISSIONS</u></b></p> <ul style="list-style-type: none"><li>Recently, the U.S. Supreme Court struck down race-conscious student admissions at the University of North Carolina (UNC) and Harvard College, calling such affirmative action policies unlawful.</li><li>The case argued whether admissions systems used by Harvard College and UNC are lawful under the <b>Equal Protection Clause of the Fourteenth Amendment</b>.</li><li>The Equal Protection Clause, under the Fourteenth Amendment, requires the government to accord equality to all citizens and avoid denial of protection enjoyed by other people or demographics. The Equal Protection clause is considered <b>crucial to the protection of citizens' civil rights</b>.</li></ul>
2	<p><b><u>CHINA LIMITS EXPORT OF RAW MATERIALS</u></b></p> <ul style="list-style-type: none"><li>Recently, the Chinese Ministry of Commerce announced that it would implement export controls on items related to gallium and germanium in order to safeguard national security interests.</li><li><b>Gallium</b> is used to make gallium arsenide which forms the core substrate for semiconductors. They are used to manufacture semiconductor wafers utilised in integrated circuits, mobile and satellite communications (in chipsets), and LEDs (in displays). It also used in automotives and lighting, and for sensors in avionic, space and defence systems. According to the European industry body, <b>Critical Raw Materials Alliance (CRMA)</b>, 80% of gallium production takes place in China.</li><li>China also commands 60% of the total production of <b>germanium</b>. The element is used in fibre-optic cables, infrared imaging devices (used by enforcement agencies for surveillance, target acquisition and reconnaissance, particularly in the dark) and optical devices (to improve the ability to operate weapon systems in harsh conditions). They are also used in solar cells for their ability to withstand heat and higher energy conversion efficiency.</li><li>IV) The European Commission, whose import dependency on China stands at 71% and 45% for gallium and germanium respectively, has recognised it as a '<b>critical raw material</b>'. In India, the Ministry of Mines identified the two elements to be crucial for the country's economic development and national security.</li></ul>
3	<p><b><u>THE PROVISIONS OF THE HIGH SEAS TREATY</u></b></p> <ul style="list-style-type: none"><li>Recently, the UN adopted the <b>Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ) or the High Seas Treaty</b>. It became the third agreement to be approved under <b>United Nations Convention on the Law of the Sea (UNCLOS)</b>, after the 1994 and 1995 treaties, which established the <b>International Seabed Authority and the Fish Stocks agreement</b>.</li></ul>



	<ul style="list-style-type: none"><li>• The treaty aims to <b>address critical issues such as the increasing sea surface temperatures, overexploitation of marine biodiversity, overfishing, coastal pollution, and unsustainable practices beyond national jurisdiction.</b></li><li>• Establishes marine protected areas to protect oceans from human activities through a <b>three-quarterly majority vote, which prevents the decision from getting blocked by one or two parties.</b></li><li>• The treaty mandates <b>sharing of scientific information and monetary benefits through installing a clear house mechanism.</b> Through the mechanism, information on marine protected areas, marine genetic resources, and area-based management tools will be open to access for all parties. This is to bring transparency and boost cooperation.</li><li>• The last pillar of the treaty is capacity building and marine technology. The <b>Scientific and Technical Body</b> will also play a significant role in environmental impact assessment. The body will be creating standards and guidelines for assessment procedures, and helping countries with less capacity in carrying out assessments. This will facilitate the conference of parties to trace future impacts, identify data gaps, and bring out research priorities.</li></ul>
4	<p style="text-align: center;"><b>JAPAN INDIA MARITIME EXERCISE (JIMEX 23)</b></p> <ul style="list-style-type: none"><li>• The seventh edition of the <b>bilateral Japan-India Maritime Exercise 2023 (JIMEX 23)</b> being hosted by the Indian Navy. This edition marks the <b>11th anniversary of JIMEX, since its inception in 2012.</b></li><li>• It is being conducted between <b>Japan Maritime Self Defence Force (JMSDF) and the Indian Navy</b> for maritime security cooperation.</li></ul> <p><b><u>Other exercises between India and Japan</u></b></p> <ul style="list-style-type: none"><li>• Dharma Guardian: Military Exercise.</li><li>• Veer Guardian: Air Exercise.</li><li>• Malabar Exercise: Multilateral Exercise between India, Japan, USA and Australia.</li></ul>
5	<p style="text-align: center;"><b>IRAN'S INDUCTION IN THE SHANGHAI COOPERATION ORGANISATION</b></p> <ul style="list-style-type: none"><li>• As Iran joins the <b>Shanghai Cooperation Organisation (SCO) as its ninth member</b>, leaders of the SCO at a virtual summit chaired by Indian Prime Minister Narendra Modi stressed that the formation of a <b>more representative and multipolar world order is in the global interest.</b></li><li>• The SCO was built on the <b>'Shanghai Five'</b> grouping of Russia, China, Kazakhstan, Kyrgyzstan and Tajikistan, which had come together in the post-Soviet era in 1996, in order to work on <b>regional security, reduction of border troops, and terrorism.</b> In 2001, the Shanghai Five inducted Uzbekistan into the group and named it the SCO.</li><li>• The organisation has <b>two permanent bodies — the SCO Secretariat based in Beijing and the Executive Committee of the Regional Anti-Terrorist Structure in Tashkent.</b></li></ul>
6	<p style="text-align: center;"><b>AUSTRALIA'S REFERENDUM TO INCLUDE AN INDIGENOUS 'VOICE' IN ITS CONSTITUTION</b></p> <ul style="list-style-type: none"><li>• Recently, a bill passed by the Australian Parliament has set the stage for a historic referendum on <b>constitutional recognition for the Indigenous people, who account for 3.2% of the country's nearly 26 million population.</b></li><li>• The Senate approved the <b>Constitution Alteration (Aboriginal and Torres Strait Islander Voice) 2023</b>, which proposes a change in the Constitution to establish a representative body that will advise Parliament and the government on matters related to Indigenous people.</li><li>• The Australian government defines Indigenous people as those who <b>"are of Aboriginal or Torres Strait Islander descent; identify as being of Aboriginal or Torres Strait Islander origin; and are accepted as such in the communities in which they live or have lived."</b> The Torres Strait Islands are now part of the Australian state of Queensland.</li></ul>



- Aboriginal Australians are believed to have inhabited the continent for tens of thousands of years, long before British colonisation of Australia in the 18th century. Aboriginal people are known to have occupied mainland Australia for at least 65,000 years. It is widely accepted that this predates the modern human settlement of Europe and the Americas.
- Communities include hundreds of groups with distinct languages, cultural practices and traditions. Also, about 250 such language groups are spread throughout the continent.

### THE ARTEMIS ACCORDS

- Recently, India's Ambassador to the U.S., has signed the document confirming **India's acceptance of the Artemis Accords**.
- The Artemis Accords are a set of **non-binding guidelines** that underpin the Artemis programme, **an ambitious U.S.-led project to return humans to the Moon, this time permanently**. The project plan includes a base on the lunar surface, multiple spacecraft to ferry humans and cargo, a small orbiting space station called the '**Lunar Gateway**', and a constellation of satellites to help with navigation and communication.
- Artemis mirrors a Chinese-Russian plan for an '**International Lunar Research Station (ILRS)**'. With Russia financially constrained and reeling under sanctions, China has taken the lead on ILRS, outlining similar plans for a permanent base and a lunar satellite constellation.
- The Artemis Accords establish a **practical set of principles** to guide space exploration cooperation among nations, including those participating in **NASA's Artemis program**.
- NASA, in coordination with the U.S. Department of State, established the Artemis Accords in **2020** together with seven other founding member nations.
- 26 countries have partnered in the Artemis Accord, with **Australia, Canada, Italy, Japan, Luxembourg, UAE, UK, and USA being the founders**. Out of 22 European nations, only eight -- Luxembourg, Italy, UK, Romania, Poland, France, Czech Republic, and Spain -- have signed the accords.
- These principles are **non-binding multilateral arrangements** between the US government and other governments. The Artemis Accords reinforce and implement **key obligations in the 1967 Outer Space Treaty**. These apply to civil space activities -- which may take place on the moon, Mars, comets, asteroids, including their surfaces and sub surfaces, as well as in orbit of the Moon or Mars.

### THE ARTEMIS PROGRAMME

- NASA's Artemis program is an effort to place **astronauts on the lunar surface and develop an ongoing presence there**. Through the Artemis program, NASA will land the **first woman and first person of colour on the Moon**.
- The program's name is derived from Artemis, **the Greek goddess of the moon and twin sister to Apollo**.
- The most ambitious of the Artemis mission's objectives involves using the **moon as a stepping stone for a mission to Mars**. NASA aims to send astronauts there by the 2030s.
- For crewed Artemis missions, the rocket will launch the Orion spacecraft to the moon. Orion is a space capsule larger than the Apollo command modules that are designed to carry four astronauts on missions to the moon.
- **Artemis 1 (2022)**: The first mission was uncrewed to **test the safety of the SLS rocket, and the Orion capsule's ability** to reach the moon, perform in lunar orbit and return to Earth for an ocean splashdown. The mission was completed successfully.
- **Artemis 2 (2024)**: Carrying the first four Artemis astronauts, the Orion capsule will take the crew farther from Earth than humans have ever travelled before. Over the approximately 10-day



mission, the crew will complete a lunar flyby and return to Earth, evaluating the spacecraft's systems while carrying humans.

- **Artemis 3 (2025):** This will see the next man and first woman step onto the lunar surface. With previous missions have been successful, the astronauts will shoot towards the moon, using the lunar lander to lower two people to the moon's south polar region. They will remain on the moon for around a week.

### THE CHINA-PAKISTAN NUCLEAR DEAL

- Recently, **the China and Pakistan signed an agreement for a 1,200 MW nuclear power plant in the Chashma nuclear complex in Pakistan.** The deal, reported to be worth \$4.8 billion, comes amid Pakistan facing a dual energy and economic crisis.
- The latest nuclear deal between China and Pakistan has implications not only for the crisis-hit country but also for the global governance of nuclear commerce, with Beijing proceeding with the recent deal without seeking necessary waivers from the **Nuclear Suppliers Group (NSG).**

### THE INDIA-U.S. DEAL FOR 31 MQ-9B DRONES

- Recently, the U.S President Joe Biden and Prime Minister Narendra Modi welcomed India's plans to procure **General Atomics MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial vehicles (UAV).** This sets the stage for the **acquisition of 31 of these armed UAVs, 15 SeaGuardians for the Indian Navy and 16 SkyGuardians — eight each for the Indian Army and Air Force.**
- The MQ-9B has two variants — the SkyGuardian and the SeaGuardian, its maritime variant. The MQ-9B is designed to fly over the horizon via satellite for up to 40 hours, depending on configuration, in all types of weather and safely integrate into civil airspace.
- For instance, the SeaGuardian configuration can include a 360-degree surface-search maritime radar, automatic identification system, sonobuoy monitoring system, and sonobuoy dispensers for persistent anti-surface and anti-submarine warfare missions.



*(The MQ-9B SkyGuardian)*

### INDIA-US WTO DISPUTE

- Recently, India and the US have agreed to end six trade disputes at the **World Trade Organisation.** This comes amid Prime Minister Narendra Modi's State Visit to the US.
- The six disputes include three initiated by India and as many by the US.
- These include countervailing measures on certain hot-rolled carbon steel flat products from India, certain measures relating to solar cells and modules, export-related measures, steel and aluminium products, and additional duties on some products from the US.



- The US had filed a complaint in the WTO about India's support measures to its export sector under different schemes. In 2019, a WTO dispute panel ruled that India's export measures are inconsistent with global trade norms.

### INDIA TO BE 'VOICE OF GLOBAL SOUTH'

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- As India assumed the **presidency of the G20 group of countries for 2022 to 2023**, Indian External Affairs Minister S Jaishankar said that **the country would be the "voice of the Global South, that is otherwise under-represented in such forums"**.
- The term has since been used multiple times, such as when Jaishankar said of ongoing global conflicts, **"polarisation may occur elsewhere, the people who suffer most are the Global South"**.
- **'Global North'** refers loosely to countries like the US, Canada, Europe, Russia, Australia and New Zealand, while **'Global South'** includes countries in Asia, Africa and South America.

### INDIA'S JET ENGINE DEAL WITH THE U.S.

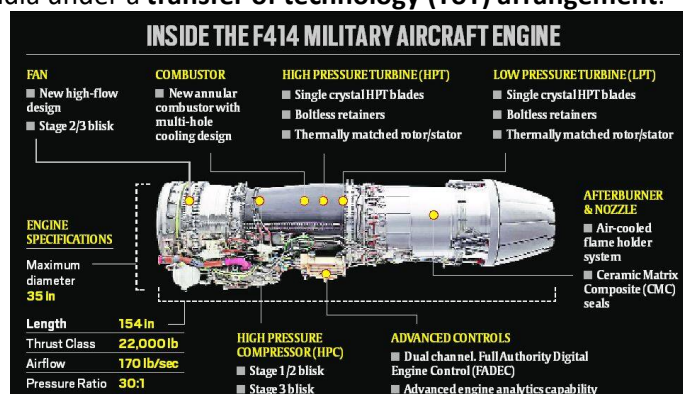
- According to sources, India and the U.S. have almost finalised details and the White House is set to sign off on the deal that will **allow American manufacturing company General Electric (GE) Aerospace to share critical technology with Hindustan Aeronautics Limited (HAL) for the joint production of GE-F414 jet engines that will power indigenous Light Combat Aircraft (LCA) Tejas Mk-II.**
- The proposed agreement has evoked considerable interest in India and beyond, with experts terming it a **significant step for bilateral defence and high-tech cooperation amid China's growing influence and global technological dominance.**



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### *(Light Combat Aircraft Tejas)*

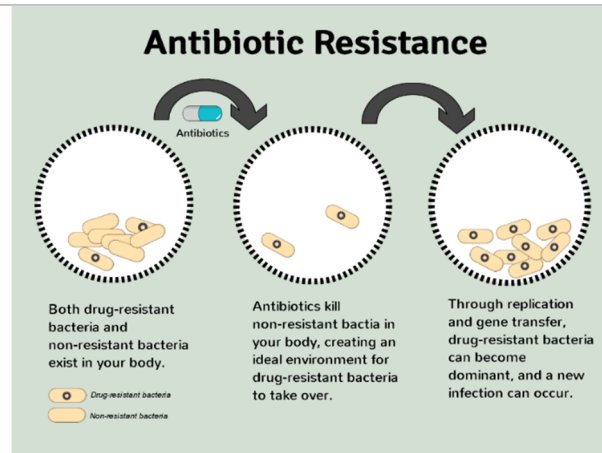
- With Kaveri still a work in progress, India shortlisted **American GE-F404 engines for LCA Tejas Mark-1** as an interim measure. In 2010, the **Aeronautical Development Agency (ADA)** selected the more powerful variant, **F414 engines, to power Tejas Mark-2.** In a media release, the company stated that it would supply an initial batch of the selected variant and the rest will be manufactured in India under a **transfer of technology (ToT) arrangement.**





14	<p style="text-align: center;"><b><u>THE INDIA, U.S. INITIATIVE ON FUTURE TECH</u></b></p> <ul style="list-style-type: none"><li>• Recently, <b>India and the United States unveiled a roadmap for enhanced collaboration in high-technology areas</b>, with a focus on addressing regulatory barriers and aligning export controls for smoother trade and deeper cooperation in critical areas.</li><li>• This was part of the Initiative on <b>Critical and Emerging Technology (iCET)</b> announced by President Joe Biden and Prime Minister Narendra Modi last year.</li><li>• The <b>Initiative on Critical and Emerging Technologies</b> is a framework agreed upon by India and the U.S. for cooperation on critical and emerging technologies in areas including artificial intelligence, quantum computing, semiconductors and wireless telecommunication.</li><li>• The broad outline of areas the two countries intend to explore to expand the depth of tech partnership and cooperation between their governments, businesses, and academic institutions include: Setting up a research agency partnership to drive collaboration in areas like AI; Developing a new defence industrial cooperation roadmap to accelerate technological cooperation for joint development and production; Developing common standards in AI; Developing a roadmap to accelerate defence technological cooperation and ‘innovation bridge’ to connect defence startups; Supporting the development of a semiconductor ecosystem; Strengthening cooperation on human spaceflight; Advancing cooperation on development in 5G and 6G; and Adopting OpenRAN network technology in India.</li></ul>
15	<p style="text-align: center;"><b><u>DARK PATTERNS</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Centre asked e-commerce companies to refrain from using “<b>dark patterns</b>” on their platforms that may deceive customers or manipulate their choices. The government has set up a <b>17-member task force</b> to prepare guidelines on protecting consumers against such practices.</li><li>• Dark patterns, also known as <b>deceptive patterns</b>, is the term used to describe the ways in which websites or apps make their users do things that the users do not intend to do or would not otherwise do, as well as to discourage user behaviour that is not beneficial for the companies.</li><li>• The term was coined by <b>Harry Brignull</b>, a London-based user experience (UX) designer, in 2010.</li><li>• For instance, that annoying advertisement that pops on your screen while visiting a website, and you can’t find the cross mark ‘X’ to make it go away because the mark is too small to notice (or to click/tap). Worse, when you try to click/tap on the tiny ‘X’, you may end up tapping the ad, opening a new tab that redirects you to that ad’s website.</li><li>• Another example is of certain dating apps that require the user to type the word ‘delete’ if they want to delete their account permanently — the pop-up, showing ‘yes’ and ‘no’ options, has been done away with.</li></ul>
16	<p style="text-align: center;"><b><u>ONE HEALTH PRIORITY RESEARCH AGENDA ON ANTIMICROBIAL RESISTANCE</u></b></p> <ul style="list-style-type: none"><li>• Food and Agriculture Organization of the United Nations (FAO), United Nations Environment Programme (UNEP), World Health Organisation (WHO) and World Organisation for Animal Health (WOAH) has launched one health priority research agenda for antimicrobial resistance.</li><li>• <b>Antimicrobial Resistance (AMR)</b> occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines making infections harder to treat and increasing the risk of disease spread, severe illness and death.</li><li>• Antimicrobials are agents used to prevent, control and treat infectious diseases in humans, animals and plants. They include antibiotics, fungicides, antiviral agents and parasiticides. Disinfectants, antiseptics, other pharmaceuticals and natural products may also have antimicrobial properties.</li></ul>





- One Health is an integrated, unifying approach that aims to sustainably balance and optimize the **health of people, animals, and ecosystems**.
- One Health recognizes that the health of humans, domestic and wild animals, plants and the wider environment (including ecosystems) are closely linked and interdependent.
- Consequently, addressing global health issues requires a multisectoral, multidisciplinary response to AMR at this One Health interface.

## MALARIA

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- The U.S. **Centre for Disease Control and Prevention (CDC)** has identified locally acquired malaria (LAM) cases in Florida and Texas in the last two months.
- Locally acquired malaria denotes cases where the disease presents in patients with no travel history, indicating that it has been acquired within their geographical area.
- A locally acquired case would mean that the mosquito transmitting the disease first bite a person carrying the malaria-causing parasite and then another person, thus transmitting the disease locally.
- Malaria is an acute febrile illness caused by Plasmodium parasites, which are spread to people through the bites of infected female Anopheles mosquitoes. It is preventable and curable.
- Malaria is not contagious and cannot spread from one person to another; the disease is transmitted through the bites of female Anopheles mosquitoes.
- Five species of parasites can cause malaria in humans and 2 of these species – Plasmodium falciparum and Plasmodium vivax – pose the greatest threat.
- This risk of infection is higher in some areas than others depending on multiple factors, including the type of local mosquitoes. It may also vary according to the season, the risk being highest during the rainy season in tropical countries.

## NATIONAL WATER MISSION

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- Recently, a Memorandum of Understanding (MoU) was signed between **Bureau of Water Use Efficiency (BWUE), National Water Mission (NWM) and Indian Plumbing Association (IPA)** to improve water use efficiency.
- The Government of India has established the National Water Mission as one of the eight National Missions under the **National Action Plan on Climate Change**.
- The main objective of NWM is conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management.
- NWM has identified five goals as under:



## Goals of NWM



Comprehensive water data base in public domain and assessment of impact of climate change on water resources



Promotion of citizen and State action for water conservation, augmentation and preservation



Focused attention to vulnerable areas including overexploited areas



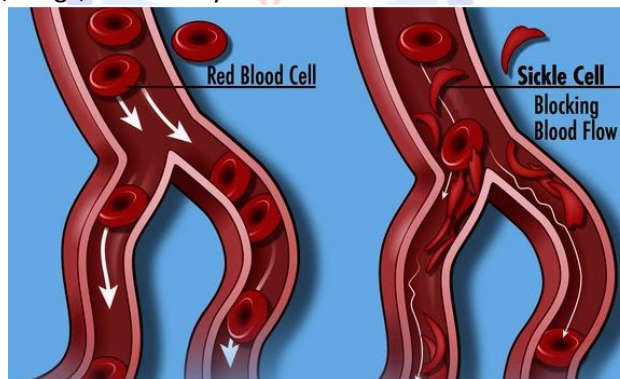
Increasing water use efficiency by 20%



Promotion of basin level integrated water resources management

## NATIONAL SICKLE CELL ANAEMIA ELIMINATION MISSION

- Recently, Prime Minister has launched the **National Sickle Cell Anaemia Elimination Mission** in Shahdol, Madhya Pradesh.
- Sickle cell disease is a hereditary disease caused by mutations in one of the genes that encode the haemoglobin protein, the disease is inherited as an autosomal recessive trait.
- The mutation causes the red blood cells to take on an unusual sickle shape. The misshapen cells lack plasticity and can block small blood vessels, impairing blood flow.
- This condition leads to shortened red blood cell survival, and subsequent anaemia, often called sickle-cell anaemia. Poor blood oxygen levels and blood vessel blockages in people with sickle-cell disease can lead to chronic acute pain syndromes, severe bacterial infections, and necrosis (tissue death).
- Individuals affected by sickle cell disease are chronically anaemic and experience significant damage to their heart, lungs, and kidneys.



- It is transmitted by parents carrying a defective '**beta globin**' gene. For a child to be affected, both mother and father must carry one copy of the sickle cell gene — also known as **sickle cell trait** — and pass both copies of the altered form to the child.
- Sickle-cell anaemia is particularly common among people whose ancestors come from sub-Saharan Africa, India, Saudi Arabia and Mediterranean countries. Its Prevalence is higher in communities that practice endogamy, as the chances of having two parents with sickle cell trait is higher.
- Sickle-cell disease can be managed by simple procedures including high fluid intake, healthy diet, folic acid supplementation, pain medication and vaccination & antibiotics for the prevention and treatment of infections. The only cure comes in the form of **gene therapy and stem cell transplants** — both are costly and still in developmental stages.

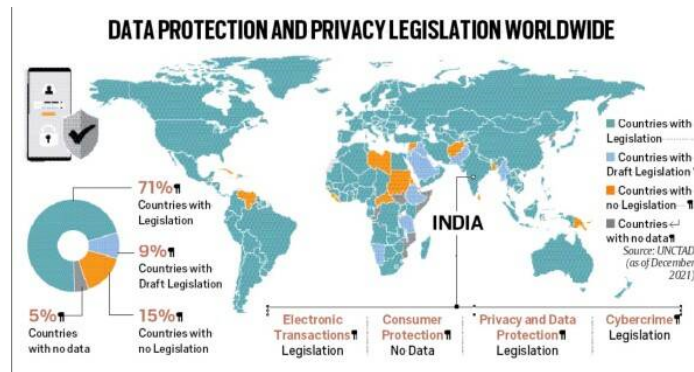


20	<p style="text-align: center;"><b><u>ASPARTAME</u></b></p> <ul style="list-style-type: none"><li>• According to a report, the cancer research arm of the <b>World Health Organisation (WHO)</b> will list the popular sugar substitute aspartame as “<b>possibly carcinogenic to humans</b>”.</li><li>• Aspartame is <b>one of the world’s most common artificial sweeteners</b> and is used in a wide range of diet soft drinks, sugar-free chewing gum, sugar-free ice cream, sugar-free breakfast cereals, etc.</li><li>• A number of studies have repeatedly said that aspartame does not pose a risk for cancer. The listing by WHO, if it comes, will break from those earlier findings, pitting it against the food industry and regulators.</li><li>• Chemically, aspartame is a <b>methyl ester of the dipeptide of two natural amino acids, L-aspartic acid and L-phenylalanine</b>.</li></ul>
21	<p style="text-align: center;"><b><u>THE NATIONAL RESEARCH FOUNDATION BILL</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Cabinet has approved the introduction of the <b>National Research Foundation (NRF) Bill</b> in Parliament, placing once again the debate on <b>science and technology funding</b> in the spotlight.</li><li>• Setting up the NRF was one of the key recommendations of the <b>National Education Policy 2020</b>.</li><li>• The NRF intends to <b>act as a coordinating agency</b> between researchers, various government bodies and industry, thus bringing industry into the mainstream of research.</li><li>• In addition to providing research grants to individuals, the NRF plans to seed, grow and facilitate research in India’s universities, especially State universities, by funding research infrastructure and researchers.</li><li>• The NRF will operate with a budget of <b>₹50,000 crore for five years</b>, of which 28% (₹14,000 crore) will be the government’s share, and the remaining 72% (₹36,000 crore) will come from the private sector. The NRF draft proposes the government’s share to increase eventually to ₹20,000 crore per year.</li><li>• Out of the government’s share, ₹4,000 crore will be used from the existing <b>Science and Engineering Research Board’s budget</b>, which will be subsumed under the NRF. Therefore, the government has earmarked an additional ₹10,000 crore over the next five years for the NRF.</li></ul>
22	<p style="text-align: center;"><b><u>THE ONLINE GAMING</u></b></p> <ul style="list-style-type: none"><li>• The <b>Goods and Services Tax (GST) Council</b>, in its 50th meeting decided to levy a <b>uniform 28 per cent tax on full face value for online gaming, casinos and horse-racing</b>.</li><li>• The government is now expected to bring in a legal amendment to facilitate inclusion of online gaming and horse racing under actionable claim and hence, facilitate taxation of these categories with no distinction for game of skill or chance.</li><li>• While the government has maintained that this decision is not intended to end any industry, online gaming companies have raised concerns about the impact of this move on the industry, as it is likely to affect volumes and thus the viability of gaming companies.</li></ul>
23	<p style="text-align: center;"><b><u>JOHA RICE</u></b></p> <ul style="list-style-type: none"><li>• The Joha variety of rice is found to be effective in lowering blood glucose and is an effective nutraceutical of choice in diabetes management.</li><li>• Joha is a <b>short-grain winter paddy</b> known for its significant aroma and noteworthy taste.</li><li>• It is cultivated in the <b>Northeastern region of India</b>.</li><li>• Joha rice is also rich in several antioxidants, flavonoids, and phenolics. Some of the reported bioactive compounds are oryzanol, ferulic acid, tocotrienol, caffeic acid, catechuic acid, gallic acid, tricic, and so on, each with reported antioxidant, hypoglycaemic and cardio-protective effects.</li><li>• It got the <b>GI (geographical indications) Tag</b> from the Union ministry of commerce.</li></ul>



## DATA PROTECTION BILL

- Recently, the Union Cabinet has approved the **Digital Personal Data Protection Bill, 2022**.
- The Bill, once it becomes law, will play a crucial role in India's trade negotiations with other nations, and especially regions like the European Union, whose **General Data Protection Rules (GDPR)** are among the world's most exhaustive privacy laws.



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- The Digital Personal Data Protection Bill, 2022, is a crucial pillar of the overarching framework of technology regulations the Centre is building, which also includes the **Digital India Bill** — the proposed successor to the Information Technology Act, 2000, the **draft Indian Telecommunication Bill, 2022**, and a **policy for non-personal data governance**.
- The proposed law will apply to processing of digital personal data within India; and to data processing outside the country if it is done for offering goods or services, or for profiling individuals in India.
- It requires entities that collect personal data — called **data fiduciaries** — to maintain the accuracy of data, keep data secure, and delete data once their purpose has been met.

## NANDI PORTAL

- Recently, the Union Minister of Fisheries, Animal Husbandry & Dairying, launched the **NANDI (NOC Approval for New Drug and Inoculation System) portal**.
- It is developed by the **Department of Animal Husbandry and Dairying (DAHD)** in collaboration with the **Central Drugs Standard Control Organization (CDSCO)**.
- Objective: The Portal Will expedite the regulatory approval process for veterinary products. It will enhance transparency and efficiency in assessing and examining proposals for veterinary drugs and vaccines.
- The portal will seamlessly integrate with the **SUGAM portal of the CDSCO**, further simplifying the approval process for veterinary products.
- With the launch of NANDI, DAHD continues to stride towards achieving the interventions laid out as part of its **Animal Pandemic Preparedness Initiative (APPI)**.

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## THE SHAKTI SCHEME- FREE BUS TRAVEL FOR WOMEN IN KARNATAKA

- Recently, the newly-elected Congress government in Karnataka launched the **Shakti scheme**. In this scheme, **women can travel for free in non-premium services of State-run buses across Karnataka**.
- The main purpose of this scheme is said to be to increase the work participation rate of women and to promote public transportation in Karnataka.
- Under this scheme, women and transgenders can travel free in non-premium services of State-run bus services across Karnataka.

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	<ul style="list-style-type: none"><li>• The free travel scheme is restricted within the State to women who are domicile of Karnataka. They will be able to travel in general and express bus services operated by State-run Road Transport Corporations.</li><li>• The State Government will issue the '<b>Shakti Smart Card</b>' after receiving applications from women, including students, through the <b>Seva Sindhu portal</b>. Until then, it has asked RTCs to accept any identity card issued by the Central or State government that carries the photograph and address of the beneficiary, to issue a '<b>zero ticket</b>' (<b>free ticket</b>).</li><li>• The government has directed completion of issuance of smart cards within three months.</li><li>• The government has <b>reserved 50% of the seats for men in the services</b> in which women are eligible to avail free travel, except Bengaluru Metropolitan Transport Corporation (BMTC) services.</li></ul>
27	<p style="text-align: center;"><b><u>ANNA BHAGYA 2.0 SCHEME</u></b></p> <ul style="list-style-type: none"><li>• It is Karnataka's food security program that provides subsidized rice to poor families in the state.</li><li>• The scheme aims to alleviate poverty in the region by providing poor families with access to subsidized rice. This will help to reduce the cost of living for these families and can help to improve their food security.</li></ul>
28	<p style="text-align: center;"><b><u>META'S SOCIAL MEDIA APP THREADS</u></b></p> <ul style="list-style-type: none"><li>• Recently, Meta has unveiled an app called <b>Threads</b> to rival Twitter, targeting users looking for an alternative to the social media platform owned — and frequently changed — by Elon Musk.</li><li>• Launched by Facebook, Instagram, and WhatsApp-parent Meta on July 5, Threads is a <b>text-based public conversation app</b> that was built by the team behind the photo-sharing app Instagram.</li><li>• Threads is <b>part of a user's Instagram account</b>. Threads users will need to sign up through Instagram, and can cross over with their original username and the accounts they were following on Instagram.</li><li>• A number of settings such as blocking, restricting users, and hiding words are synced between the two platforms. However, if a user decides they don't like Threads, they can only deactivate the account. Deleting Threads would mean deleting their Instagram account as well. Users are shown content from the accounts they follow on both Instagram and Threads, as well as recommended content.</li></ul>
29	<p style="text-align: center;"><b><u>ISRO TO EXPLORE THE MOON'S SOUTH POLE</u></b></p> <ul style="list-style-type: none"><li>• <b>Chandrayaan-3, India's third lunar mission</b> is a follow-up to the 2019 Chandrayaan-2 mission, which partially failed after its lander and rover couldn't execute a soft-landing on the Moon.</li><li>• The Chandrayaan-3 will reach the lunar orbit almost a month after its launch, and its <b>lander, Vikram, and rover, Pragyaan</b>, are likely to land on the Moon. Notably, the landing site of the latest mission is more or less the same as the Chandrayaan-2: near the south pole of the moon at 70 degrees latitude. If everything goes well, the Chandrayaan-3 will become the world's first mission to soft-land near the lunar south pole.</li><li>• All the previous spacecraft to have landed on the Moon have landed in the <b>equatorial region</b>, a few degrees latitude north or south of the lunar equator. The furthest that any spacecraft has gone from the equator was <b>Surveyor 7, launched by NASA</b>, which made a moon landing way back on January 10, 1968. This spacecraft landed near 40 degrees south latitude.</li></ul>
30	<p style="text-align: center;"><b><u>CARBON MOLECULES IN SPACE</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>CH<sub>3</sub><sup>+</sup> molecule (methyl cation)</b>, has been detected in space for the first time by the <b>James Webb Space Telescope (JWST)</b>.</li><li>• JWST detected the carbon compound methyl cation (CH<sub>3</sub><sup>+</sup>) in a protoplanetary disk system called d203-506, which lies around 1,350 light-years from Earth in the <b>Orion Nebula</b>.</li></ul>



- The star at the centre of the system is a red dwarf just 10% as massive as our sun, and the entire system is being bombarded by strong ultraviolet radiation from nearby hot, young, massive stars.
- CH<sub>3</sub><sup>+</sup> is a simple organic molecule, just one carbon atom and 3 hydrogen atoms. But it reacts with other molecules to form more complex ones.
- Organic molecules are carbon based. They contain carbon atoms bonded to hydrogen atoms but can also bond to other elements, such as oxygen, nitrogen or phosphorus. Everything that makes us and all life on Earth is carbon-based.

### GLOBAL LIVEABILITY INDEX 2023

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- Recently, the **Global Liveability Index 2023** was published. It was published by the **Economic Intelligence Unit (EIU) of the Economist**.
- The concept of liveability **assesses the best or worst living conditions of cities** based on 30 qualitative and quantitative factors across five broad categories of stability, healthcare, culture and environment, education, and infrastructure.
- It quantifies the challenges that might be presented to an individual's lifestyle in 173 cities worldwide.
- Assessing liveability has a broad range of uses, from benchmarking perceptions of development levels to assigning a hardship allowance as part of expatriate relocation packages.

### UPGRADED GIANT METREWAVE RADIO TELESCOPE (uGMRT)

- Recently, an international team of astronomers from India, Japan and Europe has published the results from monitoring pulsars, called '**nature's best clocks**', by using six of the world's most sensitive radio telescopes, including **India's largest telescope uGMRT**.



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- The 100-m Effelsberg radio telescope in Germany, the Lovell Telescope of the Jodrell Bank Observatory in the United Kingdom, the Nancay Radio Telescope in France, the Sardinia Radio Telescope in Italy and the Westerbork Synthesis Radio Telescope in the Netherlands were used for observations.
- The results provide a hint of evidence for the relentless vibrations of the fabric of the universe, caused by ultra-low frequency gravitational waves. Such waves are expected to originate from a large number of dancing monster black hole pairs, crores of times heavier than our sun.
- Giant Metrewave Radio Telescope (GMRT) is a **low-frequency radio telescope** that helps investigate various radio astrophysical problems ranging from nearby solar systems to the edge of the observable universe. It is a project of the **Department of Atomic Energy (DAE), operating under the Tata Institute of Fundamental Research (TIFR)**. It is located at a site about 80 km north of Pune.
- The uGMRT will increase its sensitivity by up to three times and make it a more powerful and versatile facility.



## TRANSCRANIAL MAGNETIC STIMULATION (TMS)

- Magnetic pulses applied non-invasively to the scalp can stimulate the brain, to reverse brain changes, and to bring about rapid relief to severely depressed patients for whom standard treatments may have failed. This non-invasive brain stimulation modality is called **repetitive transcranial magnetic stimulation (rTMS)**.



- rTMS is based on the phenomenon of **electromagnetic mutual induction**, first reported by Michael Faraday in 1831. In 1985, Anthony Barker and his colleagues developed the first modern TMS device.
- rTMS generates brief electromagnetic pulses via an insulated coil placed over the scalp. These magnetic pulses non-invasively modulate the cortical activity of the brain.
- Recently, a study by Stanford University researchers reported some evidence that in people without depression, **a part of the brain called the anterior insula sends signals to another part called the anterior cingulate cortex, whereas in people with depression, the signal goes the other way.** According to the researchers, TMS may be alleviating depression by reversing the signal to go the right way.
- Daily rTMS stimulation for several weeks has also been shown to be effective in reducing the symptoms of a range of neuropsychiatric disorders.
- In 2008, the **U.S. Food and Drug Administration (FDA)** approved TMS as a treatment for clinical depression.

## THE LAB-GROWN MEAT

- **“Cell-cultivated chicken”** – that’s the official name of chicken meat that is grown in a laboratory for human consumption.
- Recently, the two California-based companies were cleared to make and sell cell-cultivated chicken in the country in what is being hailed by stakeholders in the concept as **a major step forward for reducing the carbon emissions associated with the food industry worldwide.**
- To make cell-cultivated meat, these two companies isolate the cells that make up this meat (the meat that we consume), and put them in a setting where they have all the resources they need to grow and make more copies of themselves. These resources are typically **nutrients, fats, carbohydrates, amino acids, the right temperature, etc.**
- The ‘setting’ in which this process transpires is often a **bioreactor (also known as a ‘cultivator’), a sensor-fit device – like a container – that has been designed to support a particular biological environment. (Because of the techniques involved, producing meat in this way is also called cellular agriculture.)**
- Once these cells have become sufficiently large in number, which takes around two to three weeks in Upside’s process, they resemble a mass of minced meat. They are collected and then processed, with additives to improve their texture and/or appearance, and are destined for various recipes.



## **TRANSCRANIAL MAGNETIC STIMULATION (TMS)**

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## **DEEP SEA MINING**

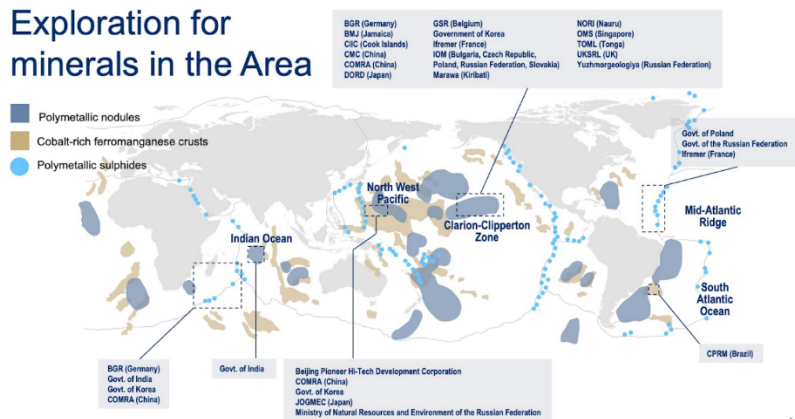
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- The **International Seabed Authority (ISA)** — the **United Nations body that regulates the world's ocean floor** — is preparing to resume negotiations that could open the international seabed for mining, including for materials critical for the green energy transition.
- Deep sea mining involves removing mineral deposits and metals from the ocean's seabed. There are three types of such mining: **taking deposit-rich polymetallic nodules off the ocean floor, mining massive seafloor sulphide deposits and stripping cobalt crusts from rock.**
- These nodules, deposits and crusts contain materials, such as nickel, rare earths, cobalt and more, that are needed for batteries and other materials used in tapping renewable energy and also for everyday technology like cell phones and computers.





## Exploration for minerals in the Area



- Countries manage their own maritime territory and exclusive economic zones, while the high seas and the international ocean floor are governed by the **United Nations Convention on the Law of the Seas**. It is considered to apply to states regardless of whether or not they have signed or ratified it.
- Under the treaty, the seabed and its mineral resources are considered the “**common heritage of mankind**” that must be managed in a way that protects the interests of humanity through the sharing of economic benefits, support for marine scientific research, and protecting marine environments.
- Mining companies interested in deep sea exploitation are partnering with countries to help them get exploration licenses. More than 30 exploration licenses have been issued so far, with activity mostly focused in an area called the **Clarion-Clipperton Fracture Zone**, which spans 1.7 million square miles (4.5 million square kilometres) between Hawaii and Mexico.

### **NEW COLLECTIVE QUANTIFIED GOAL (NCQG)**

- In 2009, developed countries pledged to provide \$100 billion annually to developing nations by 2020. However, it became evident that addressing climate change requires significantly higher financial resources. As a result, the **New Collective Quantified Goal (NCQG)** was established in the 2015 Paris Climate Agreement. The NCQG aims to align with the evolving needs of developing nations, considering scientific evidence and addressing the growing demands for Loss and Damage funding.
- The NCQG is regarded as the “**most important climate goal**” as it raises the commitment ceiling for developed countries, ensuring greater consideration of the needs and priorities of developing nations. It addresses the lack of clarity in defining and sourcing ‘**climate finance**’ present in the previous commitment.
- Climate advocacy groups emphasize the increasing need for funding to address **Loss and Damage** caused by climate change. The NCQG aims to ensure adequate financial support for managing these adverse impacts, especially in vulnerable countries.

### **GLOBAL TROPICAL PRIMARY FOREST COVER**

- Tropical areas lost 4.1 million hectares of forest cover – equivalent to losing an area of 11 football fields per minute – in 2022, according to the **World Resources Institute’s (WRI) Global Forest Watch**. This forest loss produced 2.7 billion tonnes of carbon dioxide emissions, which is around the same as India’s annual emissions due to the combustion of fossil fuels.
- According to the University of Maryland, primary forest cover loss in tropical areas in 2022 was 10% more than in 2021.

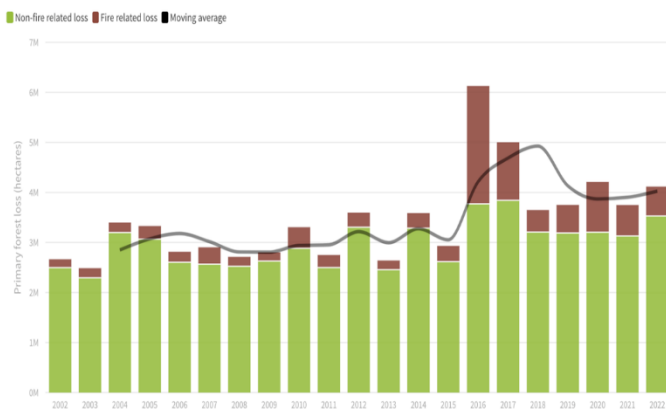
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- Primary forests are **mature, natural forests that have remained undisturbed in recent history**. They often store more carbon than other forests and are rich sources of biodiversity.
- Primary forest loss is almost irreversible in nature: even if the green cover regrows, a secondary forest is unlikely to match the extent of biodiversity and carbon sequestering capabilities of a primary forest.

Tropical primary forest loss, 2002-2022



Non-fire related loss can occur from mechanical clearing for agriculture and logging, as well as natural causes such as wind damage and river meandering. The three-year moving average may represent a more accurate picture of the data trends due to uncertainty in year-to-year comparisons. All figures calculated with a 30 percent minimum tree cover canopy density. WORLD RESOURCES INSTITUTE

- **(Tropical Primary Forest Loss, 2002-2022)**
- The world is not on track to meet most of its forest-related commitments. WRI measures progress on **two goals – ending deforestation by 2030, and restoring 350 million hectares (Mha) of lost and degraded forests by 2030 – that represent multiple global forest pledges.**

### **THE GUILLAIN-BARRÉ SYNDROME**

- The Peruvian government has recently declared a state of national emergency for up to three months, due to a spike in the number of cases of a **rare neurological disorder called Guillain-Barré Syndrome**.
- The disorder, which affects the body's nervous system, is characterized by **muscle weakness and breathing difficulties, and can even lead to total paralysis in extreme situations.**
- Back in 2019, Peru faced a similar problem following an outbreak of a bacterial infection called **campylobacter**.
- Guillain-Barré Syndrome is a rare neurological disorder where the body's immune system which normally protects it from infections and other foreign bodies mistakenly attacks its own peripheral nerve cells. More specifically, the myelin sheath, an insulating layer of fat and protein that surrounds the nerve cells becomes inflamed.

### **ARCTIC OCEAN COULD BE ICE-FREE IN SUMMER BY 2030s**

- According to a new study, **the Arctic Ocean could be ice-free in summer by the 2030s**, even if we do a good job of reducing emissions between now and then.
- The Arctic has been experiencing climate heating faster than any other part of the planet. As it is at the frontline of climate change, the eyes of many scientists and local indigenous people have been on the sea ice that covers much of the Arctic Ocean in winter. This thin film of frozen seawater expands and contracts with the seasons, reaching a minimum area in September each year.
- The ice which remains at the end of summer is called **multiyear sea ice** and is considerably thicker than its seasonal counterpart. It **acts as barrier to the transfer of both moisture and heat**



**between the ocean and atmosphere.** Over the past 40 years this multiyear sea ice has shrunk from around 7 million sq. km to 4 million. That is a loss equivalent to roughly the size of India or 12 UKs. In other words, it's a big signal, one of the most stark and dramatic signs of fundamental change to the climate system anywhere in the world.

- As a consequence, there has been considerable effort invested in determining when the Arctic Ocean might first become ice-free in summer, sometimes called a **"blue ocean event"** and defined as when the sea ice area drops below 1 million sq. km. This threshold is used mainly because older, thicker ice along parts of Canada and northern Greenland is expected to remain long after the rest of the Arctic Ocean is ice-free.
- One problem with predicting when this might occur is that sea ice is notoriously difficult to model because it is influenced by both atmospheric and oceanic circulation as well as the flow of heat between these two parts of the climate system. That means that the **climate models – powerful computer programs used to simulate the environment** – need to get all of these components right to be able to accurately predict changes in sea ice extent.

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### **INDIA'S HIGHWAY NETWORK**

- India's network of national highways, at 1.45 lakh km, is now the **second largest in the world after the United States**, and it has increased by 59 per cent in the past nine years.
- This road network transports 64.5% of all goods in the country and 90% of India's total passenger traffic uses the road network to commute. In the last nine years, the 4-lane NH increased about two-fold to 44,654 km from 18,371 km in 2013-14.
- The usage of FASTags has helped in reducing the waiting time at the toll plazas to 47 seconds which is envisaged to be completely eliminated by 2047.

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### **INTERNATIONALISATION OF RUPEE**

- Pushing for a roadmap towards the **internationalisation of the rupee**, the **Reserve Bank of India's (RBI) inter-departmental group (IDG)** said that with India remaining one of the fastest-growing countries and showing remarkable resilience in the face of major headwinds, the rupee has the potential to become an internationalised currency.
- These recommendations are significant, in light of the economic sanctions imposed by the US on Russia for invading Ukraine and the growing clamour for finding an alternative to the US dollar for international transactions.
- Internationalisation is a process that involves **increasing the use of the rupee in cross-border transactions**. It involves promoting the rupee for import and export trade and then other current account transactions, followed by its use in capital account transactions. These are all transactions between residents in India and non-residents.
- The internationalisation of the currency, which is closely interlinked with the nation's economic progress, requires further opening up of the currency settlement and a strong swap and forex market.
- More importantly, it will require full convertibility of the currency on the capital account and cross-border transfer of funds without any restrictions. **India has allowed only full convertibility on the current account as of now.**
- Currently, the US dollar, the Euro, the Japanese yen and the pound sterling are the leading reserve currencies in the world. China's efforts to make its currency renminbi has met with only limited success so far.



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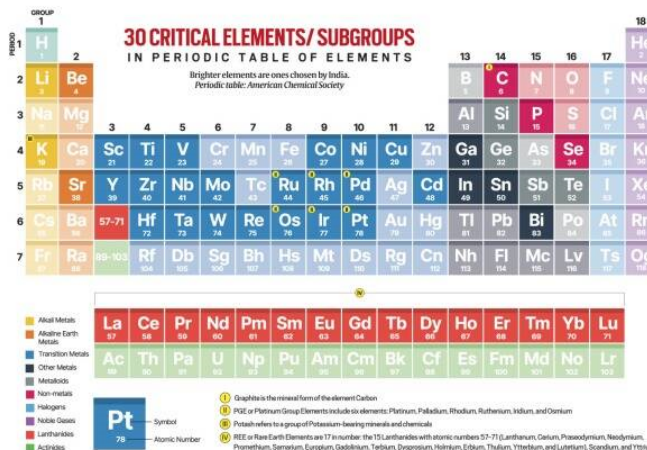
### GREEDFLATION

- Latest financial reports from the US and Europe continue to show that firms across the board, seem to be making more profit than what their overall sales should merit - leading to **Greedflation**.
- Greedflation simply means (corporate) greed is fuelling inflation. In other words, instead of the wage-price spiral, it is the profit-price spiral that is in play.
- In essence, greedflation implies that companies exploited the inflation that people were experiencing by putting up their prices way beyond just covering their increased costs and then used that to maximise their profit margins. That, in turn, further fuelled inflation.
- In the developed countries — in Europe and the US — there is a growing consensus that greedflation is the real culprit.
- Examples:
  - # While the biggest driver of high inflation that Europe witnessed in 2022 (since the start of the war) was the spike in energy costs but there was very little contribution of higher wages. There was, however, an extra and significant injection of inflation from rising profits of firms.
  - # The Indian corporate sector has generated superlative profits in the post pandemic period. Profits during recent times have been nearly thrice the profits corporations earned earlier.

### CENTRE IDENTIFIES 30 CRITICAL MINERALS

- In a strategic move, the Centre has identified 30 critical minerals, including **lithium, cobalt, nickel, graphite, tin and copper**, which are essential for the country's economic development and national security.
- The identification of these minerals — which form part of multiple strategic value chains, including clean technologies initiatives such as zero-emission vehicles, wind turbines, solar panels; information and communication technologies, including semiconductors; and advanced manufacturing inputs and materials such as defence applications, permanent magnets, ceramics — was done on the basis of a report on critical minerals prepared by an expert team constituted by the **Ministry of Mines**. The ministry will revisit the list periodically.

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- These are minerals that are essential for economic development and national security, and the lack of availability of these minerals or the concentration of extraction or processing in a few geographical locations could potentially lead to “supply chain vulnerabilities and even disruption of supplies. This is true for minerals such as lithium, graphite, cobalt, titanium, and rare earth elements, which are essential for the advancement of many sectors, including high-tech electronics, telecommunications, transport, and defence.



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## THE ANTHROPOCENE EPOCH

- In a major development that could change the Earth's official geological timeline, geologists have said sediments at **Crawford Lake in Canada's Ontario** have provided evidence of the beginning of the Anthropocene epoch — a proposed geological epoch that began when human activity started to have a significant impact on the Earth.



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- Members of the **Anthropocene Working Group (AWG)**, which has been working since 2009 to make the Anthropocene part of the planet's time scale, the 35 geologists have estimated that the new epoch started sometime between 1950 and 1954.
- They revealed the findings after analysing the lake's bottom sediments, which have over the years captured the fallouts of large-scale burning of fossil fuels, explosion of nuclear weapons and dumping of plastic and fertilisers on land and in water bodies.
- The data show a clear shift from the mid-20th century, taking Earth's system beyond the normal bounds of the **Holocene (the epoch that started at the end of the last ice age 11,700 years ago)**.
- Notably, not every geologist agrees that the Anthropocene epoch is a reality as there are disagreements within the scientific community regarding when it began, or has it already begun, or if they have enough evidence to prove its advent.

## FLASH FLOODS AND LANDSLIDES IN PARTS OF HIMACHAL PRADESH AND HARYANA

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- Recently, the Chandigarh-Manali highway was blocked following flash floods and landslides in parts of Haryana and Himachal Pradesh.
- Excessive or continuous rainfall over a period of days, or during particular seasons, can lead to stagnation of water and cause flooding. Flash floods refer to such a situation, but occurring in a much shorter span of time, and are highly localised.
- For instance, the US's meteorological agency, the National Weather Service, says flash floods are caused when rainfall creates flooding in less than 6 hours. It adds that flash floods can also be caused by factors apart from rainfall, like when water goes beyond the levels of a dam.
- In India, flash floods are often associated with **cloudbursts – sudden, intense rainfall in a short period of time**. Himalayan states further face the challenge of overflowing glacial lakes, formed due to the melting of glaciers, and their numbers have been increasing in the last few years.
- **Frequently, flash floods are accompanied by landslides, which are sudden movements of rock, boulders, earth or debris down a slope.** It is common in mountainous terrains, where there are conditions created for it in terms of the soil, rock, geology and slope.
- # Natural causes that trigger landslides include heavy rainfall, earthquakes, snow-melting and undercutting of slopes due to flooding.
- # Landslides can also be caused by human activities, such as excavation, cutting of hills and trees, excessive infrastructure development, and overgrazing by cattle.



- Flash flooding commonly happens more where rivers are narrow and steep, so they flow more quickly. They can occur in urban areas located near small rivers, since hard surfaces such as roads and concrete do not allow the water to absorb into the ground.

### GLOBAL PEACE INDEX (GPI) 2023

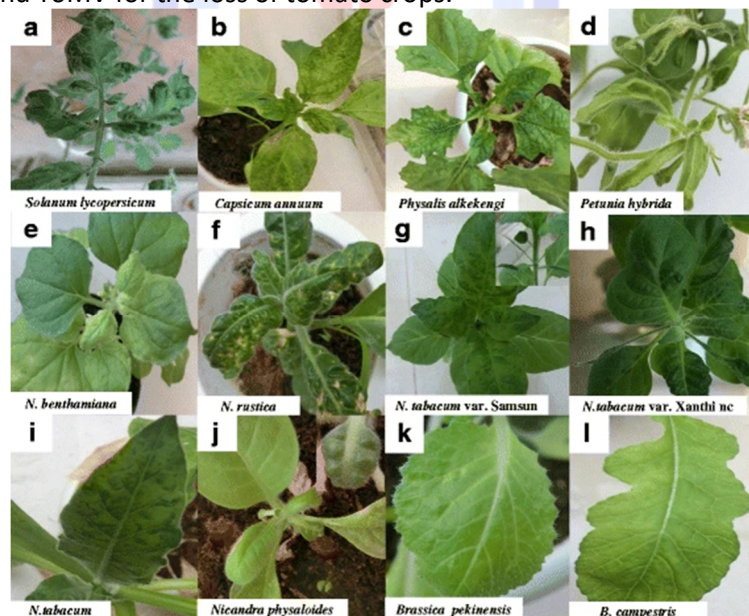
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- Recently, the **2023 Global Peace Index (GPI)** was released. This is the **17th edition** of the Global Peace Index (GPI), which ranks 163 independent states and territories according to their level of peacefulness. It is produced by the **Institute for Economics and Peace (IEP)** and it is the world's leading measure of global peacefulness.
- The GPI covers 163 countries comprising 99.7 percent of the world's population, using 23 qualitative and quantitative indicators from highly respected sources.
- It measures the state of peace across three domains- **Societal safety and security; Ongoing domestic and international conflict and Militarisation.**
- The top 10 most peaceful countries include Iceland, Denmark, Ireland, New Zealand, Austria, Singapore, Portugal, Slovenia, Japan, Switzerland.
- India has occupied the 126th spot in the rankings, two higher than its previous position. India experienced an improvement of 3.5 percent in overall peacefulness over the past year, owing to improvements in violent crime, neighbouring countries' relations, and political instability. The improvement on the neighbouring countries relations indicator occurred because of fewer incidences of cross border violence and ceasefire violations with Pakistan and China in 2022.
- Among other countries, Nepal, China, Sri Lanka, United States of America, and Pakistan, have been ranked 79, 80, 107, 131, 146, respectively.

### CUCUMBER MOSAIC VIRUS (CMV) AND TOMATO MOSAIC VIRUS (TMV)

48

- Recently, the farmers in Maharashtra and Karnataka have mentioned two mosaic viruses namely CMV and ToMV for the loss of tomato crops.

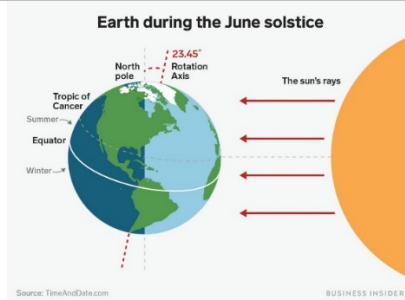


- (ToMV)** belongs to the **Virgaviridae** family and is closely related to the tobacco mosaic virus (TMV). ToMV was first reported in the United States in 1909. It hosts on tomato, tobacco, peppers, and certain ornamental plants. ToMV spreads mainly through infected seeds, saplings, agricultural tools and often, through the hands of nursery workers who have failed to sanitize themselves



	<p>properly. It causes foliage of plants to show alternating yellowish and dark green areas, which often appear as blisters on the leaves. It also causes distortion of leaves and twisting of younger leaves.</p> <ul style="list-style-type: none"><li>• <b>(CMV)</b> belongs to the <b>Bromoviridae family</b> and was identified in cucumbers in 1934. It hosts on cucumber, melon, eggplant, tomato, carrot, lettuce, celery, cucurbits (members of the gourd family, including squash, pumpkin, zucchini, some gourds, etc.), and some ornamentals. CMV spreads through aphids, which are sap-sucking insects. CMV too can spread through human touch, but the chances of that are extremely low.</li></ul>
49	<p style="text-align: center;"><b><u>DIAMOND LEAGUE</u></b></p> <ul style="list-style-type: none"><li>• Recently, Neeraj Chopra won gold in the javelin throw at the <b>Diamond League in Lausanne (a city on Lake Geneva, in Switzerland)</b>. This was his second consecutive Diamond League win in this season following the win at Doha in May 2023.</li><li>• The Diamond League is an annual series of elite track and field competitions. It was started in 2010 as a replacement for the previous IAAF Golden League and IAAF World Athletics Final events.</li><li>• The Diamond League is organised by World Athletics (formerly IAAF or International Association of Athletics Federations), the international governing body for athletics.</li><li>• The 14th edition of the Diamond League began in May 2023 in Doha, the capital of Qatar. The fifteen meetings in this edition are scheduled at various cities across the world. The finals will be held in September 2023 in Eugene, United States.</li></ul>
50	<p style="text-align: center;"><b><u>SPECIAL OLYMPICS WORLD GAMES</u></b></p> <ul style="list-style-type: none"><li>• India ended their <b>Special Olympics World Games</b> campaign with a whopping 202 medals. India secured 76 gold, 75 silver and 51 bronze medals in the global multi-sport spectacle that celebrates unity, diversity and special skills among people with intellectual disabilities.</li><li>• It was founded in 1968. The mission of Special Olympics is to provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.</li><li>• The Special Olympics strives to create a better world by fostering the acceptance and inclusion of all people.</li></ul>
51	<p style="text-align: center;"><b><u>AWARDING GITA PRESS THE GANDHI PEACE PRIZE</u></b></p> <ul style="list-style-type: none"><li>• The prize was awarded to Gita Press for its '<b>outstanding contribution towards social, economic and political transformation through non-violent and other Gandhian methods</b>'.</li><li>• The prize recognises the contribution of Gita Press to the '<b>collective upliftment of humanity, which personifies Gandhian living in true sense</b>'.</li><li>• Instituted in 1995, the Gandhi Peace Prize is awarded for <b>social, economic and political transformation through non-violence, to any deserving person/s or institution/s</b>. The award comprises of a citation and an amount of Rs 1 crore and is open to all persons regardless of nationality, race, language, caste, creed or gender and any association, institution or organisation.</li><li>• The awardee is selected by a <b>five-member jury comprising of the Prime Minister, Chief Justice of India, Leader of Opposition and two eminent personalities</b>.</li></ul>
52	<p style="text-align: center;"><b><u>SUMMER SOLSTICE</u></b></p> <ul style="list-style-type: none"><li>• The longest day of the year, for anyone living north of the Equator, is <b>June 21</b>. The day is referred to as the <b>summer solstice, and it occurs when the sun is directly over the Tropic of Cancer, or more specifically right over 23.5 degrees north latitude</b>.</li></ul>





- Since Earth rotates on its axis, the Northern Hemisphere gets more direct sunlight between March and September over the course of a day, which also means people living in the Northern Hemisphere experience summer during this time. The rest of the year, the Southern Hemisphere gets more sunlight.
- During the solstice, the Earth's axis — around which the planet spins, completing one turn each day — is tilted in a way that the North Pole is tipped towards the Sun and the South Pole is away from it.
- Typically, this imaginary axis passes right through the middle of the Earth from top to bottom and is always tilted at 23.5 degrees with respect to the Sun. Therefore, the solstice, is that instant in time when the North Pole points more directly toward the Sun than at any other time during the year. Solstice means “sun stands still” in Latin.
- While the solstice occurs at the same time across the world, different countries experience it at different times according to their time zones.

## FOR THE MONTH OF JUNE

### 3D DIGITISATION OF MUSEUMS

- 1
  - Recently, the Union government has planned to complete **3D digitisation of all museums** under its administrative control by the year end for better conservation of artefacts.
  - Museums include Salar Jung museum, Hyderabad, the Allahabad Museum in Prayagraj, the Indian Museum, Kolkata, the Victoria Memorial Hall, the National Museum and the National Gallery of Modern Art.
  - The entire process was being carried out by the **Ministry of Electronics and Information Technology (MeitY)**. A Memorandum of Understanding has been signed between the MeitY and Union Culture Ministry for this.
  - The 3D digitisation would be done using the **JATAN virtual museum builder software** which has been designed and developed by **Human Centres Design and Computing Group, Centre for Development of Smart Computing, Pune**.
  - JATAN is a **digital collection management system for Indian museums**.

### COMMISSION OF RAILWAY SAFETY (CRS)

- 2
  - The **Commission of Railway Safety (CRS)** is a government body that acts as the railway safety authority in the country. Rail safety commissioners are part of CRS.
  - CRS deals with matters related to safety of rail travel and operations, among some other statutory functions – inspectorial, investigatory, and advisory – as laid down in the Railways Act, 1989.
  - Its administrative Control is under the **Ministry of Civil Aviation (MoCA)**. The CRS does not report to the Ministry of Railways of the Railway Board. Its Headquarter (HQ): Lucknow, Uttar Pradesh
  - The reason or principle behind this is to keep the CRS insulated from the influence of the country's railway establishment and prevent conflicts of interest. The separation of CRS from the Railway Board enhances the credibility of safety oversight and investigations.



## **NATIONAL MISSION ON ADVANCED AND HIGH-IMPACT RESEARCH (MAHIR)**

- The Ministry of Power and the Ministry of New and Renewable Energy are jointly launching **National Mission MAHIR**.
- The mission aims to identify emerging technologies in the power sector and develop them indigenously, at scale, for deployment within and outside India.
- The Mission will be funded by pooling financial resources of the Ministry of Power, Ministry of New and Renewable Energy and the Central Public Sector Enterprises under the two Ministries. Additional funding will be mobilized from Government of India's budgetary resources.
- The mission is Planned for an initial period of five years from 2023-24 to 2027-28.
- Following eight areas are identified for research: Alternatives to Lithium-Ion storage batteries; Modifying electric cookers / pans to suit Indian cooking methods; Green hydrogen for mobility (High Efficiency Fuel Cell); Carbon capture; Geo-thermal energy; Solid state refrigeration; Nano technology for EV battery; Indigenous CRGO technology.

## **MP'S CM LEARN AND EARN SCHEME**

- Recently, the Madhya Pradesh cabinet headed by the CM approved the '**Mukhyamantri Seekho-Kamao Yojana**' (CM Learn and Earn Scheme).
- Under the scheme, **unemployed youth will get a stipend of Rs 8,000 to 10,000 per month as financial assistance during the period of skill learning in various establishments.**
- 703 work areas including Engineering, Tourism, Hotel Management, Hospital, Railway, ITI, Software Development, Banking, Chartered Accountant, Industries, and other financial services have been identified for training.
- It will also provide industry-oriented training to the trainees, proficiency in latest technology and processes, thereby enhancing their regular employability.
- The local residents of Madhya Pradesh, in the **age group of 18 to 29 years**, whose educational qualification is 12th or ITI or higher, will be eligible in the scheme. The selected youth will be called **student trainees**.

## **NATIONAL INSTITUTIONAL RANKING FRAMEWORK (NIRF)**

- The **National Institutional Ranking Framework (NIRF)** announced the India Rankings 2023 of higher education institutions. For the 2023 rankings, 5,543 unique institutions applied for ranking.
- NIRF has been accepted by the Ministry of Education (MoE) and launched by the Honourable Minister for Education on 29th September 2015. This framework outlines a methodology to rank institutions across the country.
- This is the eighth consecutive edition of India Rankings of HEIs in India. Introduced a new subject namely Agriculture & Allied Sectors.
- Integration of the "**Innovation**" ranking previously executed by the **Atal Ranking of Institutions on Innovation Achievements (ARIIA)** into the India Rankings with an aim to reduce the burden on institutions of providing similar data to two different agencies.
- Expansion of scope of "**Architecture**" to "**Architecture and Planning**" to include institutions imparting courses in Urban and Town Planning.
- **Indian Institute of Technology Madras** retains its 1st position in Overall Category for a fifth consecutive year, i.e., 2019 to 2023, and in Engineering for an eighth consecutive year, i.e., from 2016 to 2023.
- **Indian Institute of Science, Bengaluru** tops the Universities Category for the eighth consecutive year, i.e., from 2016 to 2023. It stood first in the Research Institutions Category for the third consecutive year, i.e., from 2021 to 2023.



- **IIM Ahmedabad** tops in Management subjects retaining its first position for the fourth consecutive year, i.e., from 2020 to 2023. It was ranked among the top two in Management subject of the India Rankings from 2016 to 2019.
- **All India Institute of Medical Sciences (AIIMS), New Delhi** occupies the top slot in Medical for the sixth consecutive year, i.e., from 2018 to 2023. Moreover, AIIMS is ranked at 6th position in the Overall category thereby improving from its 9th position in 2022.
- **National Institute of Pharmaceutical Education and Research, Hyderabad** tops the ranking in Pharmacy for the first time pushing Jamia Hamdard to the second slot.
- **Miranda House** retains the 1st position amongst colleges for the seventh consecutive year, i.e., from 2017 to 2023.
- **IIT Roorkee** stands at 1st position in Architecture subject for the third consecutive year, i.e., from 2021 to 2023.
- **National Law School of India University, Bengaluru** retains its first position in Law for the sixth consecutive year, i.e., from 2018 to 2023.
- **Indian Agricultural Research Institute, New Delhi** takes the top slot in Agriculture and Allied Sectors.
- **Indian Institute of Technology, Kanpur** tops in the Innovation category.

### NATIONAL ELECTRICITY PLAN 2022-32

- The **Central Electricity Authority (CEA)** has notified the **National Electricity Plan (NEP)** for the period of 2022-32.
- The plan document includes the review of the last five years (2017-22), a detailed plan for the next five years (2022-27) and the prospective plan for the next five years (2027-32).
- As per **section 3(4) of the Electricity Act, 2003**, Central Electricity Authority has been mandated to prepare a NEP in accordance with the National Electricity Policy and notify such a plan once in five years. NEP prepared by the CEA is a five-year plan that assesses India's current electricity needs, projected growth, power sources, and challenges.
- The projected **All India peak electricity demand and electrical energy** requirement is 277.2 GW and 1907.8 BU for the year 2026-27 and 366.4 GW and 2473.8 BU for the year 2031-32 as per 20th **Electric Power Survey (EPS)** Demand projections.

### MEKEDATU DAM PROJECT

- The Mekedatu dam project is located in Ramanagaram district about 100 km south of Bengaluru, close to where the Cauvery enters Tamil Nadu. The project has been contentious for years.
- Disagreement between **Karnataka and Tamil Nadu over the waters of the Cauvery** go back to a time when they did not even exist and issue revolves around the principle that the upper riparian state (Karnataka) must obtain the consent of the lower riparian state (Tamil Nadu) for any construction activities on the river.
- In 1990, the **Cauvery Water Disputes Tribunal (CWDT)** was established to resolve the matter, and in 2007, it issued its final order on water sharing. The Supreme Court of India upheld the order in 2018, reducing Karnataka's allocation of water to Tamil Nadu.
- Mekedatu is a multipurpose balancing reservoir project focussing on the generation of electricity and supply of drinking water in the region. Mekedatu means "**goat's leap**" in Kannada.
- In 1996, the project was first planned by the Karnataka Power Corporation to meet the water and electricity needs of the people in Bengaluru and the surrounding districts. In 2013, the Karnataka government announced the project and submitted a detailed project report to the Centre on its plans in 2019.



	<ul style="list-style-type: none"><li>• The government aimed to construct a reservoir at Mekedatu in Ramanagara district of Karnataka, which is about 90 km away from Bengaluru and 4km ahead of the border with Tamil Nadu.</li><li>• With an estimated budget of Rs 9,000 crore, a reservoir is to be built on the confluence of Cauvery with its tributary Arkavathi.</li><li>• The Mekedatu dam will be larger than the Krishnaraja Sagar project on the Cauvery. The <b>Central Water Commission (CWC)</b> had cleared a feasibility study for the project in 2018.</li></ul>
8	<p style="text-align: center;"><b><u>THE STATUS OF INDIA'S LITHIUM INDUSTRY?</u></b></p> <ul style="list-style-type: none"><li>• India's <b>electric-vehicle (EV)</b> market was valued at \$383.5 million in 2021, and is expected to <b>expand to \$152.21 billion in 2030</b>. India imported 450 million units of lithium batteries valued at <b>\$929.26 million (₹6,600 crore) in 2019-2020</b>, which makes the development of the country's domestic lithium reserves a matter of high stakes.</li><li>• Scholars have argued that the ongoing global transition to low-carbon economies, the rapid expansion of <b>artificial intelligence (AI)</b>, and 5G networks will greatly reshape global and regional geopolitics. The access to and control over rare minerals, such as lithium and cobalt, will play a crucial role in these epochal changes.</li><li>• In July 2013, a three-judge bench of the Supreme Court of India ruled that the <b>owner of the land has rights to everything beneath, "down to the centre of the earth"</b>.</li><li>• Yet, large areas of land, including forests — which make up more than 22% of India's landmass — hills, mountains, and revenue wasteland are publicly owned.</li><li>• The Supreme Court also recalled that the Union government could always ban private actors from mining sensitive minerals, as is already the case with uranium under the <b>Atomic Energy Act 1962</b>. In today's context, lithium is as important as, if not more than, uranium.</li></ul>
9	<p style="text-align: center;"><b><u>CITY INVESTMENTS TO INNOVATE, INTEGRATE &amp; SUSTAIN 2.0 (CITIIS 2.0)</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Cabinet has approved the <b>City Investments to Innovate, Integrate and Sustain 2.0 (CITIIS 2.0)</b>.</li><li>• The program aims to support competitively selected projects promoting circular economy with focus on integrated waste management at the city level, climate-oriented reform actions at the State level, and institutional strengthening and knowledge dissemination at the National level.</li><li>• The funding for CITIIS 2.0 would include a loan of Rs.1760 crore (EUR 200 million) from AFD and KfW (EUR 100 million each) and a technical assistance grant of Rs.106 cr. (EUR 12 million) from the EU.</li><li>• CITIIS 2.0 is a program conceived by the <b>Ministry of Housing and Urban Affairs (MoHUA)</b> in partnership with the <b>French Development Agency (AFD)</b>, Kreditanstalt für Wiederaufbau (KfW), the <b>European Union (EU)</b>, and <b>National Institute of Urban Affairs (NIUA)</b>.</li><li>• The program will run for a period of four years, i.e., from 2023 till 2027.</li></ul>
10	<p style="text-align: center;"><b><u>RS 75 COIN LAUNCHED TO MARK INAUGURATION OF NEW PARLIAMENT</u></b></p> <ul style="list-style-type: none"><li>• A new commemorative coin with a denomination of <b>Rs 75</b> was unveiled by Prime Minister Narendra Modi at the inauguration of the new Parliament building.</li><li>• The latest Rs 75 coin is <b>circular in shape with a diameter of 44mm</b>. The composition of the coin is of a <b>quaternary alloy — 50 per cent silver, 40 percent copper, 5 per cent nickel and 5 percent zinc</b>.</li></ul>



- The face of the coin shall bear the **Lion Capital of Ashoka Pillar** in the centre, with the legend **Satyameva Jayate** inscribed below, flanked on the left periphery with the word **“Bharat”** in Devnagri script and on the right periphery the word **“INDIA”** in English.
- The other side of the coin displays an image of the new parliament building. The inscription **“Sansad Sankul”** is written in Devanagari script on the upper periphery while the words **“Parliament Complex”** in English on the lower periphery of the coin.

### NITI AAYOG'S ANNUAL HEALTH INDEX 2020-21

- **Kerala, Tamil Nadu and Telangana** emerged as the top performers among the 'larger states' in the **NITI Aayog's annual 'health index' for the Covid year of 2020-21.**
- In 2017, the **National Institution for Transforming India (NITI Aayog)** in collaboration with the **Ministry of Health and Family Welfare (MoHFW)** and the World Bank initiated an annual Health Index for tracking Overall Performance and Incremental Performance across all states and **Union Territories (UTs).**
- The objective of the Annual Health Index is to track and rank progress on health outcomes and health systems performance, develop healthy competition and encourage cross learning among states and UTs.
- The health index assesses states and UTs on two parameters – **incremental performance (year-on-year progress) and overall performance.**
- The ranking is done under three categories: larger states, smaller states and Union territories (UTs) to ensure comparison among similar entities.
- The Health Index is a composite score that reflects the achievements and incremental improvements of the states and UTs on 24 indicators across three domains: **health outcomes, governance and information, and key inputs and processes.** Each domain has been assigned weight based on its importance with a higher score for outcome indicators.
- # The 'health outcomes' include indicators like neonatal mortality rate, total fertility rate, sex ratio at birth, immunization coverage, proportion of institutional deliveries, total case notification rate of tuberculosis, and proportion of people living with HIV on antiretroviral therapy.
- # The 'governance and information' domain includes indicators like proportion of institutional deliveries, average occupancy (in months) of three key posts at state level, average occupancy (in months) of the chief medical officer, and days taken for fund transfer.
- # The 'key inputs/ processes' is a measure of health infrastructure available, including the proportion of functional 24X7 primary healthcare centres, districts with functional cardiac care units, and vacancies in healthcare provider positions.

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### THE FIRST DIGITAL CENSUS

- India had conducted the Census every 10 years since 1881, but in 2020, the **decennial exercise** for Census 2021 had to be postponed due to the pandemic. Though the government has not announced fresh dates for the Census, the groundwork is being laid and details are emerging about some of the features.

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	<ul style="list-style-type: none"><li>• It will be the <b>first digital Census</b> giving citizens an opportunity to “<b>self-enumerate</b>”. The <b>NPR (National Population Register)</b> has been made compulsory for citizens who want to exercise the right to fill the Census form on their own rather than through government enumerators. For this, the <b>Office of the Registrar General of India (RGI)</b> has designed a “self-enumeration” portal, so far in English only, that is yet to be launched. During self-enumeration, Aadhaar or mobile number will be mandatorily collected.</li><li>• A January 2 notification extending the deadline for the freezing of administrative boundaries in States till June 30 has ruled out the exercise at least till September. As preparation and training takes at least three months, the Census will have to be pushed to next year.</li><li>• Around 30 lakh government officials will be assigned as enumerators and each will have the task to collect the details of 650-800 people through both online and offline mode, covering an <b>estimated population of 135 crore people</b>. The Lok Sabha election is due in April-May 2024 and it is unlikely that the Census will be carried out before that since the same workforce will be dedicated to the elections.</li><li>• The completion of both the phases of the Census will take at least 11 months, even if done at an accelerated pace from October 1.</li></ul>
13	<p style="text-align: center;"><b><u>ACCREDITATION OF NHRC, INDIA</u></b></p> <ul style="list-style-type: none"><li>• For the second time in a decade, the U.N.-recognised <b>Global Alliance of National Human Rights Institutions (GANHRI)</b> deferred the accreditation of <b>National Human Rights Commission, India (NHRC-India)</b>.</li><li>• In 2017, the Global Alliance of National Human Rights granted accreditation to the National Human Rights Commission after a year-long deferment; it had raised concerns about the functioning of <b>India’s statutory human rights body</b>.</li><li>• Reasons for Deferment:<ul style="list-style-type: none"><li>• Political interference in appointments, involving the police in probes into human rights violations;</li><li>• Lack of diversity in staff and leadership;</li><li>• Insufficient action to protect marginalised groups;</li><li>• Poor cooperation with civil society.</li></ul></li></ul>
14	<p style="text-align: center;"><b><u>PANCH KARMA SANKALP</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>Union Minister of Ports, Shipping &amp; Waterways (MoPSW)</b> announced ‘<b>Panch Karma Sankalp</b>’ during the ministry’s second Chintan Shibir held in Munnar, Kerala.</li><li>• The ‘Panch Karma Sankalp’ includes 5 major announcements:<ul style="list-style-type: none"><li>• To provide 30% financial support for the promotion of Green Shipping;</li><li>• Under the Green Tug Transition Programme Jawaharlal Nehru Port (Navi Mumbai), VO Chidambaranar Port (Tuticorin, TN), Paradip Port (Odisha) and Deendayal Port, Kandla (Gujarat) will procure two tugs each;</li><li>• Deendayal Port and VO Chidambaranar Port to be developed as Green Hydrogen Hub;</li><li>• Jawaharlal Nehru Port and VO Chidambaranar Port, Tuticorin to become smart ports by next year;</li><li>• Single Window Portal to monitor river and sea cruises.</li></ul></li></ul>
15	<p style="text-align: center;"><b><u>FORUM SHOPPING</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>Chief Justice of India (CJI)</b> DY Chandrachud condemned ‘<b>forum shopping</b>’.</li><li>• When litigants or lawyers attempt to deliberately move their case to a particular judge or Court where they think the judgment could be more favourable, they are said to be “<b>forum shopping</b>.”</li><li>• This practice involves choosing a court that is likely to provide the most favourable outcome, rather than following the standard legal process.</li></ul>



	<ul style="list-style-type: none"><li>• Lawyers think about which is the right forum to approach as part of their litigation strategy. For example, one could directly approach the Supreme Court via a public interest litigation case instead of the concerned High Court because the issue could get more eyeballs.</li></ul>
16	<p style="text-align: center;"><b><u>THE NATIONAL MEDICAL DEVICES POLICY, 2023</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Cabinet approved the <b>National Medical Devices Policy, 2023</b>. The policy endeavours to facilitate an orderly growth of the sector and in turn, <b>achieve the public health objectives of access, affordability, quality and innovation</b>.</li><li>• It is expected to help the domestic medical devices sector market grow from \$11 billion to \$50 billion by 2030 alongside achieving a 10-12% global market share over the next 25 years.</li><li>• The aim is to provide the required support and direction, and help the sector become <b>“competitive, self-reliant, resilient and innovative”</b> to cater not only to domestic but global needs.</li><li>• The most significant of the introduced measures entail regulatory streamlining. The policy enhances the role of the <b>Bureau of Indian Standards (BIS)</b> along with designing a coherent pricing regulation.</li><li>• Pricing regulation is particularly important for addressing a broader challenge in the domestic device manufacturing sector as some of the private hospitals give higher priced products instead of available low-cost options.</li><li>• Besides capping prices, the streamlining endeavour will also create a <b>single window clearance system</b> for licensing of medical devices, combining relevant departments like the <b>Atomic Energy Regulatory Board (AERB), MeitY and the Department of Animal Husbandry and Dairying (DAHD)</b>.</li></ul>
17	<p style="text-align: center;"><b><u>THE US TO REJOIN UNESCO</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>United Nations Educational, Scientific and Cultural Organisation (UNESCO)</b> announced that the United States will rejoin it in July, four years after it left the agency (along with Israel), alleging that UNESCO was biased against Israel. The move to rejoin will face a vote by UNESCO’s member states and is expected to pass easily.</li><li>• UNESCO is a <b>UN agency tasked with furthering international cooperation and peace through the promotion of educational, scientific and cultural causes</b>. For instance, it designates locations globally as World Heritage Sites, which means international recognition and possible funding. <b>The United States was a founding member of UNESCO in 1945</b>.</li><li>• According to UNESCO, the US Department of State has now welcomed the way in which UNESCO had addressed in recent years emerging challenges, modernised its management, and reduced political tensions.</li></ul>
18	<p style="text-align: center;"><b><u>ATLANTIC DECLARATION</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>US President Joe Biden and UK Prime Minister Rishi Sunak</b> agreed on an <b>“Atlantic declaration”</b>.</li><li>• The Atlantic Declaration and accompanying Action Plan form the basis of a new type of innovative partnership across the full spectrum of economic, technological, commercial, and trade relations. It is the <b>“first of its kind”</b> in covering the broad spectrum of the two countries.</li><li>• It will constitute a new economic security framework covering ever-closer cooperation on critical and emerging technologies and stronger protective toolkits.</li><li>• It will support the United States and the United Kingdom in efforts to harness the energy transition and technological breakthroughs to drive broadly shared growth, create good jobs, and leave no community behind.</li><li>• It will explore ways to deepen trade and investment relationships.</li></ul>



- Other focused areas: Partnering on an inclusive and responsible digital transformation, building the clean energy economy of the future, and further strengthening our alliance across defence, health security, and space.

### IRAN-TALIBAN WATER CONFLICT

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- **Iran and Afghanistan** are locked in a long-standing dispute over the sharing of water from the **Helmand River**.
- The Helmand River is a vital source of water for both sides, supporting agriculture, livelihoods and ecosystems in the region.
- Afghanistan and Iran signed an agreement — **the Helmand River Treaty** — in 1973 to regulate the allocation of river water. But the accord was neither ratified nor fully implemented, causing disagreements and tensions to persist.
- Iran has accused Afghanistan of violating its water rights for years, arguing that far less water than the amount agreed to in the 1973 treaty flows into Iran.
- Last year, Iran received only 4% of its share of the river water, Afghanistan has rejected Iran's accusations, underlining that climatic factors like a shortage of rainfall, resulting in reduced river water volumes, are to blame for the situation.
- A major source of concern for Iran is Afghanistan's construction of dams, reservoirs and irrigation systems along the Helmand River.

### GROUP OF SEVEN (G7)

20

- In a recent meeting, the word “**de-risking**” has been used in the statement to describe the G7 countries’ stance towards China on economic matters.
- The United States President has previously stated that G7 is not looking to decouple from China, but looking to de-risk and diversify their relationship with China.”
- The US State Department describes de-risking as “**the phenomenon of financial institutions terminating or restricting business relationships with clients or categories of clients to avoid, rather than manage, risk**”.
- Simply put, de-risking is to move business away from areas that are considered risky in terms of the returns they could generate.
- In 2016, the World Bank said that global financial institutions were increasingly terminating or restricting business relationships with smaller local banks in some regions in order to “de-risk”, as it is often perceived that such banks would not be able to pay back loans.
- In the context of China, de-risking can be interpreted as a reduction of the reliance on China in the economic sphere — for the supply of materials or as a market for finished goods — so that potential risks to trade and disruption of supply chains are reduced.

### THE EU’S CARBON BORDER ADJUSTMENT MECHANISM

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- Recently, the co-legislators at the European Commission signed the **Carbon Border Adjustment Mechanism (CBAM)**. It has been described as a landmark tool to put a “**fair price on the carbon emitted during the production of carbon intensive goods that are entering the EU, and to encourage cleaner industrial production in non-EU countries.**”
- The reporting system under the regulation would be enforced from October 1 for certain goods to facilitate a smooth roll out and dialogue with third countries. Importers would start paying the financial levy from 2026.
- Its primary objective is to avert ‘**carbon leakage**’. It refers to a phenomenon where a EU manufacturer moves carbon-intensive production to countries outside the region with less stringent climate policies. In other words, replace EU-manufactured products with more carbon-intensive imports.





- From 2026, once the CBAM is fully implemented, importers in the EU would have to buy **carbon certificates** corresponding to the payable carbon price of the import had the product been produced in the continent, under its carbon pricing rules.
- Conversely, if a non-EU producer is paying a price (or tax) for carbon used to produce the imported goods, back home or in some other country, the corresponding cost would be deducted for the EU importer.
- The Commission, in coordination with relevant authorities of the member states, would be responsible for reviewing and verifying declarations as well as managing the central platform for the sale of CBAM certificates.
- Importers would have to annually declare by May-end the quantity and embedded emissions in the goods imported into the region in the preceding year.
- The idea here is to avert the possibility of carbon leakage alongside encouraging producers in non-EU countries to green their manufacturing processes. Moreover, it will ensure a **level playing field between imports and EU products**. This would also form part of the continent's broader European Green Deal which endeavours to achieve 55% reduction in carbon emissions compared to 1990 levels by 2030 and become a climate neutral continent by 2050.

#### PACIFIC ISLAND NATIONS

- Recently, the Prime Minister attended the **Forum for India Pacific Islands Cooperation (FIPIC)** summit in Papua New Guinea.
- As part of India's Act East Policy, Prime Minister Narendra Modi announced a **12-point development plan for the Pacific Island nations**.
- The 12-point development plan focuses on a range of areas including healthcare, renewable energy and cyber-security.
- A major part of India's engagement with Pacific Island nations is through development assistance under South-South Cooperation that is mainly in the form of capacity building and community development projects.

#### STATUS OF TRANSGENIC CROPS IN INDIA

- Recently, three States, Gujarat, Maharashtra and Telangana, have deferred a proposal, approved by the Centre's **Genetic Engineering Appraisal Committee (GEAC)**, to test a **new kind of transgenic cotton seed** that contains a gene, **Cry2Ai**, that purportedly makes cotton resistant to **pink bollworm, a major pest**.
- There is an array of crops — **brinjal, tomato, maize, chickpea** — in various stages of trials that employ transgenic technology. **However, cotton remains the only transgenic crop that is being commercially cultivated in India.**
- After a long hiatus, **the GEAC, the apex technical body charged with evaluating proposals for testing genetically modified (GM) seeds**, approved the **environmental release of Mustard hybrid DMH-11** and its parental lines, during its 147th meeting on 18 October, 2022 for seed production and testing. This is one step away from full commercial cultivation.
- However, **the GEAC, which is under the Union Environment Ministry**, isn't the final arbiter in the case of GM crops. There is a long-standing litigation in the Supreme Court on the permissibility of allowing transgenic food crops in farmer fields based on petitions filed by **activist Aruna Rodrigues and Gene Campaign, an NGO**.
- Following the GEAC approval for DMH-11, the petitioners approached the apex court asking for a stay on the release of the crop because it would encourage farmers to spray **herbicides, which are banned in India**. Hearings on this case are still ongoing.



	<ul style="list-style-type: none"><li>In 2017, the GEAC had accorded a clearance for GM mustard, but went back on its decision and imposed additional tests. In 2010, the GEAC had approved <b>GM brinjal</b>, but this was put on an “indefinite moratorium” by the United Progressive Alliance government.</li></ul>
24	<p style="text-align: center;"><b><u>USING AI TO FIND AN ANTIBIOTIC AGAINST A SUPERBUG</u></b></p> <ul style="list-style-type: none"><li>In a major breakthrough for the use of <b>Artificial Intelligence (AI)</b> in the field of medicine, scientists from the United States and Canada have found a new antibiotic – powerful enough to kill a superbug – using AI.</li><li><b>Superbugs are bacteria that are resistant to several types of antibiotics.</b> Each year these drug-resistant bacteria infect more than 2 million people in the US and kill at least 23,000, according to the <b>US Centres for Disease Control and Prevention (CDC)</b>.</li><li>The study (“<b>Deep learning-guided discovery of an antibiotic targeting Acinetobacter baumannii</b>”) dealt with the <b>bacterium Acinetobacter baumannii</b> and saw participation from Canada’s McMaster University and Massachusetts Institute of Technology (MIT) in the US.</li><li>In 2017, the bacterium was identified by the <b>World Health Organization (WHO)</b> as <b>one of the world’s most dangerous antibiotic-resistant bacteria</b>.</li><li>Notoriously difficult to eradicate, <i>A. baumannii</i> can cause pneumonia, meningitis and infect wounds, all of which can lead to death. <i>A. baumannii</i> is usually found in hospital settings, where it can survive on surfaces for long periods.</li><li>The WHO’s list of superbugs highlighted bacteria that are having <b>built-in abilities to find new ways to resist treatment and can pass along genetic material that allows other bacteria to become drug-resistant as well</b>.</li></ul>
25	<p style="text-align: center;"><b><u>THE HIROSHIMA PROCESS THAT TAKES AI GOVERNANCE GLOBAL</u></b></p> <p><b><u>Why is it in the news?</u></b></p> <ul style="list-style-type: none"><li>Recently, the <b>annual Group of Seven (G7) Summit</b>, hosted by Japan, took place in Hiroshima on May 19-21, 2023. Among other matters, the <b>G7 Hiroshima Leaders’ Communiqué</b> initiated the <b>Hiroshima AI Process (HAP)</b> an effort by this bloc to determine a way forward to regulate <b>artificial intelligence (AI)</b>.</li><li>The ministerial declaration of the G7 Digital and Tech Ministers’ Meeting, on April 30, 2023, discussed “<b>responsible AI</b>” and global AI governance, and said, “<b>we reaffirm our commitment to promote human-centric and trustworthy AI based on the OECD AI Principles and to foster collaboration to maximise the benefits for all brought by AI technologies</b>”.</li></ul>
26	<p style="text-align: center;"><b><u>CAPTAGON PILLS</u></b></p> <ul style="list-style-type: none"><li>Reports suggest that the <b>Islamic State (IS)</b> and Syrian fighters widely consumed <b>Captagon Pills</b> to increase alertness and suppress appetite during their gruelling battles.</li><li>Captagon is a <b>highly addictive amphetamine-type drug</b>, which is produced mainly in Syria and widely smuggled across West Asia.</li><li>While Nazi Germany supplied <b>Pervitin</b>, a methamphetamine (now known as crystal meth) to its soldiers, the Allied forces gave their troops <b>Benzedrine</b>, which was amphetamine sulfate.</li><li>The drug remained popular even after the war until in 1965, when the US banned <b>Benzedrine inhalers</b> after decades of reported abuse. In the following decades, new illicit tablets, mainly containing amphetamine, labelled <b>Captagon</b> surfaced in Bulgaria from where Balkan and Turkish criminal networks smuggled them to the Arabian Peninsula.</li></ul>
27	<p style="text-align: center;"><b><u>NEW NavIC SATELLITE</u></b></p> <ul style="list-style-type: none"><li>Recently, the <b>Indian Space Research Organisation (ISRO)</b> has launched the first of the second-generation satellites for its navigation constellation successfully.</li></ul>



	<ul style="list-style-type: none"><li>• Christened <b>NVS-01</b>, the first of ISRO's NVS series of payloads is the heaviest in the constellation and was launched by a <b>Geosynchronous Satellite Launch Vehicle (GSLV)</b> rocket from Sriharikota.</li><li>• Each of the seven satellites currently in the <b>Indian Regional Navigation Satellite System (IRNSS)</b> constellation, operationally named <b>NavIC</b>, weighed much less.</li><li>• The satellite will have a <b>Rubidium atomic clock</b> onboard, a significant technology developed by India which only a handful of countries possess.</li></ul>
28	<p style="text-align: center;"><b><u>THE GAGANYAAN RECOVERY TRAINING PLAN</u></b></p> <ul style="list-style-type: none"><li>• Recently, <b>the Indian Navy and the Indian Space Research Organisation (ISRO)</b> have released the <b>Gaganyaan Recovery Training Plan</b> at INS Garuda in Kochi.</li><li>• The document outlines the training plan for recovery of the crew module of the Gaganyaan mission. The document defines overall requirements with respect to training of various teams participating in recovery operations including divers, <b>MARCOs (marine commandos)</b>, medical specialists, communicators, technicians and naval aviators.</li><li>• The recovery training is planned in incremental phases starting from unmanned recovery to manned recovery training in harbour and open sea conditions.</li><li>• The Gaganyaan mission aims to demonstrate the capability to launch human beings (three crew members) to low earth orbit and bring them back safely to earth by landing them in either the Bay of Bengal or the Arabian Sea.</li><li>• <b>Low-Earth orbit (often known as LEO)</b> encompasses Earth-centred orbits with an altitude of 2,000 km or less. Its objective is to demonstrate indigenous capability to undertake human space flight mission to LEO.</li><li>• <b>Launch Vehicle Mark-3 (LVM3)</b> is the launch vehicle for the Gaganyaan mission.</li><li>• All systems in the LVM3 launch vehicle are reconfigured to meet human rating requirements and named <b>Human Rated LVM3 (HLVM3)</b>.</li></ul>
29	<p style="text-align: center;"><b><u>FASTEST SUPERCOMPUTERS</u></b></p> <ul style="list-style-type: none"><li>• According to the <b>Ministry of Earth Sciences</b> India is set to dramatically scale up its super-computing prowess and install an <b>18-petaflop system</b> over the course of this year.</li><li>• A supercomputer is a computer that performs at or near the highest operational rate for computers. These computers leverage a memory block along with multiple central processing units grouped into '<b>compute nodes</b>' – sometimes tens of thousands of nodes.</li><li>• Currently India's most powerful, civilian supercomputers — <b>Pratyush and Mihir</b> — with a combined capacity of 6.8 petaflops are housed at the <b>Indian Institute of Tropical Meteorology (IITM)</b>, Pune, and the <b>National Centre for Medium Range Weather Forecasting (NCMRWF)</b>, Noida, respectively.</li><li>• The new supercomputers too will be housed at the IITM and NCMRWF.</li><li>• The fastest high-performance computing system in the world is currently the <b>Frontier-Cray system at Oakridge National Laboratory, United States</b>.</li></ul>
30	<p style="text-align: center;"><b><u>UNDERSTANDING A HUMAN PANGENOME MAP</u></b></p> <ul style="list-style-type: none"><li>• Recently, a new study described a <b>pangenome reference map</b>, built using genomes from 47 anonymous individuals (19 men and 28 women), mainly from Africa and the Caribbean, Americas, East Asia, and Europe.</li><li>• The <b>genome is the blueprint of life, a collection of all the genes and the regions between the genes contained in our 23 pairs of chromosomes</b>.</li><li>• Unlike the earlier reference genome, which is a linear sequence, the <b>pangenome is a graph</b>. The graph of each chromosome is like a bamboo stem with nodes where a stretch of sequences of all</li></ul>



47 individuals converge (similar), and with internodes of varying lengths representing genetic variations among those individuals from different ancestries.

- To create complete and contiguous chromosome maps in the pangenome project, the researchers used long-read DNA sequencing technologies, which produce strings of contiguous DNA strands of tens of thousands of nucleotides long. Using longer reads helps assemble the sequences with minimum errors and read through the repetitive regions of the chromosomes which are hard to sequence with short-read technologies used earlier.

## INDIA-ASEAN RELATIONSHIP

- ASEAN, a 10-nation grouping, is considered one of the most influential groupings in Southeast Asia.
- It includes Indonesia, Thailand, Vietnam, Laos, Brunei, the Philippines, Singapore, Cambodia, Malaysia and Myanmar.
- ASEAN states are located at a strategically important junction of the Indo-Pacific which makes ASEAN a focal point for both regional and global powers.

### Areas of Cooperation Between India and ASEAN:

**ASEAN is India's 4th largest trading partner.**

- India signed an FTA (Free Trade Agreement) in goods in 2009 and an FTA in services and investments in 2014 with ASEAN.
- ASEAN and India have also adopted a joint statement announcing the elevation of the existing Strategic Partnership to Comprehensive Strategic Partnership.
- The two sides reaffirmed the importance of maintaining and promoting peace, stability, maritime safety, and overflight freedom in the Indo Pacific.
- India provides financial assistance to the ASEAN nations through various mechanisms like ASEAN-India Cooperation Fund and ASEAN-India Green Fund.
- India has been undertaking several connectivity projects like India-Myanmar-Thailand Trilateral (IMT) Highway and the Kaladan Multimodal Project.
- India and ASEAN countries recently gave a new vigour to their ties by establishing a comprehensive strategic partnership at the 19<sup>th</sup> ASEAN-India Summit in Cambodia.

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## FOR THE MONTH OF MAY

### THE SIGNIFICANCE OF THE BALI G-20 SUMMIT

- **Leaders of the G-20 nations will gather at Bali's Nusa Dua resort for the 17th summit of the world's most advanced economies. G-20 countries represent 85% of the global GDP, 75% of global trade and 66% of the world population.**
- **The motto for this G-20 is Recover Together, Recover Stronger.**
- The leaders will engage in discussions over **three sessions:**
- **On Food and Energy security,**
- **Health Partnership for Global Infrastructure and Investment, and**
- **Digital Transformation.**

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### EAST ASIA SUMMIT (EAS)

- Recently, the Vice President of India addressed the **17th East Asia Summit (EAS) in Phnom Penh, Cambodia.**
- The East Asia Summit (EAS) is the Indo-Pacific's premier forum for strategic dialogue. It is the only leader-led forum at which all key Indo-Pacific partners meet to discuss political, security and

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	<p>economic challenges facing the region, and has an important role to play in advancing closer regional cooperation.</p> <ul style="list-style-type: none"><li>• The concept of East Asia Grouping was first promoted in 1991 by the then Malaysian Prime Minister, Mahathir bin Mohamad.</li><li>• The EAS has 18 members - the ten ASEAN countries (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam) along with Australia, China, India, Japan, New Zealand, the Republic of Korea, Russia and the United States.</li><li>• <b>India is one of the founding members of the East Asia Summit.</b></li></ul>
3	<p style="text-align: center;"><b><u>US' CURRENCY MONITORING LIST</u></b></p> <ul style="list-style-type: none"><li>• Recently, India is among the few countries removed from the United States Currency Monitoring List which is released by the Department of Treasury.</li><li>• It is a biannual report to Congress. The report reviews the policies of the US' trading partners during the last four quarters ending in June 2022. It has also removed Italy, Mexico, Vietnam and Thailand from the list.</li><li>• The countries on the US' currency monitoring list are China, Japan, Korea, Germany, Malaysia, Singapore and Taiwan.</li></ul>
4	<p style="text-align: center;"><b><u>RANSOMWARE ATTACKS</u></b></p> <ul style="list-style-type: none"><li>• Recently, e-services at the All-India Institute of Medical Sciences (AIIMS) were crippled by what is being suspected to be a ransomware attack.</li><li>• Ransomware is a type of malicious software, used by cyber criminals, to infect a computer system by blocking access to the stored data by encrypting the files. A ransom is then demanded from the owner in exchange for the decryption key.</li><li>• Ransomware attacks can also be accompanied by theft of sensitive data for other sinister motives.</li></ul>
5	<p style="text-align: center;"><b><u>BLUEBUGGING</u></b></p> <ul style="list-style-type: none"><li>• <b>It is a form of hacking that lets attackers access a device through its discoverable Bluetooth connection.</b> Once a device or phone is bluebugged, a hacker can listen to the calls, read and send messages and steal and modify contacts. It started out as a threat for laptops with Bluetooth capability. Later hackers used the technique to target mobile phones and other devices.</li></ul>
6	<p style="text-align: center;"><b><u>ASSAM-MEGHALAYA BORDER DISPUTE</u></b></p> <ul style="list-style-type: none"><li>• Recently, six people were killed in Assam police firing which comes ahead of the <b>second phase of talks between the two states to resolve their boundary dispute.</b></li><li>• Assam and Meghalaya have a longstanding dispute in 12 stretches of their 884-km shared border. The two states had signed a pact recently resolving the dispute in six out of 12 areas.</li><li>• Both states have recently decided to form regional committees. The second round of discussions for the remaining six phases was to commence by the end of November.</li><li>• <u>Disputed areas for resolution identified in the first phase are:</u></li><li>• Three areas contested between West Khasi Hills district in Meghalaya and Kamrup in Assam.</li><li>• Two between RiBhoi in Meghalaya and Kamrup-Metro.</li><li>• One between East Jaintia Hills in Meghalaya and Cachar in Assam.</li></ul>
7	<p style="text-align: center;"><b><u>NO MONEY FOR TERROR (NMFT) CONFERENCE</u></b></p> <ul style="list-style-type: none"><li>• India will host the <b>Third No Money for Terror (NMFT) Conference</b> in November.</li><li>• The NMFT started in 2018 as an initiative of the French government which had, in 1989, laid the foundation of the <b>Financial Action Task Force (FATF), the international body at the forefront of combating money laundering and terrorist financing.</b></li><li>• Just like the FATF, which earlier focused only on money laundering but expanded to include terrorist financing after the 9/11 attacks, the continuing activities of the Islamic State and Al Qaeda, despite</li></ul>

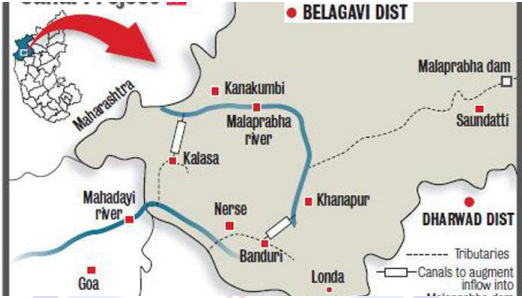


	<p>territorial defeats in Syria-Iraq and Afghanistan respectively, necessitated the NMFT conference. In fact, the 2018 event was titled “International conference on combating the financing of Daesh and Al-Qaeda (Paris, 25-26 April 2018)”.</p>
8	<p style="text-align: center;"><b><u>CRISIS OF LABOUR POST-PANDEMIC</u></b></p> <ul style="list-style-type: none"><li>• The <b>International Labour Organisation (ILO)</b> recently released two reports that gave an indication of the global employment scenario post-pandemic.</li><li>• The ‘<b>Global Wage Report 2022-2023: The Impact of inflation and COVID-19 on wages and purchasing power</b>’ discuss the twin crises, inflation and economic slowdown, which created a “striking fall” in real monthly wages around the globe. The report blames the war in Ukraine and the global energy crisis for this situation.</li><li>• Another report, the ‘<b>Asia-Pacific Employment and Social Outlook 2022: Rethinking sectoral strategies for a human-centred future of work</b>’ stated that the Asia-Pacific region lost about 22 million jobs in 2022.</li></ul>
9	<p style="text-align: center;"><b><u>WORLD POPULATION</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>United Nations Population Fund</b>, stated that the world’s population has reached 8 billion.</li><li>• This unprecedented growth is due to the gradual increase in human lifespan owing to improvements in public health, nutrition, personal hygiene and medicine.</li><li>• According to United Nations, it is also the result of high and persistent levels of fertility in some countries.</li><li>• The UN said that it took the global population 12 years to grow from 7 billion to 8 billion.</li><li>• It will take approximately 15 years — until 2037 — for it to reach 9 billion.</li><li>• It is a sign that the overall growth rate of the global population is slowing.</li></ul>
10	<p style="text-align: center;"><b><u>RED PLANET DAY</u></b></p> <ul style="list-style-type: none"><li>• Commemorating the day, one of the most significant space missions to Mars was launched, <b>November 28 is marked as Red Planet Day. On this day in 1964, the United States launched the space probe Mariner 4 on a course towards Mars, which it flew past in July 1965, sending back pictures of the red planet.</b></li><li>• This was the first time that a spacecraft undertook the first flyby of the red planet, becoming the first-ever spacecraft to take close-up photographs of another planet.</li></ul>
11	<p style="text-align: center;"><b><u>INTERNATIONAL LUSOPHONE FESTIVAL</u></b></p> <ul style="list-style-type: none"><li>• The Ministry of External Affairs (MEA) in partnership with the Indian Council of Cultural Relations (ICCR) and the Government of Goa organized the International <b>Lusophone Festival</b> in Goa from 3-6 December 2022.</li><li>• The festival seeks to further India’s connection with the Lusophone world.</li><li>• Goa has had historical linkages with the Lusophone world, which has been nurtured through the presence of Portuguese cultural institutions like the Orient Foundation and the Camoes Institute, which promote Portuguese language and culture in India.</li><li>• The <b>Lusophone (Portuguese-speaking countries)</b> world is spread in nine countries across four continents, and <b>Portuguese is the most widely-spoken language in the Southern Hemisphere.</b></li><li>• <b>Lusophone</b> economies are among the fastest-growing in the world, with Brazil, Angola, Portugal, and Mozambique being some of them.</li><li>• India’s trade with the Lusophone world has grown six-fold in the last decade.</li></ul>



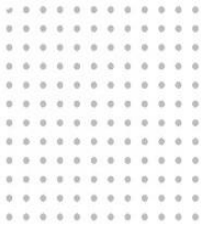
12	<p style="text-align: center;"><b><u>GURU TEGH BAHADUR</u></b></p> <ul style="list-style-type: none"><li>• <b>November 24, is commemorated as the Shaheedi Divas of Guru Tegh Bahadur, the ninth guru of the Sikhs, who stood up against forcible conversions by the Mughals, and was executed on the orders of Aurangzeb in 1675.</b></li><li>• <b>At the site of Guru Tegh Bahadur's execution stands Gurdwara Sis Ganj Sahib in Delhi's Chandni Chowk.</b></li><li>• <b>Tegh Bahadur was born in Amritsar on April 21, 1621 to Mata Nanki and Guru Hargobind, the sixth Sikh guru, who raised an army against the Mughals and introduced the concept of warrior saints.</b></li><li>• <b>As a boy, Tegh Bahadur was called Tyag Mal because of his ascetic nature. He spent his early childhood in Amritsar under the tutelage of Bhai Gurdas, who taught him Gurmukhi, Hindi, Sanskrit, and Indian religious philosophy, while Baba Budha trained him in swordsmanship, archery, and horse-riding.</b></li><li>• <b>He was only 13 when he distinguished himself in a battle against a Mughal chieftain. His bravery and swordsmanship in the battle earned him the name of Tegh Bahadur.</b></li><li>• <b>He was married to Mata Gujri at Kartarpur in 1632, and subsequently left for Bakala near Amritsar.</b></li></ul>
13	<p style="text-align: center;"><b><u>ACHARYA KRIPALANI</u></b></p> <ul style="list-style-type: none"><li>• <b>Recently, the Prime Minister of India has paid tributes to Acharya Kripalani on his Jayanti.</b></li><li>• <b>He was born on 11<sup>th</sup> November 1888 in Hyderabad, Sindh. His original name was Jivatram Bhagwandas Kripalani but was popularly known as Acharya Kripalani. He was an independence activist, Indian politician and an Educationist.</b></li><li>• <b>He was the President of Indian National Congress (INC) at the time of independence. He served in the Interim government of India (1946–1947) and the Constituent Assembly of India.</b></li><li>• <b>He became one of the founders of the Kisan Mazdoor Praja Party (KMPP) after independence leaving congress.</b></li><li>• <b>He was elected to the Lok Sabha in 1952, 1957, 1963 and 1967 as a member of Praja Socialist Party. He moved the first-ever No confidence motion in Lok Sabha in 1963, immediately after the India-China War (1962).</b></li><li>• <b>In 1963, Sucheta Kripalani, a Congress leader became the Chief Minister of Uttar Pradesh, a first for any woman in the country while her husband Acharya remained an opponent to the Congress.</b></li><li>• <b>He was a critic of Nehru's policies and Indira Gandhi's rule. He was arrested during Emergency (1975).</b></li></ul>
14	<p style="text-align: center;"><b><u>INDIA'S PLAN TO DEVELOP GREEN HYDROGEN</u></b></p> <ul style="list-style-type: none"><li>• <b>Recently, the Union Cabinet approved a ₹19,744 crore National Green Hydrogen mission that aims to make India a 'global hub' for using, producing and exporting green hydrogen.</b></li><li>• <b>'Green' hydrogen is when hydrogen is produced via electrolysis, the splitting of water into hydrogen and oxygen with electricity generated from renewable energy sources such as solar or wind. This is the most environmentally sustainable way of producing hydrogen.</b></li><li>• <b>The intent of the mission is to incentivise the commercial production of green hydrogen and make India a net exporter of the fuel.</b></li><li>• <b>The mission has laid out a target to develop green hydrogen production capacity of at least 5 MMT (Million Metric Tonne) per annum. This is alongside adding renewable energy capacity of about 125 GW (gigawatt) in the country. This will entail the decarbonisation of the industrial, mobility and energy sectors; reducing dependence on imported fossil fuels and feedstock; developing indigenous manufacturing capabilities; creating employment opportunities; and developing new technologies such as efficient fuel cells.</b></li></ul>



	<ul style="list-style-type: none"><li>By 2030, the Centre hopes its investments will bring in investments worth ₹8 trillion and create over six lakh jobs. Moreover, about 50 MMT per annum of CO2 emissions are expected to be averted by 2030. As per its <b>Nationally Determined Contribution (NDC)</b> to meeting the goals of the Paris Agreement, India has committed to reduce emissions intensity of its GDP by 45% by 2030, from 2005 levels.</li></ul>
15	<p><b><u>BROADCASTING INFRASTRUCTURE AND NETWORK DEVELOPMENT (BIND) SCHEME</u></b></p> <ul style="list-style-type: none"><li>It is aimed to bring modernisation to the <b>public broadcaster Prasar Bharati i.e. All India Radio (AIR) and Doordarshan (DD)</b>.</li><li>It is the vehicle for providing financial support to Prasar Bharati for expenses related to the expansion and upgradation of its broadcasting infrastructure, content development, and civil work related to the organization.</li></ul>
16	<p><b><u>KALASA-BANDURI PROJECT</u></b></p> <ul style="list-style-type: none"><li>Recently, the Union Government has approved Karnataka's Kalasa-Banduri drinking water project which is facing opposition from Goa and Maharashtra.</li><li><b><u>About Kalasa-Banduri Project</u></b></li><li></li></ul>  <ul style="list-style-type: none"><li>It is a dam that has been designed to divert water from the Mhadei basin to the deficit basin of the MalaPrabha river.</li><li>The plan is aimed at facilitating drinking water for 13 towns in drought-hit northern Karnataka.</li><li>The areas include Dharwad, Belagavi, Bagalkote and Gadag among others.</li><li>These areas together make up the <b>country's second most arid region after Rajasthan</b>.</li></ul>
17	<p><b><u>VIBRANT VILLAGES PROGRAMME</u></b></p> <ul style="list-style-type: none"><li>It was announced in the Budget Speech 2022.</li><li>The programme envisages coverage of border villages on the Northern border having sparse populations, limited connectivity and infrastructure, which often get left out from the development gains.</li><li>It should be used by all border-guarding forces to encourage tourism in border villages, to make them self-reliant and vibrant.</li></ul>
18	<p><b><u>MAHARASHTRA LOKAYUKTA ACT, 2022</u></b></p> <ul style="list-style-type: none"><li>The Maharashtra government has approved the <b>Anna Hazare Committee report</b> of introducing Lokayukta in the State along the lines of the Centre's Lokpal law.</li><li>The Act will give additional powers to the Lokayukta to direct state agencies to probe public servants, including the chief minister and state ministers. The Act will give additional powers to not only recommend action but also direct state agencies to undertake the investigation.</li></ul>



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**GROUP-II**

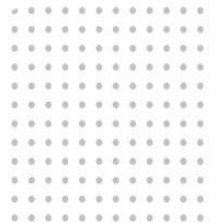
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- As per the Act, any present or former chief minister of Maharashtra can be investigated by the Lokayukta only **if the motion for the same is passed by the Legislative Assembly by a two-thirds majority.**
- **For present or former ministers:** Approval of the governor and views of the group of ministers appointed by the governor is required to conduct an inquiry into present or former ministers.
- **For Legislative member:** The approval of the Council chairperson or Assembly speaker is required to probe the Legislative member.
- **For IAS officer:** The draft has even brought IAS officials under the scope of the probe but the Lokayukta will require the approval of the chief minister and the views of the chief secretary to initiate the probe.
- **For municipal corporator or sarpanch:** The Lokayukta will require approval from the minister concerned to probe even the municipal corporator or sarpanch.
- The Lokayukta will be a retired chief justice of the High Court or a Supreme Court (judge). The Lokayukta will have a team of five people including retired judges.

### AMRIT BHARAT STATION SCHEME

- Recently, the Ministry of Railways has formulated a new policy for modernization of stations named "**Amrit Bharat Station**" scheme.
- The scheme aims at the preparation of **Master Plans** of the Railway stations and the implementation of the Master Plan in phases to enhance the facilities including and beyond the **Minimum Essential Amenities (MEA)**.
- Zonal railways have been given the responsibility of **selecting stations**, which will then be approved by a committee of senior railway officials.
- The scheme shall cater for introduction of **new amenities as well as upgradation** and replacement of existing amenities.

### NATIONAL AVGC-EXTENDED REALITY MISSION

- The Animation, Visual Effects, Gaming and Comic (AVGC) Task Force has recently called for a National AVGC-XR Mission.
- **According to the Ministry of Information and Broadcasting (I&B), India has the potential to capture 5% (\$40 billion) of the global market share by the year 2025, with an annual growth of around 25-30% and creating over 1,60,000 new jobs annually.**
- According to industry experts, the Indian market which currently employs about 1.85 lakh AVGC professionals, can witness a growth of 14-16% in the next decade.

### PILGRIMAGE REJUVENATION AND SPIRITUAL AUGMENTATION DRIVE (PRASAD) PROJECT

- Recently, the President inaugurated **PRASAD project** at the tourism facilitation centre in the pilgrim town of Srisailem in Andhra Pradesh.
- The scheme was launched in the year **2014-2015**. It comes under the **Ministry of Tourism**.
- This scheme focuses on developing and identifying pilgrimage sites across India for enriching the religious tourism experience. It aims to integrate pilgrimage destinations in a prioritised, planned and sustainable manner to provide a complete religious tourism experience.
- The Ministry of Tourism provides Central Financial Assistance (CFA) to state governments under the Prasad scheme to **promote tourism at pilgrim sites. The Central Government will cover 100% of the costs under this program.** For improved sustainability, it also includes a Public-Private Partnership (PPP) and Corporate Social Responsibility (CSR).
- Cities Identified Under PRASAD Scheme: Amritsar (Punjab); Kedarnath (Uttarakhand); Mathura (Uttar Pradesh); Ajmer (Rajasthan); Varanasi (Uttar Pradesh); Gaya (Bihar); Kamakhya (Assam);



	<p>Dwaraka (Gujarat); Puri (Odisha); Amaravati (Andhra Pradesh); Kanchipuram (Tamil Nadu); Velankanni (Tamil Nadu).</p>
22	<p style="text-align: center;"><b><u>NATIONAL FOOD SECURITY ACT (NFSA)</u></b></p> <ul style="list-style-type: none"><li>The Union Cabinet recently decided to provide free foodgrains to all 81 crore beneficiaries covered under the <b>National Food Security Act (NFSA) till December 2023.</b></li></ul> <p><b><u>New changes in NFSA:</u></b></p> <ul style="list-style-type: none"><li>Beneficiaries will now get 35kg of foodgrains free for the next year and others will get 5kg for free in a month till December 2023.</li><li>The Union government has estimated an additional amount of 2 lakh crore for the scheme. Entire expenses for the scheme would be borne by the Union Government.</li></ul>
23	<p style="text-align: center;"><b><u>SAMUDRAYAAN MISSION</u></b></p> <ul style="list-style-type: none"><li>India is planning to explore deep sea resources with its Samudrayaan mission which is expected to be realised by year 2026. The Indian Government launched the Samudrayaan mission in 2021.</li></ul> <div data-bbox="502 817 1149 1064" data-label="Image"></div> <ul style="list-style-type: none"><li>India will send three personnel to 6,000 metre depth in a vehicle called <b>Matsya 6000</b> for the exploration of deep-sea resources like minerals.</li><li>MATSYA 6000 vehicle is being designed and developed by <b>Chennai-based National Institute of Ocean Technology (NIOT)</b> which is an autonomous society under the Ministry of Earth Sciences.</li></ul>
24	<p style="text-align: center;"><b><u>PANDA TASK FORCE</u></b></p> <ul style="list-style-type: none"><li>It was constituted in February 2014 under the leadership of erstwhile Tribal Affairs Secretary Hrusikesh Panda.</li><li>It had compiled a comprehensive list of over 40 communities from across the country that it felt should be included in ST lists on a priority basis. Of those communities, nine are in Odisha, 26 are part of the tea tribes in Assam, eight are in Chhattisgarh, and a few are in Andhra Pradesh and Tamil Nadu.</li><li>The task force had concluded that as many as 26 of the tea tribes of Assam, those who were forcibly taken as indentured labourers from states like Bihar, Jharkhand, and Odisha, should be included in the ST list. It justified this “based on the key principle that the ‘indentured labourers’ are a category which is distinct from ‘voluntary migration’”.</li><li>Keeping with the same principle, it had also recommended for inclusion of tribal communities of Maharashtra, Gujarat, and Madhya Pradesh that had been displaced on account of the Narmada Dam Project as this too qualified as “involuntary migration</li><li>It also had recommended the inclusion of various Devnagri versions of tribes in the ST list of Chhattisgarh.</li></ul>
25	<p style="text-align: center;"><b><u>CONSTITUTION (SCHEDULED CASTES AND SCHEDULED TRIBES) ORDERS (SECOND AMENDMENT) BILL-2022</u></b></p> <ul style="list-style-type: none"><li>Recently, 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.</li></ul>



- 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.

### LADAKH'S DEMAND OF SIXTH SCHEDULE

- After its special status was removed, several political groups in Ladakh have been demanding that land, employment, and the cultural identity of Ladakh, should be protected under the Sixth Schedule.
- Ladakh's only member in the Lok Sabha also demanded constitutional safeguards by amending the **Ladakh Autonomous Hill District Council (LAHDC) Act** for the protection of land, employment, and the cultural identity of Ladakh under the Sixth Schedule.

#### Other issues faced by Ladakh:

- No decentralisation of power: There had been four MLAs from the region in the erstwhile J&K Assembly; the administration of the region is now completely in the hands of bureaucrats. To many in Ladakh, the government now looks even more distant than Srinagar.
- Changed domicile policy in Jammu and Kashmir: Also, the changed domicile policy in Jammu and Kashmir has raised fears in the region about its own land, employment, demography, and cultural identity.
- Limited Finances: The UT has two Hill councils in Leh and Kargil, but neither is under the Sixth Schedule. Their powers are limited to collection of some local taxes such as parking fees and allotment and use of land vested by the Centre.

#### Recommendation of the National Commission for Scheduled Tribes:

- In September 2019, the National Commission for Scheduled Tribes recommended the inclusion of Ladakh under the Sixth Schedule.
- The Commission took note of the fact that the newly created Union Territory of Ladakh is predominantly a tribal region in the country.

#### Report highlights of the Parliamentary Standing Committee:

- The Parliamentary Standing Committee on Home Affairs recently tabled a report in the Rajya Sabha.
- The report stated that, according to the 2011 Census, the tribal population in the Union Territory of Ladakh is 2,18,355, that is 79.61% of the total population of 2,74,289.
- The committee recommended that special status may be granted to the Union Territory of Ladakh considering the developmental requirements of the tribal population.
- The Committee further recommends that the possibility of including Ladakh in fifth or sixth Schedule may be examined.

### J&K'S PROPOSED FAMILY ID

- It will be an **identity card with a unique eight-digit alphanumeric number to identify each family and its members through the head of the family.**
- The card will contain details of all members of the family, including their names, ages, qualifications, employment status, etc.
- The card will be linked with the Aadhaar and bank account number of the head of the family.

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- It will be a single identifier for every family and individual in the UT that will instantly confirm their eligibility for government welfare schemes and facilitate direct transfer of benefits to their bank accounts with minimum human interference.

### SINGAPORE DECLARATION

- The “Singapore Declaration”, was recently adopted during the **17th Asia and the Pacific Regional Meeting of the International Labour Organisation (APRM of ILO)**.
- **Some of the Highlights:**
- The declaration said social dialogue is key to building trust, and resilient labour market institutions.
- It is essential to sustained recovery and inclusive and sustainable growth, and needs to be strengthened in the regions.
- It urged the governments to ensure labour protection for all through the promotion of freedom of association and the effective recognition of the right to collective bargaining throughout the regions.
- 28 • It will be including for workers in vulnerable situations and workers in the informal economy, as enabling rights for decent work.
- It called for closing gender gaps in the world of work through measures that increase women’s labour force participation, promote equal pay for work of equal value, balance work, and responsibilities, and promote women’s leadership.
- The declaration also urged the governments to strengthen governance frameworks and respect for freedom of association to protect the rights of migrant workers, including improved accommodation, protection of wages, and extension of social protection and, where appropriate, through enhanced bilateral labour migration agreements between both sending and receiving countries.
- Tripartite mechanisms should help promote cooperation between constituents to mitigate negative impacts and harness opportunities that arise from labour migration.

### SACRED GROVES OF RAJASTHAN

- Recently, a unique yatra was taken out through remote villages and hamlets in western Rajasthan to raise demand for the **protection of orans or sacred groves**.
- The participants in the march travelled for 225 km with the pledge to preserve the sacred groves as the lifelines for the desert. Tradition dictates that no tree or plant in the groves is cut and only seasonal grazing of livestock is allowed.
- 29 • **Named after local deities and medieval warriors, orans hold religious and social significance as small forest patches in the middle of the mighty Thar desert.**
- The orans have a rich diversity of traditional flora and fauna and water bodies and are considered sacred and preserved by the locals.
- Orans also form the **natural habitat for India’s most critically endangered bird, the Great Indian Bustard (GIB)**.

### THE BIODIVERSITY COMMITMENT

- A major international environmental conference has just concluded in Montreal, Canada, promising to take urgent action to protect and restore the world’s biodiversity — all the different forms of life, plants as well as animals, that inhabit this planet. This conference was the biodiversity equivalent of the more high-profile climate meetings that are held every year.
- 30 • **Signatories to the Convention on Biological Diversity (CBD), a 1993 agreement, meet every two years — not annually like the climate meetings to work on a global plan to halt biodiversity loss**



and restore natural ecosystems. The Montreal meeting was the 15th edition of this conference, hence the name COP15 — or the 15th Conference of the Parties to the CBD.

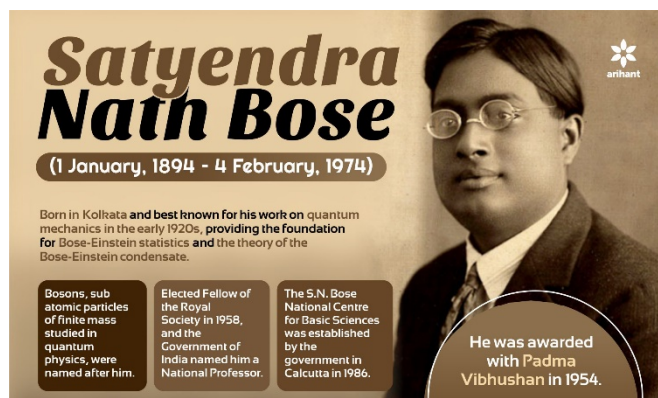
- The Montreal Conference has delivered a new agreement called the **Global Biodiversity Framework (GBF)**, which contains **four goals and 23 targets** that need to be achieved by 2030. The GBF is being compared to the 2015 Paris Agreement on climate change that is guiding global climate action. The comparison of the biodiversity meetings with the climate conferences is not incidental. The two are in fact closely related.
- **The UN Framework Convention on Climate Change (UNFCCC) and the CBD were both outcomes of the 1992 Rio Earth Summit — as was the third member of the family, the Convention to Combat Desertification (CCD), which deals specifically with the issue of land degradation. The CBD came into force in 1993; the other two in the following year.**
- The three environmental conventions seek to address the issues that overlap among them. Climate change is one of the main drivers of biodiversity loss, while changes in land and ocean use have an impact on climate change. Land degradation appears as a cause as well as effect in both climate change and biodiversity loss. So, while all the three agreements hold their separate COPs, the interlinkages, not very obvious in the 1990s, are getting increasingly evident. The success on any one helps the cause of the others too.

## CARBON MARKETS

- Recently, the Parliament passed the **Energy Conservation (Amendment) Bill** which amends the **Energy Conservation Act, 2001, to empower the Government to establish carbon markets in India and specify a carbon credit trading scheme.**
- **Carbon markets are essentially a tool for putting a price on carbon emissions— they establish trading systems where carbon credits or allowances can be bought and sold.**
- A carbon credit is a kind of tradable permit that, per United Nations standards, equals one tonne of carbon dioxide removed, reduced, or sequestered from the atmosphere.
- Carbon allowances or caps, meanwhile, are determined by countries or governments according to their emission reduction targets.
- A United Nations Development Program release this year noted that interest in carbon markets is growing globally, i.e., 83% of NDCs submitted by countries mention their intent to make use of international market mechanisms to reduce greenhouse gas emissions.

## SATYENDRA NATH BOSE

- Recently, the 129th birth anniversary of Satyendra Nath Bose was observed.





	<ul style="list-style-type: none"><li>• In 1921, he joined the then-newly created Dacca University as Reader in Physics. It was here while teaching that he documented his findings in a report called <b>Planck's Law and the Hypothesis of Light Quanta</b>. Even though his research was rejected by a journal, he decided to mail his paper to Albert Einstein. Einstein recognised the significance of Bose's theory and generalised it to a wider range of phenomena, and the theory came to be known as <b>Bose-Einstein statistics</b>.</li><li>• He designed equipment for setting up an X-ray crystallography laboratory at the university, and wrote several papers on a range of subjects, such as '<b>D2 Statistics</b>', and '<b>Total Reflection of Electromagnetic Waves in the Ionosphere</b>'.</li></ul>
33	<p style="text-align: center;"><b><u>'DARK PATTERNS' IN THE INTERNET</u></b></p> <ul style="list-style-type: none"><li>• Such patterns are unethical user interface designs that deliberately make your Internet experience harder or even exploit you. In turn, they benefit the company or platform employing the designs.</li><li>• By using dark patterns, digital platforms take away a user's right to full information about the services they are using, and reduce their control over their browsing experience.</li><li>• The term is credited to <b>UI/UX (user interface/user experience) researcher and designer Harry Brignull</b>, who has been working to catalogue such patterns and the companies using them since around 2010.</li></ul>
34	<p style="text-align: center;"><b><u>THE SPACE LIABILITY CONVENTION OF 1972</u></b></p> <ul style="list-style-type: none"><li>• It defines responsibility in case a space object causes harm.</li><li>• The treaty says that a launching State shall be absolutely liable to pay compensation for damage caused by its space objects on the surface of the earth or to aircraft, and liable for damage due to its faults in space.</li><li>• The Convention also provides for procedures for the settlement of claims for damages.</li><li>• The only settlement using the Liability Convention was between the erstwhile Soviet Union and Canada over the debris of Soviet Cosmos 954 falling in a barren region.</li></ul>
35	<p style="text-align: center;"><b><u>THE PATRIOT MISSILE DEFENSE SYSTEM</u></b></p> <ul style="list-style-type: none"><li>• The Patriot, which stands for <b>Phased Array Tracking Radar for Intercept on Target</b>, is a theatre-wide surface-to-air missile defence system built by Raytheon Technologies Corp and considered <b>one of the most advanced air defence systems in the U.S. arsenal</b>.</li><li>• The system was first used in combat during the 1991 Gulf War, with batteries protecting Saudi Arabia, Kuwait and Israel, and later used during the U.S. invasion of Iraq in 2003.</li><li>• <b>It is a mobile system that usually includes powerful radar, a control station, a power generator, launch stations and other support vehicles.</b></li><li>• The system has different capabilities depending on the type of interceptor used. The PAC-2 interceptor uses a blast-fragmentation warhead, while the newer PAC-3 missile uses more advanced hit-to-kill technology.</li><li>• The system's radar has a range of over 150 km (93 miles), the North Atlantic Treaty Organization (NATO) said in 2015.</li></ul>
36	<p style="text-align: center;"><b><u>THE INS MORMUGAO AND ITS CAPABILITIES</u></b></p> <ul style="list-style-type: none"><li>• In a boost to the country's maritime capabilities, INS Mormugao has officially joined the Indian Navy's fleet, marking a significant milestone for indigenous military expedition.</li><li>• The warship 'Yard 12705', named after the Goan port city of Mormugao, is the second of the four Visakhapatnam-class destroyers being built under the Indian Navy Project 15B, or P15B.</li><li>• Project 15 was launched in the 1990s to add guided missile destroyers to the inventory of the Indian Navy. The project was named 'Delhi class'. It was followed by Project 15A or Kolkata class which primarily focused on advanced technology and equipment in surface ships.</li></ul>



- Project 15B or the Visakhapatnam class is a follow-on class of weapon-intensive Project 15A destroyers. The project was launched in January 2011 to incorporate advanced design concepts such as state-of-the-art weapons and sensors, advanced stealth features and a high degree of automation for “improved survivability, sea keeping, stealth and manoeuvrability”.
- The lead ship of Project 15B, INS Visakhapatnam, was the first of the class to be commissioned. Besides INS Mormugao, the other two destroyers are expected to be commissioned between 2023 and 2025.

### DEEPFAKE TECHNOLOGY

- 37
- The **Cyberspace Administration of China, the country's cyberspace watchdog**, is rolling out new regulations, to be effective from January 10, to restrict the use of **deep synthesis technology** and curb disinformation.
  - **Deep synthesis** is defined as the use of technologies, including deep learning and augmented reality, to generate text, images, audio and video to create virtual scenes.
  - One of the most notorious applications of the technology is **deepfakes**, where synthetic media is used to swap the face or voice of one person for another.
  - Deepfakes are a compilation of artificial images and audio put together with machine-learning algorithms to spread misinformation and replace a real person's appearance, voice, or both with similar artificial likenesses or voices. It can create people who do not exist and it can fake real people saying and doing things they did not say or do.
  - According to the cybersecurity company Norton, Deepfake technology is now being used for nefarious purposes like scams and hoaxes, celebrity pornography, election manipulation, social engineering, automated disinformation attacks, identity theft and financial fraud.

### CERVICAL CANCER

- 38
- India will launch HPV vaccine CERVAVAC for preventing cervical cancer in 2023.
  - Developed by SII, was approved by the Drug Controller General of India in July 2022.
  - CERVAVAC is a quadrivalent vaccine, meaning it is effective against at least four variants of cancer-causing Human Papilloma Virus (HPV), and resulted from a partnership of DBT's Biotechnology Industry Research Assistance Council (BIRAC), and the Bill and Melinda Gates Foundation that supported Serum's development efforts.

### NAVIC, INDIA'S VERSION OF GPS

- 39
- NavIC is India's homegrown alternative to GPS. Developed by ISRO, the navigation satellite system was first approved in 2006 at a cost of \$174 million, but became operational only by 2018. At present, it consists of eight satellites, covering the whole of India and up to 1,500 km from its boundaries.
  - # The constellations' first satellite (IRNSS-1A) was launched on **1<sup>st</sup> July 2013** and the **eighth satellite IRNSS-1I** was launched in **April 2018**.

### UNDERSTANDING THE FUSION ENERGY BREAKTHROUGH ANNOUNCED BY US SCIENTISTS

- 40
- Scientists in the United States have, for the first time, achieved a net gain in energy from a nuclear fusion reaction, seen as a big step forward in the decades-old endeavour to master a technology that is considered the most dependable source of energy in future.
  - **Fusion is a different, but more powerful, way of harnessing the immense energy trapped in the nucleus of an atom. This is the process that makes the Sun and all other stars shine and radiate energy.** Attempts to master the fusion process have been going on at least since the 1950s, but it is incredibly difficult and is still at an experimental stage.
  - **The nuclear energy currently in use across the world comes from the fission process, in which the nucleus of a heavier element is split into those of lighter elements in a controlled manner. In**





fusion, nuclei of two lighter elements are made to fuse together to form the nucleus of a heavier atom.

- **A large amount of energy is released in both these processes, but substantially more in fusion than fission.** For example, 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 which is the normal process of generating electricity in a nuclear reactor.
- **Besides greater energy yield, fusion is also a carbon-free source of energy, and has negligible radiation risks. But fusion reactions happen only at very high temperatures, 10 times the temperature that exists at the core of the Sun, and creating such an extreme environment in a laboratory requires huge amounts of energy.**
- **So far, the energy released in such experimental fusion reactions have been lower than what is consumed to create the enabling high temperatures. At best, some of these reactions have produced 'near break-even' energies. That is why the latest experiment conducted at the Lawrence Livermore National Laboratory in California is being considered a big deal.**

### **THE 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.
- The process of end-to-end encryption 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 including companies providing the service.
- End-to-end encryption has long been used when transferring business documents, financial details, legal proceedings, and personal conversations. It can also be used to control users' authorisation when accessing stored data, which seems to be what Apple intends to do.

### **RBI'S UTKARSH 2.0**

- The **Reserve Bank of India's Medium-term Strategy Framework for the period 2023-2025 'Utkarsh 2.0' was launched by the Governor of RBI.**
- The **first strategy framework (Utkarsh 2022) covering the period 2019-2022 was launched in July 2019.**
- It became a medium-term strategy document guiding the Bank's progress toward realisation of the identified milestones.
- The Vision in Utkarsh 2.0 that will guide the Reserve Bank of India over the period 2023-25 are:
  - Excellence in performance of its functions;
  - Strengthened trust of citizens and Institutions in the RBI;
  - Enhanced relevance and significance in national and global roles;
  - Transparent, accountable and ethics-driven internal governance;
  - Best-in-class and environment-friendly digital and physical infrastructure; and
  - Innovative, dynamic and skilled human resources.

### **DOMESTICALLY SYSTEMIC IMPORTANT BANKS**

- Recently, the **Reserve Bank of India** said that the State Bank of India, ICICI Bank, and HDFC Bank continue to be identified as **Domestic Systemically Important Banks (D-SIBs).**
- DSIBs are also referred to as **"Too Big To Fail" (TBTF)** because of their size, cross jurisdictional activities, complexity and lack of substitute and interconnection.
- Banks whose assets cross 2% of the GDP are considered DSIBs. If these banks fail, they can have a disruptive effect on the economy.



- D-SIBs are categorised under five buckets. According to these buckets the banks have to keep aside the Additional Common Equity Tier 1 as a percentage of Risk Weighted Assets (RWAs).
- D-SIBs are mandated under special provisions and are closely monitored by the central bank to ensure their better functioning and prevent the indulgence of such banks in any grey areas such as money laundering etc.
- The Systematically Important Banks domestically are identified by Central Banks of a country and globally by **BASEL committee on banking supervision**.
- At present State Bank of India is placed under Bucket 3 & HDFC and ICICI are under Bucket 1.

#### **NATIONAL RETAIL TRADE POLICY**

- Recently, the **Department for Promotion of Industry and Internal Trade (DPIIT)** has sought the views of 16 departments and ministries on its draft national retail trade policy. It is aimed at the overall development of all formats of the sector.
- **India is the world's fifth-largest global destination in the retail space.**
- The policy has been envisioned by DPIIT to formulate the national retail policy to promote the growth of domestic trade.
- It focuses on formulating strategies to provide a globally competitive and sustainable environment for overall development of retail trade through targeted efforts.
- The objectives of the policy include:
  - Ensuring easy and quick access to affordable credit.
  - Facilitating modernization and digitization of retail trade by promoting modern technology and superior infrastructural support.
  - Development of physical infrastructure across the distribution chain.
  - Promotion of skill development and to improve labour productivity.
  - Providing an effective consultative and grievance redressal mechanism for the sector.

#### **WASSENAAR ARRANGEMENT TO BE CHAIRED BY INDIA**

- Recently, India assumed Chairmanship of **Wassenaar Arrangement (WA)** Plenary starting from January 1, 2023. India will hold the Chairmanship for one year.
- It is an **elite club of countries that subscribe to arms export controls, similar to the Nuclear Suppliers Group (NSG), Australia Group (AG) and the Missile Technology Control Regime (MTCR).**
- The **WA monitors transfers of conventional weapons and dual-use goods and technologies through regular exchanges of information among its members.**
- To promote "greater responsibility" among its members in exports of weapons and dual-use goods and to prevent "destabilizing accumulations."
- To promote transparency, Wassenaar calls on states to make a series of voluntary information exchanges and notifications on their export activities related to weapons and items appearing on the arrangement's two control lists.
- The Munitions List (Conventional Weapons)
- The Dual-Use Goods and Technologies List  
**(Dual-use:** It refers to the ability of a good or technology to be used for multiple purposes - usually peaceful and military)
- **India joined the Wassenaar Arrangement in 2017 as its 42nd participating state.**

#### **INDIA AND AUSTRIA'S AGREEMENT**

- India and Austria will sign a migration and mobility agreement.
- India will sign a **"Comprehensive Migration and Mobility Partnership Agreement" (MMPA)** with Austria. It has similar mobility agreements with France, the United Kingdom, Germany, and Finland.



- India has been keen to finalise these agreements with European countries as a stepping stone to resolving issues over the long-pending India-European Union (EU) Free Trade Agreement and facilitating Indian professionals working in these countries, the European countries also see them as a way to curb illegal immigration from India.
- This is a much-needed agreement, especially in view of the sharp increase in illegal migration. Austria was confronted with last year, including over 15,000 illegal migrants from India with practically no chance of asylum.
- The agreement is now a useful tool to combat illegal migration together, as it enables the swift return of illegal migrants.
- It will regulate multiple entry visas for professionals and student exchange programmes, and will be reviewed regularly by a Joint Working Group (JWG).

### CROATIA'S ENTRY INTO SCHENGEN ZONE

- Recently, Croatia adopted the **euro currency** and enter **Europe's passport-free Schengen zone** after nearly a decade after joining the European Union.  
**Schengen Zone**
- The border-free Schengen Area guarantees free movement to more than 400 million EU citizens, along with non-EU nationals living in the EU or visiting the EU as tourists, exchange students, or for business purposes (anyone legally present in the EU).
- Free movement of persons enables every EU citizen to travel, work and live in an EU country without special formalities. Schengen underpins this freedom by enabling citizens to move around the Schengen Area without being subject to border checks.
- Joining by Croatia: It will also be the **27th nation** in the passport-free Schengen zone.

### US GOVT'S EAGLE ACT

- The goal of the Act is to allow US employers to “focus on hiring immigrants based on merit, not their birthplace, by eliminating the “per country” limitation on employment-based immigrant visas (green cards).”
- To reduce the impact of this on less-populated countries and ensure that eligible immigrants from these countries are not excluded when the Act is implemented, the legislation plans to phase out the per-country caps over the course of nine years.
- As per a statement released by the Executive Office of the President, during the transition period, some visas would be put aside for physical therapists and nurses to cater to the demands in the healthcare sector, and “for employment-based immigrants and their family members who are not currently in the United States.”
- Another goal of the EAGLE Act 2022 is to improve the H-1B specialty occupation visa program. This would be done by bolstering the recruitment requirements, strengthening protections for US workers and boosting transparency, among others.
- H.R. 3648 also includes important provisions to allow individuals who have been waiting in the immigrant visa backlog for two years to file their green card applications. Although the applications could not be approved until a visa becomes available, this would allow employment-based immigrants to transition off of their temporary visas and provide them with additional flexibilities in changing employers or starting a business.

### A NEW CORONAVIRUS VARIANT ON THE BLOCK

- India's first case of the **XBB.1.5 subvariant of Omicron** was confirmed in Gujarat by the national genome sequencing consortium.
- XBB.1.5 has been driving COVID-19 cases in the U.S. Studies of the strain indicate that it is **highly transmissible and evades pre-existing immunity**. Yet it doesn't seem to cause severe disease.



	<ul style="list-style-type: none"><li>• The global prevalence of XBB.1.5 isn't clear yet, although its parent strain has been detected in at least 35 countries.</li><li>• XBB.1.5 is a recombinant, which means its genome is the product of the genomes of two different strains spliced together. This can happen when two strains infect a person at the same time; a recombinant variant is produced as they replicate together. Recombinant strains also arise when existing recombinant strains mutate.</li></ul>
50	<p style="text-align: center;"><b><u>GNB1 ENCEPHALOPATHY' DISEASE</u></b></p> <ul style="list-style-type: none"><li>• Researchers at the Indian Institute of Technology (IIT), Madras, Tel Aviv University and Columbia University are studying a rare genetic brain disease called "<b>GNB1 Encephalopathy</b>" and trying to develop a drug to treat it effectively.</li><li>• GNB1 Encephalopathy is a kind of brain disease or neurological disorder which affects individuals in the foetus stage.</li><li>• A single nucleotide mutation in the GNB1 gene that makes one of the G-proteins, the "<b>Gβ1 protein</b>," causes this disease. This mutation affects the patient since they are a foetus.</li><li>• Early symptoms of the disease are delayed physical and mental development, intellectual disabilities, frequent epileptic seizures.</li><li>• Less than 100 cases of GNB1 Encephalopathy have been recorded worldwide. However, the actual number of affected children is probably higher since diagnosis for this genetic disorder is not widely available due to the requirement of sophisticated and expensive procedures.</li></ul>
51	<p style="text-align: center;"><b><u>SCHEME FOR ECONOMIC EMPOWERMENT OF DNTS (SEED) SCHEME</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>Parliamentary panel on Social Justice and Empowerment</b> has pulled up the Union government over the "very slow" process to categorise over 260 denotified, nomadic and semi-nomadic tribes under either the SC/ST/OBC lists.</li><li>• To provide free competitive exam coaching to students, health insurance and financial assistance for housing and uplift clusters of these communities through livelihood initiatives.</li><li>• The Scheme will be implemented through a portal, developed by the Department of Social Justice &amp; Empowerment.</li><li>• The funds will be transferred directly to the beneficiaries in their account.</li><li>• The other implementing agencies are the Ministry of Rural Development, National Rural Livelihood Mission (NRLM) and National Health Authority (NHA).</li></ul> <p><b><u>Four components:</u></b></p> <ul style="list-style-type: none"><li>• To provide coaching of good quality for DNT candidates to enable them to appear in competitive examinations.</li><li>• To provide Health Insurance to them.</li><li>• To facilitate livelihood initiative at community level; and</li><li>• To provide financial assistance for construction of houses for members of these communities.</li></ul>
52	<p style="text-align: center;"><b><u>GLOBAL ANALYSIS AND ASSESSMENT OF SANITATION AND DRINKING-WATER (GLAAS) REPORT</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) report was released by the <b>World Health Organization (WHO) and UN-Water</b>.</li><li>• Published by the World Health Organisation and UN Water on Water, Sanitation, Hygiene (WaSH).</li><li>• The report provides the most up-to-date information on WASH systems in more than 120 countries and 23 external support agencies (ESAs), making it the biggest data collection ever.</li><li>• It provides policy- and decision-makers at all levels with reliable, easily accessible, comprehensive data on WASH systems, including on governance, monitoring, human resources and finance.</li><li>• It monitors elements of WASH systems that are required to sustain and extend WASH services and systems to all, and especially to the most vulnerable population groups.</li></ul>



	<p><b><u>The WASH vision and mission</u></b></p> <ul style="list-style-type: none"><li>• The attainment by all peoples of the lowest possible burden of water and sanitation-related disease through primary prevention, as guided by the 2018-2025 WASH Strategy.</li><li>• Providing leadership in Water, Sanitation, and Hygiene related issues (by making authoritative statements, influencing policy and coordinating networks of partners and collaborating centres).</li><li>• Normative work (mainly on water quality, but also on monitoring approaches and interventions, usually resulting in guidelines and best practice texts).</li><li>• Providing evidence (through various monitoring activities, but also through commissioned research).</li><li>• Supporting Member States (through technical cooperation and capacity building).</li><li>• Responding to emergencies (the role in the Health Cluster - WASH in healthcare - and in the WASH cluster - restoring safe water supplies and adequate sanitation).</li><li>• Knowledge management (through analysis, synthesis and dissemination of reliable and credible information).</li></ul>
53	<p style="text-align: center;"><b>ALDERMEN</b></p> <ul style="list-style-type: none"><li>• Recently, the Supreme Court said that the <b>Constitution does not allow nominated members (aldermen)</b> of a municipality the right to vote in meetings.</li><li>• Alderman refers to a member of a city council or municipal body, with exact responsibilities depending on the location of its usage. It is derived from Old English.</li><li>• It originally referred to elders of a clan or tribe, though soon it became a term for king's viceroys, regardless of age. Soon, it denoted a more specific title – "chief magistrate of a county," having both civic and military duties.</li><li>• As time passed, it became particularly associated with guilds with chiefs/leaders being referred to as <b>aldormonn</b>.</li><li>• In the 12th century CE, as guilds became increasingly associated with municipal governments, the term came to be used for officers of municipal bodies. This is the sense in which it is used till date.</li></ul>
54	<p style="text-align: center;"><b>PM-KUSUM SCHEME</b></p> <ul style="list-style-type: none"><li>• The deadline for the <b>Pradhan Mantri Kisan Urja Suraksha Evam Uttham Mahabhiyan (PM-KUSUM) scheme</b> to install 30,000 MW solar power capacity in rural India by 2022, has now been pushed to 2026 due to Covid- 19.</li><li>• It is a scheme by the <b>Ministry of New and Renewable Energy</b> launched in 2019.</li><li>• It is aimed at <b>ensuring energy security for farmers in India</b>, along with India's commitment to increase the share of installed capacity of electric power from non-fossil-fuel sources to 40% by 2030 as part of <b>Intended Nationally Determined Contributions (INDCs)</b>.</li></ul>
55	<p style="text-align: center;"><b>INDIAN RAILWAY'S BHARAT GAURAV TRAIN</b></p> <ul style="list-style-type: none"><li>• Indian Railways to introduce Bharat Gaurav Deluxe AC Tourist Train under '<b>Ek Bharat Shreshtha Bharat</b>' Scheme for special tour Garvi Gujarat.</li><li>• Bharat Gaurav Tourist Train launch is in line with the Government of India initiative "<b>Dekho Apna Desh</b>" to promote domestic tourism.</li></ul> <p><b><u>Ek Bharat Shreshtha Bharat Scheme</u></b></p> <ul style="list-style-type: none"><li>• It was launched by the PM on <u>Rashtriya Ekta Diwas</u> held on 31st October, 2015, to commemorate the birth anniversary of <u>Sardar Vallabhbhai Patel</u>.</li><li>• It aims to enhance interaction &amp; promote mutual understanding between people of different states/UTs through the concept of state/UT pairing.</li></ul>



- Every State and UT in the country would be paired with another State/UT for a time period, during which they would carry out a structured engagement with one another in the spheres of language, literature, cuisine, festivals, cultural events, tourism etc.
- The **Ministry of Education** has been designated as the Nodal Ministry for coordination of the programmes.  
**Dekho Apna Desh Initiative**
- It was launched by the **Ministry of Tourism** in 2020.
- To create awareness among the citizens about the rich heritage and culture of the country and encourage citizens to travel within the country.
- This scheme primarily targets the middle-class citizens of the country, encouraging them to travel within India rather than abroad.
- The scheme's goal is to increase domestic travel and to strengthen the Indian economy. It is anticipated to expand employment prospects in the tourism industry and provide the economy of the nation a much-needed boost.
- To create mass awareness, the Ministry has also launched an online Dekho Apna Desh pledge and Quiz on the MyGov.in platform.

### **MANGROVES GOT A BUDGET PUSH**

- Recently, the Union Budget for 2023-24 announced an initiative for mangrove plantation **along the coastline and on salt pan lands, under MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes)**.
- Mangroves are **salt-tolerant plant communities found in tropical and subtropical intertidal regions**. They are **important refuges of coastal biodiversity and also act as bio-shields against extreme climatic events**.
- With the threat of climate change and frequent tropical storms looming large, planting more mangroves is a welcome development for India which has a coastline of about 7,500 km.
- The **'State of World Mangroves 2022' report by the Global Mangrove Alliance** puts the total mangrove cover of the world at 1,47,000 sq km (14.7 million hectares).
- India has about 4,992 sq km (0.49 million hectares) of mangroves, according to the **Indian State of Forest Report (ISFR) 2021**.
- The Budget states that **MISHTI will be implemented through convergence between the MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme), CAMPA (Compensatory Afforestation Fund Management and Planning Authority) Fund and other sources**.

### **PRADHAN MANTRI PVTG LAUNCHED IN MISSION MODE**

- Recently, the Finance Minister announced the launch of a new scheme called the **Pradhan Mantri PVTG (Particularly Vulnerable Tribal Groups) Development Mission as part of the Union Budget 2023-24**.
- A fund of Rs **15,000 crore** for the next three years has been allocated for the socio-economic development of the group.
- It will be launched as part of **'Reaching the Last Mile'**, one of the seven Saptarishi priorities enlisted in this year's Budget.
- The PVTGs Mission aims to **provide basic facilities like housing, water, road, telecom, education and health in PVTG areas across the country**. The scheme **follows the strategic approach of Vanbandhu Kalyan Yojana**, which is need-based and strives to optimise utilisation of resources available under various programs and aims at specific outcomes.



	<ul style="list-style-type: none"><li>• Among the ministries that are expected to be roped in to implement the PM-PVTG Mission are <b>the Rural Development Ministry, the Water Resources Ministry, the Education Ministry, the Health Ministry and the Women and Child Development Ministry.</b></li><li>• The Particularly Vulnerable Tribal Groups (PVTGs) are those that <b>depend on hunting for food, have pre-agriculture level technologies, zero or negative population growth, and extremely low levels of literacy and are in need of greater support and development.</b></li></ul>
58	<p style="text-align: center;"><b><u>THE TERM 'PUISNE JUDGE'</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Chief Justice of India (CJI) has reiterated that collegium takes into "<b>consideration the seniority of Chief Justices and senior puisne judges while deciding on recommending judges.</b></li><li>• Puisne is a French word meaning "<b>later born</b>" or "<b>younger.</b>" The term is almost always used in the context of judges and denotes seniority of rank. A puisne judge is a judge who is ranked lower in seniority than the Chief Justice of that court. The term is used in common law countries like India and the UK.</li><li>• In India, all judges have the same judicial powers, but the Chief Justice is the senior-most judge and has an additional administrative role.</li><li>• The reference to a puisne judge in India is <b>only used while considering the order of seniority for appointments and elevations to High Courts, but it does not affect a judge's judicial power.</b></li></ul>
59	<p style="text-align: center;"><b><u>LABORATORY-GROWN DIAMONDS</u></b></p> <ul style="list-style-type: none"><li>• As the name suggests, LGD are <b>manufactured in laboratories, as opposed to naturally-occurring diamonds.</b> However, the <b>chemical composition and other physical and optical properties of the two are the same.</b></li><li>• Naturally-occurring diamonds take millions of years to form; they are created when carbon deposits buried within the earth are exposed to extreme heat and pressure. On the other hand, <b>LGDs are mostly manufactured through two processes – high pressure, high temperature (HPHT) method or Chemical Vapour Deposition (CVD) method.</b></li><li>• The 2023 Union Budget promises to reduce the basic customs duty on seeds used in the manufacture of lab-grown diamonds in a bid to popularise their production in India— <b>the duty on seeds for rough LGDs will be reduced from 5% to nil.</b> The change will come into effect starting February 2, 2023.</li></ul>
<b><u>FOR THE MONTH OF APRIL</u></b>	
1	<p style="text-align: center;"><b><u>PRISON REFORMS</u></b></p> <ul style="list-style-type: none"><li>• Recently during the annual police meet in New Delhi, Prime Minister have suggested for <b>prison reforms.</b> <b><u>Recommendations of Law Commission of India in its 268th report:</u></b></li><li>• The Commission recommended that those detained for offences that come with a punishment of up to seven years of imprisonment should be released on completing one-third of that period and for those charged with offences that attract a longer jail term after they complete half of that period.</li><li>• It also recommended that the police should avoid needless arrests, while magistrates should refrain from mechanical remand orders. <b><u>Justice Amitava Roy Committee Recommendations:</u></b></li><li>• In 2018, the Supreme Court constituted a <b>three-member committee</b>, to be headed by former <b>apex court judge Amitava Roy</b>, to look into the aspect of jail reforms across the country and make recommendations on several aspects, including overcrowding in prisons. It recommended:</li><li>• <b>Special fast-track courts</b> should be set up to deal exclusively with petty offences which have been pending for more than five years.</li></ul>



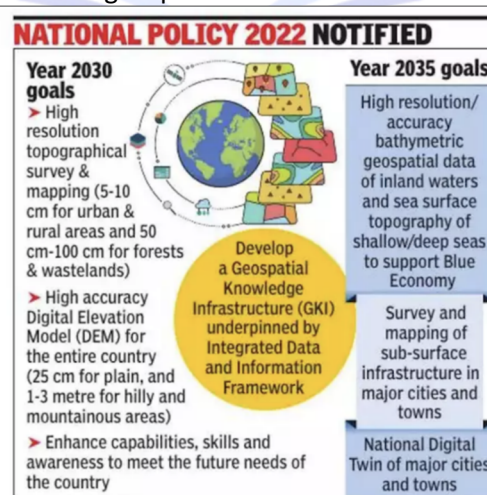
	<ul style="list-style-type: none"><li>• Further, accused persons who are charged with petty offences and that granted bail, but who are unable to arrange surety should be released on a <b>Personal Recognizance (PR) Bond</b>.</li><li>• Launching a <b>National Mission for Justice Delivery and Legal Reforms</b>.</li></ul>
2	<p style="text-align: center;"><b><u>THE KEN-BETWA RIVER LINK PROJECT</u></b></p> <ul style="list-style-type: none"><li>• The link will be in the form of a canal that will be fed by the <u>new Daudhan Dam on the Ken</u>, to be built within <b>Panna Tiger Reserve</b>. The national government has said that the <b>dam will generate 103 MW of hydroelectric power</b>. The linking canal will flow through Chhatarpur, Tikamgarh and Jhansi districts, with the project expected to <b>irrigate 6.3 lakh hectares of land every year</b>.</li><li>• Hydrological and ecological experts aren't convinced, however, mainly because the government's plan is based on a <b>'surplus and deficit' model</b> that they have said has little basis in science. They are also concerned that the project will <b>endanger the water security of Panna</b>. There are also significant <b>legal problems</b> with the approval granted to the KBLP.</li></ul>
3	<p style="text-align: center;"><b><u>ANNUAL STATUS OF EDUCATION REPORT (ASER) 2022</u></b></p> <ul style="list-style-type: none"><li>• ASER, a <b>nationwide citizen-led household survey</b> that provides a snapshot of children's schooling and learning in rural India has been released.</li><li>• The <b>first ASER was conducted in 2005 and repeated annually for ten years</b>.</li><li>• ASER is a <b>rural survey, and urban areas are not covered in it</b>. ASER 2022 reached almost 700,000 children in over 19,000 villages across 616 districts in India, and generated district, state, and national level estimates of children's enrolment status and foundational skills.</li><li>• Unlike most other large-scale learning assessments, ASER is a <b>household-based rather than school-based survey</b>. This design enables all children to be included – those who have never been to school or have dropped out, as well as those who are in government schools, private schools, religious schools, or anywhere else.</li><li>• Information on schooling status is collected for all children in the age group 3-16 living in sampled households.</li><li>• Children in the age group 5-16 are tested in basic reading and basic arithmetic.</li><li>• ASER tools and procedures are designed by <b>ASER Centre, the research and assessment arm of Pratham</b>, which is one of the largest non-governmental organizations in the country created to improve the quality of education in India.</li><li>• ASER has had a major influence in bringing the issue of learning to the centre of the stage in discussions and debates on education in India. ASER data has been used in many reports such as NITI Aayog's 3-Year Action Agenda for 2017-18 to 2019-20, Economic Survey of India 2021-22, and World Bank's World Development Report 2018.</li></ul>
4	<p style="text-align: center;"><b><u>HUMAN RIGHTS WATCH'S WORLD REPORT 2023</u></b></p> <ul style="list-style-type: none"><li>• # Recently, the <b>33rd edition of Human Rights Watch's World Report</b> was released. This edition reviews human rights practices in close to 100 countries.</li><li>• # Human Rights Watch (HRW) is an international non-governmental organization. The group pressures governments, policymakers, companies, and individual human rights abusers to denounce abuse and respect human rights, and often works on behalf of refugees, children, migrants, and political prisoners. It is headquartered in New York City that conducts research and advocacy on human rights.</li><li>• # Pursuant to the <b>Universal Declaration of Human Rights (UDHR)</b>, Human Rights Watch opposes violations of what the UDHR considers basic human rights. This includes capital punishment and discrimination on the basis of sexual orientation.</li></ul>





5

- **DIGITAL INDIA LAND RECORDS MODERNISATION PROGRAMME (DILRMP)**
- Recently, the Union government has informed the Supreme Court that significant progress has been made in the computerisation of land ownership records, as cadastral maps of 35% of over six lakh villages have so far been geotagged.
- It is a **Central Sector scheme** that has been extended to 2023-24, to complete its original targets as well as expand its ambit with a slew of new schemes.
- **In 2008, two schemes viz, Computerisation of Land Records (CLR) and Strengthening of Revenue Administration and Updating of Land Records (SRA&ULR) were merged into a modified scheme named DILRMP.**
- It is implemented by the Department of Land Resources under the Ministry of Rural Development.
- The DILRMP has 3 major components - (a) Computerization of land record (b) Survey/re-survey (c) Computerization of Registration.
- **THE NATIONAL GEOSPATIAL POLICY 2022**
- **The new Geospatial Policy will replace the National Map Policy, 2005. It aims to strengthen the location-centric industry to support the information economy.**
- It uses guidelines for acquiring and producing geospatial data and related services including maps, issued by the **Department of Science and Technology (DST)** in February 2021, as its foundation. **The DST guidelines deregulated the geospatial sector and liberalised the acquisition, production, and access of data in the field.**
- Building on it, the 2022 policy lays down a framework for the development of a geospatial ecosystem, including goals and strategies to achieve it.
- **Geospatial data are descriptions of events or occurrences with a location on or near the surface of the earth. This location can be static – relating to earthquakes, vegetation, etc., or dynamic – a person walking on the road, a package being tracked, etc.** The location data obtained is usually combined with other characteristic attributes or recorded parameters to provide meaningful insights in the form of geospatial data.



6

### **ASPIRATIONAL BLOCK PROGRAMME (ABP)**

- Recently, the Prime Minister launched the government's **Aspirational Block Programme (ABP)**.
- The Programme aimed at **improving performance of blocks lagging on various development parameters**. It was announced in the Union Budget 2022-23.



- It will initially cover 500 districts across 31 states and Union Territories, with over half of these blocks located in six states – Uttar Pradesh, Bihar, Madhya Pradesh, Jharkhand, Odisha and West Bengal.

**The ABP is based on the Aspirational District Programme (ADP).**

**Aspirational District Programme (ADP)**

- The Aspirational Districts Programme (ADP) was launched in 2018 which aims to quickly and effectively transform 112 most under-developed districts across the country.
- The **broad contours of the programme are Convergence (of Central & State Schemes), Collaboration (of Central, State level Nodal Officers & District Collectors), and Competition among districts through monthly delta ranking; all driven by a mass movement.**
- With States as the main drivers, this program focuses on the strength of each district, identifying low-hanging fruits for immediate improvement and measuring progress by ranking districts on a monthly basis.
- The ranking is based on the incremental progress made across 49 Key Performance Indicators (KPIs) under 5 broad socio-economic themes - Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development and Infrastructure.
- The Government is committed to raising the living standards of its citizens and ensuring inclusive growth for all – **“Sabka Saath Sabka Vikas aur Sabka Vishwas”**.

**PROJECT SAMBANDH**

- It is an initiative of Retired army officer and Shaurya Chakra awardee **Colonel Vembu Shankar**.
- It is a one-man philanthropic initiative to connect the **Next of Kin (NoK)** of ‘physical casualties’ in the Army - was made in 2017.
- It was initially started as a 1,000-day endeavour to reach out to families of army officers who lost their lives under ‘non-operational circumstances’ such as physical ailments, accidents, and suicides.
- Project Sambandh has identified that the NoKs, particularly young widows and children of the army personnel, face three kinds of challenges - financial, emotional, and social.
- The main intent of the project was to bring awareness about the challenges the NoK of the physical casualties faced and assist them in connecting them to the Directorate of Indian Army Veterans, which provided several educational and social schemes to children and the widows of slain army personnel.

**SPY BALLOON**

- Recently, a high-altitude balloon originating in China entered the United States airspace, causing diplomatic tensions. The balloon was successfully shot down by the U.S. Air Force.
- Spy Balloons were already being used for military purposes. During the French Revolutionary Wars in the late 18th century, balloons were used to provide a bird’s eye view of the battlefield, with there being documented evidence of their use in the Battle of Fleurus in 1794.
- Before aircraft technology really took off during the Great War, balloons were the primary mode of big-picture reconnaissance, providing perspective on enemy positions and movements simply impossible to obtain from the ground.
- Unlike satellites that watch from higher altitudes, spy balloons can watch from lower altitudes.
- After World War II, the US military started exploring the use of high-altitude spy balloons, which led to a large-scale series of missions called **Project Genet**.



9	<p style="text-align: center;"><b><u>NEW START TREATY</u></b></p> <ul style="list-style-type: none"><li>• # The New START treaty is formally known as the <b>Measures for the Further Reduction and Limitation of Strategic Offensive Arms</b>. It is the last remaining arms control treaty between the <b>world's two main nuclear powers, US and Russia</b>.</li><li>• # It is one of the key controls on the superpower deployment of nuclear weapons. It was signed by Barack Obama in 2010 and extended by Joe Biden till 2026. It took effect in February 2011.</li><li>• # The treaty will remain in force till 4 February, 2026.</li><li>• # It restricts both countries to a <b>maximum of 1,550 deployed strategic nuclear warheads each and limits launchers and heavy bombers to 800</b>.</li><li>• # It also outlines mutual inspections and regular data exchanges on warheads and delivery mechanisms.</li><li>• # It includes an agreement to notify each other about the status of some ballistic missiles.</li></ul>
10	<p style="text-align: center;"><b><u>KALASHNIKOV AK-203 ASSAULT RIFLES</u></b></p> <ul style="list-style-type: none"><li>• Recently, an <b>Indo-Russian joint venture</b> has started manufacturing Kalashnikov AK-203 assault rifles in India.</li><li>• India is the first country to start producing the AK-200-series assault rifles of the world-famous brand. Korwa Ordnance Factory in Amethi, Uttar Pradesh, has produced the first batch of 7.62 mm Kalashnikov AK-203 assault rifles.</li><li>• India and Russia had signed an <b>Inter-Governmental Agreement (IGA)</b> in February 2019 for production of AK 203 assault rifles. For this, a Joint venture was formed between Ordnance Factories Board (OFB) on the Indian side, and Rosonboron Exports and Concern Kalashnikov on the Russian side.</li></ul>
11	<p style="text-align: center;"><b><u>GLOBAL QUALITY INFRASTRUCTURE INDEX (GQII) 2021</u></b></p> <ul style="list-style-type: none"><li>• Recently, India's national accreditation system under the <b>Quality Council of India (QCI)</b> has been ranked 5th in the world in the recent Global Quality.</li><li>• The GQII ranks the 184 economies in the world on the basis of quality infrastructure (QI).</li><li>• The GQII is a database and ranking that allows interested persons to compare the quality infrastructure of different countries worldwide.</li><li>• The GQII program is an initiative of the independent consulting firms Mesopartner and Analyticalar to research and disseminate data on Quality Infrastructure.</li><li>• Quality Infrastructure means the international system of metrology, standardization, accreditation and quality-related services (testing, calibration, inspection, verification, training and awareness building).</li><li>• India's overall QI system ranking continues to be in the Top 10 at the 10th position, with the standardization system (under BIS) at 9th and the metrology system (under NPL-CSIR) at 21st position in the world.</li></ul>
12	<p style="text-align: center;"><b><u>PRIMARY AGRICULTURAL CREDIT SOCIETIES (PACS)</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Budget has announced <b>Rs 2,516 crore for computerisation of 63,000 Primary Agricultural Credit Societies (PACS) over the next five years</b>.</li><li>• The step aims to <b>bring greater transparency and accountability</b> in the operations of PACS. Also, it enables PACS to diversify their business and undertake more activities.</li><li>• PACS are <b>village level cooperative credit societies</b> that serve as the last link in a three-tier cooperative credit structure headed by the <b>State Cooperative Banks (SCB)</b> at the state level.</li></ul>



13	<p style="text-align: center;"><b>REVERSE-FLIPPING</b></p> <ul style="list-style-type: none"><li>• Recently, the <b>Economic Survey 2022-23</b> stated that Indian start-up companies are looking at '<b>reverse flipping</b>'.</li><li>• Flipping is the process of <b>transferring entire ownership of an Indian company to an overseas entity</b>. It is generally accompanied by a transfer of all intellectual property and data owned by an Indian company.</li><li>• Reverse Flipping is the <b>process of shifting the domicile of those companies back to India who flipped earlier</b>.</li><li>• Companies reverse flip <b>because of easy access to capital from private equity and venture capital, changes in rules regarding round-tripping, and the growing maturity of India's capital market</b>.</li></ul>
14	<p style="text-align: center;"><b>THE HINDENBURG RESEARCH</b></p> <ul style="list-style-type: none"><li>• U.S.-based short seller <b>Hindenburg Research</b> has hit back at <b>Gujarat-based Adani Group</b> and accused the conglomerate of "<b>holding back India's future</b>". Stocks of Adani Group tumbled recently, after Hindenburg Research published a <u>report</u> titled <b>Adani Group: How The World's 3rd Richest Man Is Pulling The Largest Con In Corporate History</b>, following a two-year investigation, and raised concerns about its "<u>substantial debt</u>". The financial researcher and short seller also accused the conglomerate of stock manipulation and fraud over decades.</li><li>• <b>Hindenburg Research was founded in 2017 by Nate Anderson</b>, a chartered financial analyst and a chartered alternative investment analyst. It describes itself as a forensic financial research company and "<b>activist short seller</b>". It focuses on analysing accounting irregularities, undisclosed transactions, illegal/unethical business or financial reporting practices among other issues.</li><li>• In the past, Hindenburg Research has published reports about irregularities in companies like entertainment company Genius Brands, and electric vehicle manufacturers Nikola Corp. and Mullen Automotive. It also made a bet on a decline in Twitter's share price in 2022 when Elon Musk first offered to buy the company.</li></ul>
15	<p style="text-align: center;"><b>T+1 SETTLEMENT PLAN</b></p> <ul style="list-style-type: none"><li>• It means that trade-related settlements must be done within a day, or 24 hours, of the completion of a transaction. For example, under T+1, if a customer bought shares on Tuesday, they would be credited to the customer's demat account on Wednesday.</li><li>• As many as 256 large-cap and top mid-cap stocks, including Nifty and Sensex stocks, will come under the T+1 settlement.</li><li>• <b>After China, India will become the second country in the world to start the 'trade-plus-one' (T+1) settlement cycle in top listed securities.</b></li></ul>
16	<p style="text-align: center;"><b>WORLD ECONOMIC FORUM'S ANNUAL MEETING, 2023</b></p> <ul style="list-style-type: none"><li>• Recently, the <u>World Economic Forum's (WEF) Annual Meeting 2023</u> was held in Davos, Switzerland.</li><li>• As per the <b>Centre for Economics and Business Research (CEBR)</b>, India will become the third \$10 trillion economy by 2035.</li><li>• Global leaders hailed India's digital and physical infrastructure prowess and its ability to attract global investments with its policies like <b>Product-Linked Incentives (PLI)</b>. But they also highlighted the need for reforms in land and labour markets.</li><li>• The forum and the <b>Maharashtra Institution for Transformation (MITRA)</b> signed a partnership to work together on the urban transformation agenda.</li><li>• The forum also <b>launched its first thematic centre on healthcare and life sciences in Telangana</b>.</li><li>• Telangana also signed an agreement with Allox Advance Materials Pvt Ltd for setting up a <b>C-LFP (Lithium Iron Phosphate) active battery material production unit</b>.</li></ul>

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17	<p style="text-align: center;"><b><u>PASHU SAKHI PROJECT</u></b></p> <ul style="list-style-type: none"><li>• Pashu Sakhi is a <b>Community Animal care Service Provider (CASP)</b> which will enable the last mile coverage in rural areas where clinical services for livestock are not available on time or are expensive to afford for the rural poor.</li><li>• The project was conceived under the <b>National Rural Livelihood Mission</b>, with the objective of building a line of community resource persons. The World Bank funds it.</li><li>• The pashu Sakhi model under JOHAR had been selected by the UN's Food and Agriculture Organization and the International Food Policy Research Institute as one of the top eight global best practice models for farmer service delivery.</li><li>• Sakhi project that trains village women in basic livestock care, has changed the way that women are seen as well as how domestic animals are reared. They advise farmers about health check-ups for their livestock, vaccinations, de-worming, hygiene, breeding, feeding, and the management of animal waste.</li></ul>
18	<p style="text-align: center;"><b><u>PURCHASING MANAGER'S INDEX</u></b></p> <ul style="list-style-type: none"><li>• The PMI data is released at the beginning of every month. PMI or a Purchasing Managers' Index (PMI) is an <b>indicator of business activity-- both in the manufacturing and services sectors</b>.</li><li>• PMI is a number from 0 to 100. PMI above 50 represents an expansion, under 50 represents a contraction, and reading at 50 indicates no change.</li><li>• The PMI is usually released at the start of the month, much before most of the official data on industrial output, manufacturing and GDP growth becomes available. It is, therefore, considered a good leading indicator of economic activity.</li></ul>
19	<p style="text-align: center;"><b><u>GLOBAL CLIMATE RESILIENCE FUND FOR WOMEN</u></b></p> <ul style="list-style-type: none"><li>• The Clinton Global Initiative (CGI) along with the SEWA, and other organisations announced a \$ 50 million <b>Global Climate Resilience Fund for women</b>.</li><li>• The fund will empower women and communities to fight climate change and help provide new livelihood resources and education.</li><li>• It aims to provide solutions to the problems of women working under the sun, especially for workers in the informal sector like construction, waste recycling, plastic, farming, etc.</li></ul>
20	<p style="text-align: center;"><b><u>NOBEL'S HELEN BUTTERFLY</u></b></p> <ul style="list-style-type: none"><li>• Myanmar, China to India: A swallowtail butterfly disappearing from its previously known ranges from Myanmar and southern China to Vietnam has been recorded for the first time in India. It is found from three locations in the <b>Namdapha National Park of Arunachal Pradesh</b> between September 2019 and September 2021.</li><li>• It is an extremely rare Noble's Helen (<i>Papilio noblei</i>) butterfly.</li><li>• It is closest to the <i>Papilio antonio</i> from the Philippines and characterised by a much larger dorsal white spot, was once common in the montane forest at moderate elevations in northern Thailand.</li></ul>
21	<p style="text-align: center;"><b><u>ASIAN WATERBIRD CENSUS (AWC) 2023</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>Asian Waterbird Census (AWC) 2023</b> was conducted.</li><li>• The census was initiated in 1987 in the Indian subcontinent, and has grown rapidly to cover 26 countries of South Asia, East Asia, South East Asia, Pacific, as well as Russia Far East.</li><li>• It is a citizen-science event that is a part of the <b>global International Waterbird Census (IWC)</b> coordinated by Wetlands International.</li><li>• The AWC is jointly coordinated by the <b>Bombay Natural History Society and Wetlands International</b>. It runs parallel to other international censuses of waterbirds in Africa, Europe and Neotropics.</li></ul>



22	<p style="text-align: center;"><b><u>INDIA'S SEISMIC ZONE MAPS</u></b></p> <ul style="list-style-type: none"><li>• A seismic zone is an area where there is a <b>high probability of earthquakes due to the area's geology.</b></li><li>• <b>Seismic zonation</b>, which involves dividing areas based on expected ground motion, assesses the hazards related to earthquakes in such areas to provide inputs for safer constructions and other practices.</li><li>• A published in the <b>Journal of the International Society for the Prevention and Mitigation of Natural Hazards</b> said that <b>almost 65% of India falls in high to very high seismic zones.</b></li><li>• According to the 2002 version of India's seismic zone map, earthquake-prone regions in the country are divided into four zones – zone II, III, IV, and V – based on intensity levels during past earthquakes. However, this is not the version of the map that has always been in use.</li></ul>
23	<p style="text-align: center;"><b><u>ETALIN HYDROELECTRIC PROJECT OF ARUNACHAL PRADESH</u></b></p> <ul style="list-style-type: none"><li>• The project was being executed through the Etalin Hydro Electric Power Company Limited, a JV company of Jindal Power Limited and Hydro Power Development Corporation of Arunachal Pradesh Limited (A Govt of Arunachal Pradesh Undertaking).</li><li>• The installed capacity of the project is 3097 MW as per the detailed project report.</li><li>• It is envisaged as a <b>run-of-the-river scheme on rivers Dri and Tangon in the Dibang Valley District of Arunachal Pradesh.</b></li></ul>
24	<p style="text-align: center;"><b><u>SPOT BELLIED EAGLE OWL</u></b></p> <ul style="list-style-type: none"><li>• A wildlife team has recently spotted the '<b>Spot Bellied Eagle Owl</b>' (<b>Bubo Nipalensis</b>) for the first time in the Seshachalam forest, and for the third time in Andhra Pradesh.</li><li>• It is overall a stark, grayish-brown bird, with dark, coarse brown coloration over the back and upper wings. It is a large bird of prey and is also known as the <b>forest eagle-owl.</b></li><li>• The bird makes a strange scream similar to humans and it is hence called the '<b>Ghost of the Forest in India and 'Devil Bird'.</b></li></ul>
25	<p style="text-align: center;"><b><u>SAIME INITIATIVE</u></b></p> <ul style="list-style-type: none"><li>• <b>SAIME</b> is a community-based pilot project in West Bengal under which farmers are planting mangrove trees around shrimp ponds.</li><li>• The initiative started in 2019 has established a collaborative ecosystem integrating several key stakeholders from government departments, academia, and research institutes for co-creation and comprehensive advancement of this project.</li><li>• It is conceived by <b>NEWS and Global Nature Fund (GNF), Naturland Bangladesh Environment and Development Society (BEDS).</b></li></ul>
26	<p style="text-align: center;"><b><u>ALL INDIA SURVEY ON HIGHER EDUCATION (AISHE) 2020-21</u></b></p> <ul style="list-style-type: none"><li>• The Ministry of Education, Government of India has released the All-India Survey on Higher Education (AISHE) 2020-2021.</li><li>• The Ministry has been conducting the All-India Survey on Higher Education (AISHE) since 2011, covering all higher educational institutions located in Indian Territory and imparting higher education in the country.</li></ul> <p><b><u>Major Highlights of data</u></b></p> <ul style="list-style-type: none"><li>• The total enrolment in higher education has increased to nearly 4.14 crore in 2020-21 from 3.85 crores in 2019-20. <b>Since 2014-15, there has been an increase of around 72 Lakh in enrolment (21%).</b></li><li>• The Female enrolment has increased to 2.01 crore from 1.88 crores in 2019-20. There has been an increase of around 44 Lakh (28%) since 2014-15.</li></ul>



	<ul style="list-style-type: none"><li>• The percentage of female enrolment to total enrolment has increased from 45% in 2014-15 to around 49% in 2020-21.</li><li>• The number of women for every 100 men enrolled across different Bachelor's programmes dropped in the academic year 2020-21.</li></ul>
27	<p style="text-align: center;"><b><u>NEGLECTED TROPICAL DISEASES (NTD)</u></b></p> <ul style="list-style-type: none"><li>• Recently, the “<b>Global report on neglected tropical diseases 2023</b>” was published on World NTD Day- January 30th by WHO.</li><li>• According to the report, <b>Neglected Tropical Diseases (NTD)</b> continue to disproportionately impact the most impoverished members of the international community, living in areas with inadequate water safety, sanitation and access to health care. Some 16 countries accounted for 80 percent of the global NTD burden.</li><li>• Globally, nearly 1.65 billion people were estimated to require treatment for at least one NTD.</li><li>• India has the <b>world's largest absolute burden of at least 10 major NTDs</b>, including hookworm, dengue, lymphatic filariasis, leprosy, visceral leishmaniasis or kala-azar and rabies.</li></ul>
28	<p style="text-align: center;"><b><u>INDIA'S PLAN TO ERADICATE MEASLES, RUBELLA</u></b></p> <ul style="list-style-type: none"><li>• India had set a <b>target to eliminate measles and rubella (MR) by 2023</b>, having missed the earlier deadline of 2020, due to a variety of reasons, exacerbated by disruptions due to the pandemic. An earlier target that was set for 2015 was also missed.</li><li>• It was in 2019 that India adopted the goal of measles and rubella elimination by 2023, anticipating that the 2020 goal could not be reached.</li></ul>
29	<p style="text-align: center;"><b><u>HYBRID IMMUNITY</u></b></p> <ul style="list-style-type: none"><li>• A recent study in the journal the Lancet Infectious Diseases held that “<b>hybrid immunity</b>” provides better protection against severe Covid-19.</li><li>• Hybrid immunity is defined as the <b>immune protection</b> in individuals who have had one or more doses of a COVID-19 vaccine and experienced at least one SARS-CoV-2 infection before or after the initiation of vaccination.</li></ul>
30	<p style="text-align: center;"><b><u>KALA AZAR</u></b></p> <ul style="list-style-type: none"><li>• Kala-Azar or Visceral Leishmaniasis is a slow progressing indigenous condition that is caused by a protozoan parasite.</li><li>• Kala-azar is one of the most lethal and <b>neglected tropical diseases (NTDs)</b>.</li><li>• The parasite infects the reticuloendothelial system and may be found in abundance in bone marrow, spleen, and liver.</li><li>• Kala-azar is <b>the second deadliest parasitic killer in the world after Malaria</b>.</li><li>• About 90% of global cases of Kala-azar were reported from eight countries: Brazil, Eritrea, Ethiopia, <b>India</b>, Kenya, Somalia, South Sudan and Sudan in 2021.</li><li>• India: Contributing 11.5 pc of total cases reported globally.</li></ul>
31	<p style="text-align: center;"><b><u>VILLAGE DEFENCE COMMITTEES (VDCs)</u></b></p> <ul style="list-style-type: none"><li>• The VDCs were first formed in the erstwhile Doda district (now Kishtwar, Doda and Ramban districts) in mid 1990s as a force multiplier against militant attacks.</li><li>• The <b>VDCs have now been renamed as Village Defence Guards (VDGs)</b>. Like a VDC member, each <b>VDG will be provided a gun and 100 rounds of ammunition</b>.</li><li>• Both VDG and VDC is a group of civilians provided guns and ammunition to tackle militants in case of attack until the arrival of security forces.</li><li>• Under the new scheme, the persons leading the VDGs will be paid Rs 4,500 per month by the government, while others will get Rs 4,000 each.</li></ul>



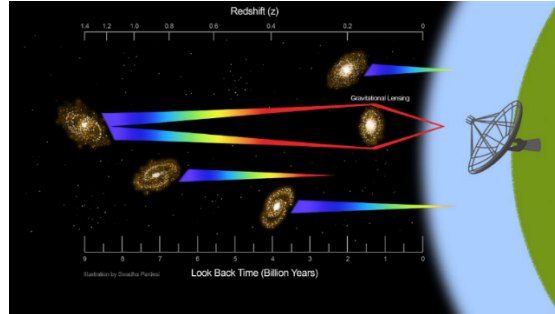


	<ul style="list-style-type: none"><li>In the VDCs, only the Special Police Officers (SPOs) leading them were provided a monthly remuneration. The SPOs, the lowest rank in the J&amp;K Police, used to be retired army, para military or police personnel.</li></ul>
32	<p style="text-align: center;"><b><u>MEMBERS OF THE KUKI-CHIN COMMUNITY</u></b></p> <ul style="list-style-type: none"><li>Kuki-Chin, the Christian community from Bangladesh's Chittagong hill tracts, share close ethnic ties with people in Mizoram. The first tranche of around 300 refugees came in November 2022.</li><li>The Mizoram government has approved the setting up of temporary shelters and other amenities for the community, following an action by the Bangladesh Rapid Action Battalion against some insurgents belonging to the group.</li><li>India is not a signatory to the United Nations Refugee Convention of 1951 and its 1967 Protocol and does not recognise refugees, and undocumented migrants are liable to be prosecuted for violating the Foreigners Act.</li><li>Other than the Kuki-Chin, there are over 40,000 refugees from Myanmar who have taken shelter in Mizoram since a military coup in the neighbouring country in February 2021.</li></ul>
33	<p style="text-align: center;"><b><u>QUICK REACTION SURFACE TO AIR MISSILE SYSTEM (QRSAM)</u></b></p> <ul style="list-style-type: none"><li>It is a Short-Range Surface to Air Missile system designed to protect moving armoured columns from aerial attacks.</li><li>The entire weapon system is configured on highly mobile platforms and is capable of providing air defence on the move.</li><li>It is being inducted into the Indian Army (IA).</li><li>The uniqueness of the QRSAM weapon system is that it can operate on the move with search and track capability &amp; fire on short halt. This has been proven during the mobility trials conducted earlier.</li></ul>
34	<p style="text-align: center;"><b><u>GAGANYAAN, THE HUMAN SPACEFLIGHT MISSION</u></b></p> <ul style="list-style-type: none"><li>The Gaganyaan project envisages <b>demonstration of human spaceflight capability by launching a crew of three members to an orbit of 400 km for a three-day mission and bringing them back safely to earth, by landing in Indian sea waters.</b></li><li>The first trial (uncrewed flight) for Gaganyaan is being planned by the end of 2023 or early 2024. This will be followed by sending <b>Vyom Mitra, a humanoid</b> and then with the crew onboard.</li><li>This manned mission will be the <b>first of ISRO's human spaceflight missions.</b> The US, Russia and China are the only three countries to have conducted human spaceflights yet.</li><li>It will be launched by <b>ISRO's Geosynchronous Satellite Launch Vehicle GSLV Mk III (3 stages heavy-lift vehicle).</b></li></ul>
35	<p style="text-align: center;"><b><u>CONCEPT OF IMMUNE IMPRINTING</u></b></p> <ul style="list-style-type: none"><li>The concept was first observed in 1947. It is a tendency of the body to repeat its immune response based on the first variant it encountered through infection or vaccination.</li><li>Imprinting acts as a database for the <u>immune system</u>, helping it put up a better response to repeat infections.</li></ul>
36	<p style="text-align: center;"><b><u>INS VAGIR</u></b></p> <ul style="list-style-type: none"><li>Recently, the Indian Navy commissioned the <b>fifth diesel-electric Kalvari-class submarine Vagir.</b></li><li>Also known as <b>Sand Shark</b>, the submarine was delivered to the Indian Navy in December 2022.</li><li>Vagir is a <b>Kalvari-class submarine, which includes six submarines developed under Project 75.</b></li><li>Four of these submarines have already been commissioned into the Navy viz. <b>INS Kalvari, INS Khanderi, INS Karanj and INS Vela.</b></li><li>The sixth, <b>INS Vagsheer</b>, will be commissioned next year.</li></ul>



- It is built by the **Mazagon Dock Shipbuilders Limited (MDL)** in collaboration with the **French M/s Naval Group**.

### **GIANT METREWAVE RADIO TELESCOPE (GMRT)**



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- It is an array of thirty fully steerable parabolic radio telescopes of 45 metre diameter.
- It functions at the meter wavelength part of the radio spectrum because man-made radio interference is considerably lower in this part of the spectrum in India and there are many outstanding astrophysics problems which are best studied at meter wavelengths.
- Its design is based on the **'SMART' concept - for Stretch Mesh Attached to Rope Trusses**.
- It is built and operated by **National Centre for Radio Astrophysics - Tata Institute of Fundamental Research, (NCRA-TIFR), Pune**

### **SHUKRAYAAN, THE VENUS MISSION**

38

- ISRO had originally hoped to launch Shukrayaan I in mid-2023 but cited the pandemic when it pushed the date to December 2024.
- Shukrayaan I will be an orbiter mission. Its scientific payloads currently include a high-resolution synthetic aperture radar and a ground-penetrating radar.
- The mission is expected to study Venus's geological and volcanic activity, emissions on the ground, wind speed, cloud cover, and other planetary characteristics from an elliptical orbit.

### **JUICE (JUPITER ICY MOONS EXPLORER) MISSION**

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- JUICE is the first large-class mission in the **ESA Cosmic Vision 2015-2025 programme**.
- The spacecraft will launch on an Ariane 5 in April 2023 on an eight-year journey including gravity assist flybys of Earth and Venus before arriving in the Jupiter system in 2031.
- It will spend at least three years making detailed observations of the giant gaseous planet Jupiter and three of its largest moons, **Ganymede, Callisto and Europa**.
- It will understand if the oceans of these icy moons could have ever been suitable habitats for life.

### **LOCAL BUBBLE**

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- The Local Bubble is a 1,000-light-year-wide cavity or a super bubble. Other super bubbles also exist in the Milky Way. Space is full of these super bubbles that trigger the formation of new stars and planets and influence the overall shapes of galaxies.
- The Local Bubble is thought to have originated from supernovae roughly 14 million years ago. **Supernova is a cosmic explosion occurring when stars meet their end**.
- It has been that this map is a starting point for expanding our understanding of the super bubbles throughout our galaxy. New research on a giant cosmic cavity that surrounds the solar system could reveal the universe's secrets, including questions about the origins of stars.



41	<p style="text-align: center;"><b><u>GENERATIVE ARTIFICIAL INTELLIGENCE (AI)</u></b></p> <ul style="list-style-type: none"><li>• It is a <b>cutting-edge technological advancement type of artificial intelligence that involves creating new, original content or data using machine learning algorithms.</b></li><li>• It can be <b>used to generate text, images, music, or other types of media.</b></li><li>• Generative AI works by training a model on a large dataset and then using that model to generate new, previously unseen content that is similar to the training data.</li><li>• This can be done through <b>techniques such as:</b></li><li>• <b>Neural machine translation</b></li><li>• <b>Image generation</b></li><li>• <b>Music generation</b></li></ul>
42	<p style="text-align: center;"><b><u>GRISHNESHWAR JYOTIRLINGA TEMPLE</u></b></p> <ul style="list-style-type: none"><li>• Grishneshwar Jyotirlinga Temple also known as <b>Ghushmeshwar Temple</b>, is one of the shrines dedicated to Lord Shiva that is referenced in the Shiva Purana.</li><li>• The temple houses carvings and sculptures of many Hindu gods and goddesses.</li><li>• It is an important pilgrimage site in the Shaiva tradition of Hinduism, which considers it as the <b>twelfth Jyotirlinga (linga of light).</b></li><li>• It is situated in the state of <b>Maharashtra</b>. This pilgrimage site is located in <b>Ellora (also called Verul)</b>, less than a kilometer from Ellora Caves – a UNESCO World Heritage Site.</li></ul>
<b><u>FOR THE MONTH OF MARCH</u></b>	
1	<p style="text-align: center;"><b><u>ASSAM'S CHARAIDEO MAIDAMS</u></b></p> <ul style="list-style-type: none"><li>• Assam's Charaideo Maidams are the Ahom equivalent of the ancient Egyptian pyramids.</li><li>• The maidams represent the <b>late medieval (13th-19th century CE)</b> mound burial tradition of the Tai Ahom community in Assam.</li><li>• The Charaideo Maidams enshrine the mortal remains of the members of the Ahom royalty, who used to be buried with their paraphernalia. Out of 386 Maidams or Moidams explored so far, 90 royal burials at Charaideo are the best preserved, representative of and the most complete examples of mound burial tradition of the Ahoms.</li><li>• After the 18th century, the Ahom rulers adopted the Hindu method of cremation and began entombing the cremated bones and ashes in a Maidam at Charaideo.</li></ul>
2	<p style="text-align: center;"><b><u>PARSHURAM KUND FESTIVAL</u></b></p> <ul style="list-style-type: none"><li>• Parshuram Kund is a Hindu pilgrimage centre situated at Telu Shati/Tailung area of the Mishmi plateau in the lower reaches of the Lohit River in Arunachal Pradesh. The hills district comprise Mishmi inhabited areas.</li><li>• It is a famous holy place of worship that is steeped in Hinduism and is much venerated by them.</li><li>• It falls within the Kamlang reserve forests and is surrounded by dense forests.</li><li>• The focal point of Makar Sankranti which falls on 14th and 15th of January is the Parshuram kund Mela which is celebrated in Telu Shati/Tailung area in Lohit District and which is a regular event since 1972.</li></ul>
3	<p style="text-align: center;"><b><u>ART OF OTTANTHULLAL</u></b></p> <ul style="list-style-type: none"><li>• Ottanthullal (or Thullal, in short) is a <b>recite-and-dance art form of Kerala that is famous for its humour and social satire.</b></li><li>• It is marked by its simplicity as opposed to more complex dance forms like Kathakali and Koodiyattam.</li><li>• It was <b>introduced in the 18th century by the famous Malayalam poet Kunchan Nambiar.</b></li></ul>



4	<p style="text-align: center;"><b><u>BIRTH ANNIVERSARY OF FATIMA SHEIKH</u></b></p> <ul style="list-style-type: none"><li>Recently, the <b>192nd birth anniversary of Fatima Sheikh</b> was observed.</li><li>She was a pioneering teacher, anti-caste activist, a proponent of girls' education, and a social reformer in 19th-century Maharashtra.</li><li><b>In 1848, Savitribai, Fatima and Jyotiba opened the first school for girls inside the premises of Fatima's home in Pune in spite of loud, threatening opposition.</b></li><li>In 2014, Sheikh's achievements were featured by the government in the form of a profile in Urdu textbooks, along with other exemplary and resolute educators of her time.</li></ul>
5	<p style="text-align: center;"><b><u>THE SCIENCE BEHIND THE POLAR VORTEX</u></b></p> <ul style="list-style-type: none"><li>The term "vortex" refers to the counter-clockwise flow of air that helps keep the colder air near the Poles. The polar vortex is a large area of low pressure and cold air surrounding both of the Earth's poles. It always exists near the poles, but weakens in summer and strengthens in winter.</li><li>The polar vortex is held in place by the Earth's rotation and temperature differences between the Arctic and mid-latitudes. When those variations in temperatures grow, the polar vortex can shift south. This happens naturally, but scientists think that as the planet warms, shifts in the polar vortex are likely to become more frequent and pronounced.</li><li>When the Arctic polar vortex is especially strong and stable, it encourages the polar jet stream, down in the troposphere, to shift northward.</li><li>When the vortex weakens, shifts, or splits (right globe), the polar jet stream often becomes extremely wavy, allowing warm air to flood into the Arctic and polar air to sink down into the mid-latitudes.</li></ul>
6	<p style="text-align: center;"><b><u>PM MITRA SCHEME</u></b></p> <ul style="list-style-type: none"><li>The PM MITRA scheme is Inspired by the <b>5F vision - Farm to Fibre to Factory to Fashion to Foreign</b>. It aspires to fulfil the vision of building an <b>Aatmanirbhar Bharat</b> and to position India strongly on the Global textiles map.</li><li>PM MITRA Parks offer an opportunity to create an integrated textiles value chain right from spinning, weaving, processing/dyeing and printing to garment manufacturing at one location.</li><li>These parks are envisaged to be located at sites which have inherent strengths for the textile industry to flourish and have the necessary linkages to succeed. The scheme envisages to leverage the Public Private Partnership model for fast-paced implementation in a time-bound manner.</li><li>Integrated Textile Value chain at one location will reduce logistics cost of Industry.</li><li>Intended to generate one lakh direct and two lakhs indirect employment per park.</li><li>Sites for PM MITRA Parks will be selected by a Challenge Method based on objective criteria.</li></ul>
7	<p style="text-align: center;"><b><u>SIPRI REPORT ON GLOBAL ARMS IMPORT</u></b></p> <ul style="list-style-type: none"><li>India is the world's largest arms importer for the period between 2018-22, according to <b>Stockholm International Peace Research Institute (SIPRI)</b>.</li><li>SIPRI is a leading international research institute focused on conflict, peace, and arms control.</li><li>According to the findings, India's arms imports dropped by 11% between 2013–17 and 2018–22, but it still holds its position as the world's biggest importer of major arms since 1993.</li><li>Russia was the largest supplier of arms to India, but its share of total Indian arms imports fell from 64% to 45% while France emerged as the second largest supplier between 2018-22.</li></ul>



8	<p style="text-align: center;"><b><u>JALYUKT SHIVAR PROJECT</u></b></p> <ul style="list-style-type: none"><li>• Recently, the government of <b>Maharashtra</b> has decided to launch the second phase of <b>Jalyukt Shivar project</b>.</li><li>• It is a scheme that targets drought-prone areas by undertaking water conservation measures.</li><li>• The scheme attempts to arrest maximum run-off water during the monsoon months, in village areas known to receive less rainfall.</li><li>• Under the scheme, decentralised water bodies are installed at various locations within villages to enhance the groundwater recharge.</li><li>• In the first phase, planned during 2015 – 2019, Jalyukta Shivar envisaged making 5,000 villages drought-free, every year.</li></ul>
9	<p style="text-align: center;"><b><u>OPERATION TRISHUL</u></b></p> <ul style="list-style-type: none"><li>• Operation Trishul involves using the <b>Interpol's Star Global Focal Point Network</b>, and using the Interpol's channels to identify dispersal of proceeds of crime by financial criminals.</li><li>• The CBI is India's nodal agency which coordinates with the Interpol to bring back fugitives hiding abroad.</li><li>• Operation Trishul also aims at dismantling support networks and generating criminal intelligence on shell companies, fraudulent transactions, money mules and co-accused located globally. Last year the CBI was successful in bring back 27 fugitives hiding abroad.</li></ul>
10	<p style="text-align: center;"><b><u>MSME COMPETITIVE (LEAN) SCHEME</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Minister for Micro, Small and Medium Enterprises launched the <b>MSME Competitive (LEAN) scheme</b>.</li><li>• The Scheme is a business initiative to reduce "waste" in manufacturing.</li><li>• It provides for building awareness of lean manufacturing practices in MSME clusters as well as cost sharing of consultant's fees with MSME units who opt for such interventions.</li><li>• Under the scheme, the Centre's contribution will be 90 per cent of the implementation cost for handholding and consultancy fees as against 80 per cent previously.</li><li>• Lean Manufacturing Techniques are adopted with the objective of reducing waste, increasing productivity, introducing innovative practices for improving overall competitiveness, inculcating good management systems and imbibing a culture of continuous improvement.</li><li>• The Pilot Phase of <b>Lean Manufacturing Competitiveness Scheme (LMCS)</b> was approved in 2009 for 100 Mini Clusters.</li></ul>
11	<p style="text-align: center;"><b><u>RAJASTHAN'S RIGHT TO HEALTH BILL</u></b></p> <ul style="list-style-type: none"><li>• The recently concluded Budget session of the Rajasthan Assembly revived the debate around the <b>Right to Health Bill</b>. The legislation, if passed, will provide <b>mandatory free and affordable medical services</b> in hospitals, clinics and laboratories — both public and privately owned.</li><li>• Rajasthan would be the first State government to establish and protect the legal rights of patients to access equitable healthcare services. The Bill also provides for strengthening the public healthcare system.</li><li>• Fault-lines have emerged around the legislation's passage. Private hospital doctors object to the Bill citing it is hastily drafted, ignores ground realities and may tighten norms in an already over-regulated field. Civil society groups and activists, however, note that while the Bill needs clarity and could be sharpened to avoid implementation loopholes, it is an important starting point in framing healthcare as a tangible "right" for citizens.</li></ul>



12	<p style="text-align: center;"><b><u>GOVT BRINGS CRYPTO TRADING UNDER INDIA'S MONEY LAUNDERING LAWS</u></b></p> <ul style="list-style-type: none"><li>• Recently, the government has imposed money laundering provisions on cryptocurrencies.</li><li>• According to the notification:</li><li>• Exchange between virtual digital assets and fiat currencies.</li><li>• Exchange between one or more forms of virtual digital assets.</li><li>• Transfer of virtual digital assets, safekeeping or administration of virtual digital assets or instruments enabling control over virtual digital assets, and participation in and</li><li>• Provision of financial services related to an issuer's offer and sale of a virtual digital asset.</li><li>• All of the above will now be covered by the <b>Prevention of Money-laundering Act, 2002</b>.</li><li>• Virtual digital assets were defined as any code or number or token generated through cryptographic means with the promise or representation of having inherent value.</li><li>• Indian crypto exchanges will have to report suspicious activity to the <b>Financial Intelligence Unit India (FIU-IND)</b>.</li></ul>
13	<p style="text-align: center;"><b><u>PRADHAN MANTRI BHARTIYA JANAUSHADHI PARIYOJANA (PMBJP)</u></b></p> <ul style="list-style-type: none"><li>• It was launched by the Department of Pharmaceuticals, Ministry of Chemicals &amp; Fertilizers, Government of India in November, 2008.</li><li>• As on 31st January, 2023, the numbers of stores have increased to 9082.</li><li>• Under the PMBJP, 743 districts out of 764 districts of the country have been covered.</li><li>• This scheme ensures easy reach of affordable medicine to the people in every nook and corner of the country.</li><li>• The Government has set a target to increase the number of Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJKs) to 10,000 by the end of December, 2023.</li><li>• Product basket of PMBJP comprises 1,759 drugs and 280 surgical instruments. Further, new medicines and nutraceuticals products like protein powder, malt-based food supplements, protein bar, immunity bar, sanitizer, masks, glucometer, oximeter, etc. have also been launched.</li></ul>
14	<p style="text-align: center;"><b><u>SAMARTH (SCHEME FOR CAPACITY BUILDING IN TEXTILES SECTOR)</u></b></p> <ul style="list-style-type: none"><li>• Samarth is a demand driven and placement-oriented umbrella skilling programme of the Ministry of Textiles. Its aim is to incentivize and supplement the efforts of the industry in creating jobs in the organized textile and related sectors, covering the entire value chain of textiles, excluding Spinning and Weaving.</li><li>• The scheme has been penetrated across 28 States and 6 Union territories of the country and caters to all sections of the society including SC, ST and other marginalized categories.</li><li>• The Ministry has partnered with 116 Textile Industries / Industry Associations, 12 Central / State Government Agencies and 3 Sectoral Organizations of the Ministry for undertaking training programmes under Samarth.</li><li>• The implementation period of the scheme is up to March 2024. Employment linkage is mandated in the courses under organized textile sector with mandatory placement 70% in entry level &amp; 90% for Upskilling programmes.</li></ul>
15	<p style="text-align: center;"><b><u>SWAMIH INVESTMENT FUND</u></b></p> <ul style="list-style-type: none"><li>• The <b>Special Window for Affordable and Mid-Income Housing (SWAMIH) Investment Fund I</b> is a social impact fund specifically formed for completing stressed and stalled residential projects.</li><li>• The Fund is sponsored by the <b>Ministry of Finance, Government of India, and is managed by SBICAP Ventures Ltd., a State Bank Group company.</b></li><li>• The fund considers first-time developers, established developers with troubled projects, developers with a poor track record of stalled projects, customer complaints and NPA accounts, and even projects where there are litigation issues.</li></ul>



- It is considered the **lender of last resort for distressed projects**.

### **HEALTH MINISTRY GETS PORTER PRIZE 2023**

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- Recently, the **Union Health and Family Welfare Ministry has received the Porter Prize 2023**.
- The prize was awarded in recognition of the government's strategy in managing COVID-19, also the approach, and involvement of various stakeholders, especially involvement of ASHA workers in the industry to create PPE Kits and its contribution in developing and manufacturing vaccines.

### **COMBINING SOCIAL WELFARE AND CAPITAL MARKETS THROUGH SSE**

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- Recently, the National Stock Exchange of India received the final approval from the markets regulator Securities and Exchange Board of India (SEBI) to set up a **Social Stock Exchange (SSE)**.
- Finance Minister Nirmala Sitharaman, presenting the Union Budget back in 2019, had proposed to initiate steps for creating a stock exchange under the market regulator's ambit. She had argued that it was time **"to take our capital markets closer to the masses and meet various social welfare objectives to inclusive growth and financial inclusion."** The proposal was cleared in September 2021.
- The SSE would function as a separate segment within the existing stock exchange and help social enterprises raise funds from the public through its mechanism. It would serve as a medium for enterprises to seek finance for their social initiatives, acquire visibility and provide increased transparency about fund mobilisation and utilisation.
- Retail investors can only invest in securities offered by for-profit **social enterprises (SEs)** under the Main Board. In all other cases, only institutional investors and non-institutional investors can invest in securities issued by SEs.

### **ADOPT A HERITAGE SCHEME**

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- Under the Centre's '**adopt a heritage**' scheme, Dalmia Bharat Group has developed the Red Fort and set up a museum as well as a sound and light show inside the **17th-century monument** to narrate its history to visitors.
- The 'Adopt a Heritage: ApniDharohar, ApniPehchaan' scheme is an initiative of the Ministry of Tourism, in collaboration with the Ministry of Culture and the Archaeological Survey of India.
- The scheme was launched on World Tourism Day, i.e., 27 September 2017.
- The Adopt a Heritage Scheme allowed public and private sector enterprises to acquire top heritage areas of India and enhance tourism activities there.
- The sites/monuments are selected on the basis of tourist footfall and visibility and can be adopted by private and public sector companies and individuals — known as **Monument Mitras**— for an initial period of five years.
- As per the latest reports, Adopt a Heritage scheme has covered 106 tourist places with more than 600 Monument Mitras registered and 27 MoUs being signed.
- The Ministry of Tourism has the power of termination of MoU of Monument Mitras in case of noncompliance of guidelines and expression of interest (EoI), or any other reason of non-performance.



## **NATIONAL FLAGSHIP PROGRAMMES FOR FISHERIES**

### **National Surveillance Programme for Aquatic Animal Diseases (NSPAAD) Phase-II**

- The Indian Economy loses about Rs.7200 crores annually due to fish diseases therefore, early detection and managing the spread is crucial for controlling the diseases.
- Government of India has implemented the National Surveillance Programme for Aquatic Animal Diseases (NSPAAD) since 2013 for strengthening the farmer-based disease surveillance system.
- To continue the efforts with intensity, the Government has sanctioned the **NSPAAD: Phase-II under the Pradhan Mantri Matsya Sampada Yojana**.
- The phase-II will be implemented at pan-India, and all the State Fisheries Departments along with **Marine Products Export Development Authority (MPEDA)** are expected to play an important role.

### **Genetic improvement program of Penaeus indicus (Indian white shrimp)-Phase-I**

- The **farmed shrimp alone contributes about 70% of India's seafood exports** worth Rs. 42000 crores. But the whole sector mostly depends on one exotic Pathogen Free stock of Pacific white shrimp (*Penaeus vannamei*) species which is quite risky.
- To break this single species dependence and to promote indigenous species, the government has taken up the genetic improvement programme of the Indian white shrimp (*P. indicus*) as a national priority.
- This program will lead to "Atamanirbharata" for shrimp stock, which is at present imported from other countries.

### **Shrimp Crop Insurance product**

- Shrimp farming is labelled as a "risky venture" contrary to the fact that India achieved about 430% growth in shrimp production during the last one decade.
- Majority of the aquaculture farmers are small farmers, own 2-3 ponds and face huge obstacles to raise working capital for the crop, due to lack of access to institutional credit and insurance.
- ICAR-CIBA developed a Shrimp Crop Insurance product which charges a differential premium based on location and requirements of the individual farmer from 3.7 to 7.7 % of input costs.
- Farmers will be compensated to the tune of 80 % loss of input cost in the event of total crop loss. i.e., more than 70% crop loss.

## **LINKING VOTER ID TO AADHAAR**

- **Over 60% of India's 94.5 crore voters in India** have linked their Aadhaar number to their voter IDs, the **Election Commission (EC)** disclosed in a Right to Information. Recently, the **Election Laws (Amendment) Act, 2021** was passed to deduplicate electoral rolls by allowing election authorities to collect the 12-digit Aadhaar from voters.

### **Why to Link Voter ID with Aadhaar?**

- **Duplicate voter entries** can result in inflated voter counts, leading to inaccurate election results and defeating the very purpose of democratic elections.
- Voting entries can be **exploited by fraudsters to cast multiple votes or impersonate legitimate voters**, leading to election fraud and compromising the integrity of the electoral process.
- Duplicate entries **require additional resources** to maintain, update, and deduplicate electoral rolls.
- Duplicate entries can also result in **legitimate voters being disenfranchised**, as their names may be wrongly deleted or marked as duplicate entries, leading to a denial of their right to vote.
- Duplicate voter entries can **erode public trust** in the electoral process and lead to doubts about the fairness and transparency of the election.

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21	<p style="text-align: center;"><b><u>JAIPUR DECLARATION</u></b></p> <ul style="list-style-type: none"><li>• Recently, “Jaipur Declaration” was adopted at the <b>18th World Security Congress jointly organized by the Railway Protection Force and the UIC.</b></li><li>• The Jaipur declaration outlines an actionable agenda for UIC to explore innovative approaches that can help global Railway organizations achieve their long-term goal of safety and security.</li><li>• It highlighted the commitment of UIC to work towards providing a more safe and secure rail network across the globe, by also fully activating the Asia-Pacific, Latin America and African regional assemblies by 2025.</li></ul>
22	<p style="text-align: center;"><b><u>ANUBHUTI INCLUSIVE PARK</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Minister for Road Transport and Highways laid the Foundation Stone of the <b>world's largest and unique Divyang Park - Anubhuti Inclusive Park</b> in Nagpur, Maharashtra.</li><li>• Anubhuti Inclusive Park is being built for disabled children and general citizens in the Pardi campus of Nagpur. The <b>objective is to convey the message of inclusion</b> in the country and the whole world.</li><li>• It is the world's first inclusive disabled park. The Ministry of Social Justice and Empowerment, Government of India, is the nodal ministry.</li><li>• The park will have adapted facilities for all 21 types of disabilities like a touch and smell garden, hydrotherapy unit, water therapy, and independent room for mentally challenged children, and mother.</li><li>• In 2016, the central government passed the <b>Rights of Persons with Disabilities Act</b> for the rights of persons with disabilities. The law gives the disabled the right to live with dignity.</li></ul>
23	<p style="text-align: center;"><b><u>SAGAR PARIKRAMA PROGRAM</u></b></p> <ul style="list-style-type: none"><li>• Sagar Parikrama is an initiative of Government of India in the sea across the coastal belt demonstrating solidarity with all fisherfolk, fish farmers and concerned stakeholders as a spirit of <b>75th Azadi Ka Amrit Mahotsav.</b></li></ul> <p><b>Objectives:</b></p> <ul style="list-style-type: none"><li>• To resolve the issues of the fishers and other stakeholders.</li><li>• Facilitate their economic upliftment through various fisheries schemes and programs being implemented by the Government of India such as PMMSY.</li><li>• To focus on sustainable balance between the utilization of marine fisheries resources for the food security of the nation and livelihoods of coastal fishing communities.</li></ul>
24	<p style="text-align: center;"><b><u>TAXING WINDFALL PROFITS OF OIL COMPANIES</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union government hiked the <b>windfall profit tax levied on domestically-produced crude oil as well as on the export of diesel and aviation turbine fuel (ATF).</b></li><li>• ‘Windfall profits’ refer to an unanticipated spike in earnings of an entity resulting from an exogenous event (which could be one-off and/or prolonged) and not resulting from a business decision.</li><li>• The <b>B.K. Chaturvedi committee’s report on the Financial Position of Oil Companies (2008)</b> had stated that taxing of these windfall gains has been seen as a prerogative of governments, in part to meet fiscal needs and in part to pursue redistributive justice. The central idea here is for sovereigns to capitalise on the lofty profits made by the entities and use it for specific domestic pursuits, for example, spur collections (of taxes) to guard against the consequences of a larger geopolitical event or redistribute them for it to be used for domestic social service schemes, among other reasons.</li></ul>
25	<p style="text-align: center;"><b><u>ARTICLE 105 OF CONSTITUTION</u></b></p> <ul style="list-style-type: none"><li>• Article 105 of the Indian Constitution provides <b>freedom of speech</b> in Parliament, and exempts members from legal action for anything said or done in the course of their duties.</li></ul>



- The Constitution, however prohibits discussions in Parliament regarding the conduct of judges of the Supreme Court or of a High Court, except upon a motion for presenting an address to the President praying for the removal of the Judge.
- The immunity of MPs extends to certain non-members, such as the Attorney General for India or a Minister who may not be a member but speaks in the House.
- The idea of this privilege of Parliament originated from the Government of India Act, 1935, with references to the powers and privileges enjoyed by the House of Commons in Britain.
- In the 17th-century case of **R vs Elliot, Holles and Valentine**, the House of Lords provided immunity to Sir John Elliot, a member of the House of Commons, saying that words spoken in Parliament should only be judged therein.
- This privilege has also been enshrined in the **Bill of Rights 1689** by which the Parliament of England definitively established the principle of a constitutional monarchy.
- The Supreme Court in its '**Tej Kiran Jain v N Sanjiva Reddy**' case (1970) ruled that the word "anything" in Article 105 is of the widest import and is equivalent to "everything".
- At present, the Speaker or the House itself deal with cases where an MP oversteps or exceeds the contours of admissible free speech, as opposed to the court.

### **EASTERN RAJASTHAN CANAL PROJECT (ERCP)**

- Recently the Union government has proposed a mega project to merge two projects - **Eastern Rajasthan Canal Project (ERCP) and the Parbati-Kalisindh-Chambal River Link**.
- It is a project aimed at harvesting surplus water available during the rainy season in southern Rajasthan and using it in the water-scarce south-eastern districts of the state.
- Districts covered: Jhalawar, Baran, Kota, Bundi, Sawai Madhopur, Ajmer, Tonk, Jaipur, Karauli, Alwar, Bharatpur, Dausa, and Dholpur.
- The project will have components including diversion structures, intra-basin water transfers, linking channels, and building pumping main feeder channels to create a network of water channels.
- # It is expected to cover 23.67 per cent of the area and 41.13 per cent of the population of Rajasthan.

### **WOMEN, BUSINESS AND LAW 2023 REPORT**

- Recently, the World Bank released the Women, Business and the Law 2023 report.
- The Report relies on eight indicators to measure if women are on an equal standing with men. A perfect score of 100 on the Index means that women are on an equal standing with men. Only 14 countries scored a perfect 100.
- India scored 74.4 in the index which was higher than the 63.7 average for the South Asian region, but lower than Nepal which had the region's highest score of 80.6.
- The Index used data on the laws and regulations applicable in Mumbai.
- India gets a perfect score in indicators like constraints on freedom of movement, laws affecting women's decisions to work, and constraints related to marriage, maritime cooperation.
- India lags behind when it comes to laws affecting women's pay, laws affecting women's work after having children, constraints on women starting and running a business, gender differences in property and inheritance, and laws affecting the size of a woman's pension.

### **VOSTRO ACCOUNTS**

- Recently, the government officials informed that 20 Russian banks, including Rosbank, Tinkoff Bank, Centro Credit Bank and Credit Bank of Moscow have opened **Special Rupee Vostro Accounts (SRVA)** with partner banks in India.



- A **vostro account** is an account that domestic banks hold for foreign banks in the former's domestic currency, in this case, the rupee. Domestic banks use it to provide international banking services to their clients who have global banking needs.
- It is an integral offshoot of correspondent banking that entails a bank (or an intermediary) to **facilitate wire transfer, conduct business transactions, accept deposits and gather documents on behalf of the other bank.**
- It **helps domestic banks gain wider access to foreign financial markets and serve international clients without having to be physically present abroad.**
- The SRVA is an additional arrangement to the existing system that **uses freely convertible currencies and works as a complimentary system.** For perspective, freely convertible currencies refer to currencies permitted by rules and regulations of the concerned country to be converted to major reserve currencies (like U.S. dollar or pound sterling) and for which a fairly active market exists for dealings against major currencies. The existing systems thus require maintaining balances and position in such currencies.

### NISAR SATELLITE

- The **Indian Space Research Organisation (ISRO)** has received the **NASA-ISRO Synthetic Aperture Radar (NISAR) satellite** from the U.S. space agency in Bengaluru.
- NASA and ISRO are jointly working on the all-weather, earth-observing mission scheduled for launch in 2024.
- NISAR is the **first satellite mission** that will collect radar data in two microwave bandwidth ranges: **L-band** (1-2 GHz, commonly used for satellite communication and remote sensing) and **S-band** (2-4 GHz, commonly used for satellite communication and weather monitoring).
- **'SAR'** is a type of remote-sensing technology that uses radars instead of optical sensors to create high-resolution images of the earth's surface. It can penetrate clouds and vegetation to generate accurate data.
- NISAR will image the entire land and ice masses of the earth four to six times a month. The output is expected to be available within a couple of days of the observation and within hours in cases of disasters.

### ALMA TELESCOPE

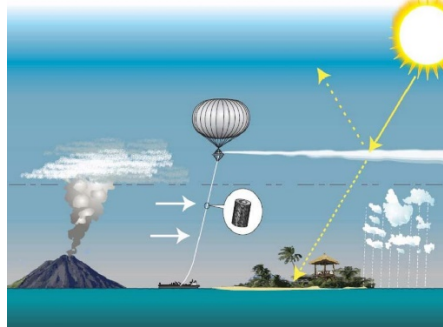
- The **Atacama Large Millimetre/submillimetre Array (ALMA)** is set to get software and hardware upgrades. The upgrade will help it collect much more data and produce sharper images than ever before.
- ALMA is a **state-of-the-art radio telescope** comprising 66 antennas that studies celestial objects at millimetre and submillimetre wavelengths. They can penetrate through dust clouds and help astronomers examine dim and distant galaxies and stars out there. It also has extraordinary sensitivity, which allows it to detect even extremely faint radio signals.
- It's located at **Atacama Desert of northern Chile.**
- It has been fully functional since 2013, and has helped astronomers make ground-breaking discoveries, including that of starburst galaxies and the dust formation inside supernova 1987A.
- It was designed, planned and constructed by the **US's National Radio Astronomy Observatory (NRAO), the National Astronomical Observatory of Japan (NAOJ) and the European Southern Observatory (ESO).**
- ALMA is operated under a partnership among the United States, 16 countries in Europe, Canada, Japan, South Korea, Taiwan, and Chile; the announcement came after all the partners cleared the funding required for the improvements.



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## SOLAR GEOENGINEERING

- Geoengineering means manipulating the earth's climate to lower its temperature in a bid to counter global warming.
- Solar geoengineering, also called **solar radiation modification**, involves cooling the earth by radiating absorbed sunlight back into space. It is a **subset of geoengineering**.



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## GENETICALLY MODIFIED TREES

- Recently, the **Genetically modified trees** have been planted in the United States for the first time in a low-lying tract of southern Georgia's pine belt.
- Genetically modified trees, also known as **GM trees**, are trees that have been **genetically modified using biotechnology**.
- These are done to enhance their desired traits, such as faster growth, disease resistance, or ability to absorb carbon dioxide from the atmosphere.
- These trees are created by introducing foreign genes into their DNA through techniques like **gene editing or gene gun method**.

### GM crops that are allowed in India

- Bt Cotton: It is genetically modified to produce a toxin that kills the bollworm, a common pest that damages cotton crops.
- Bt Brinjal: It is genetically modified to produce a toxin that kills the fruit and shoot borer, a common pest that damages eggplant crops.
- Herbicide-tolerant crops: These are genetically modified to tolerate specific herbicides that can be sprayed to kill weeds without harming the crop.
- GM Mustard: It is genetically modified to produce a hybrid seed that has high yield and is resistant to pests and diseases.

## FOR THE MONTH OF FEBRUARY

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## CHANDRAYAAN-3 MISSION

- Recently, the **Indian Space Research Organisation (ISRO)** has confirmed that the lander of Chandrayaan-3 has completed the crucial **EMI-EMC test**.
- Chandrayaan-3 is **India's third moon mission** and is slated to be launched later this year by **Launch Vehicle Mark 3 (LMV3)** from the Satish Dhawan Space Centre at Sriharikota.
- The lander of the mission has successfully completed the crucial **EMI-EMC (Electro - Magnetic Interference/ Electro - Magnetic Compatibility) test** at the U.R. Rao Satellite Centre in Bengaluru.
- The test has ensured the functionality of the satellite subsystems in the space environment and their compatibility with the expected electromagnetic levels.
- The Chandrayaan-3 is an interplanetary mission which has three major modules: the Propulsion module, Lander module, and Rover.



## THE MARBURG VIRUS

- Recently, the **World Health Organisation (WHO)** convened an urgent meeting after **central African nation Equatorial Guinea** confirmed its first outbreak of the highly infectious Marburg virus disease, or MVD.
- Marburg virus disease (MVD) is a severe illness that causes viral haemorrhagic fever in humans (it was formerly known as Marburg haemorrhagic fever).
- The virus was first identified after simultaneous outbreaks in Frankfurt and Marburg, Germany — from where it derives its name — and Belgrade, Serbia in 1967. Those first infected were exposed to Ugandan imported African green monkeys or their tissues while conducting research, as per the **Centre for Disease Control and Prevention**. More than 30 fell ill, and seven deaths were reported.
- Since then, cases have been reported in Angola, the Democratic Republic of the Congo, Kenya, South Africa and Uganda. In a 2004 outbreak in Angola, MVD killed 90% of the 252 infected. Last July, there were two reported MVD deaths in Ghana.
- Like Ebola, the Marburg virus is transmitted to primates from bats which are considered natural hosts of the virus. Fruit bats infected with the virus do not show obvious signs of illness, but it can cause serious illness or death in humans.
- It spreads among humans via direct contact with the bodily fluids of infected bats, or surfaces contaminated with fluids, like bedsheets and clothes. The disease can also spread during burial ceremonies if there is direct contact with the body of the deceased.
- Both the Marburg and Ebola viruses belong to the **Filoviridae family** and the diseases caused by the two present clinical similarities.

## ISRO'S SSLV-D2 LAUNCH

- Recently, **Indian Space Research Organisation (ISRO)** has launched the second development flight of the **Small Satellite Launch Vehicle (SSLV).**
- The **Small Satellite Launch Vehicle (SSLV-D2)** was launched successfully from the first launch pad at the Satish Dhawan Space Centre SHAR, Sriharikota, Andhra Pradesh. It was ISRO's first launch of 2023.
- It will place the Indian Space Research Organisation (ISRO) **earth observation satellite EOS-07 and two co-passenger satellites Janus-1 and AzaadiSat2 in a 450-km circular orbit around the Earth.**
- Janus-1 and AzaadiSat2 are developed by start-ups.
- The satellite will also carry the **G20 logo to space and the NCC song to celebrate 75 years of the organisation.**

## EURASIAN OTTER

- Otters are mammals of the **family Mustelidae consisting of 13 species.** They are found in every continent **except Australia and Antarctica.**
- The Eurasian otter covers the **largest range of any Palearctic mammal.**
- The species is persecuted as a pest in countries such as India, China and Nepal, and its populations have declined due to hunting for food and pelt, habitat loss, pollution and climate change.
- Eurasian otter is classified as '**near threatened**' on the IUCN Red List. It is regarded as a **flagship species and indicator of high-quality aquatic habitats.**

## IEA'S METHANE GLOBAL TRACKER REPORT

- **IEA's annual Methane Global Tracker report** has recently highlighted that the fossil fuel companies have failed to take substantial action to curb methane emissions.
- Report also shows that 75% of methane emissions can be reduced with cheap and readily available technology.



	<ul style="list-style-type: none"><li>• Previously, around 150 countries have joined the <b>Global Methane Pledge</b> which aims to reduce methane emissions from human activity by 30% from 2020 levels by 2030.</li><li>• In its part, India has committed to reducing the emissions intensity of its GDP by 33-35% below 2005 levels by 2030.</li><li>• By 2030, all fossil fuel producers in the Net Zero Emissions by 2050 scenario will have an emissions intensity similar to the world's best operators today.</li></ul>
6	<p style="text-align: center;"><b><u>GREAT BACKYARD BIRD COUNT (GBBC) 2023</u></b></p> <ul style="list-style-type: none"><li>• India was among 190 countries that participated in <b>GBBC 2023</b> from February 17-20.</li><li>• The GBBC was launched in 1998 by the <b>Cornell Lab of Ornithology and National Audubon Society</b>, and was <b>the first online citizen-science project (also referred to as community science)</b> to collect data on wild birds and to display results in near real time. Bird Count India organises the GBBC in the country.</li><li>• In 2013, it became a global project after entering data into <b>eBird, the world's largest biodiversity-related citizen science (community science) project.</b></li></ul>
7	<p style="text-align: center;"><b><u>EXERCISE 'DHARMA GUARDIAN'</u></b></p> <ul style="list-style-type: none"><li>• Recently, Exercise '<b>DHARMA Guardian-2023</b>' was held between India and Japan at Belgaum, Karnataka.</li><li>• The exercise was held to share experiences gained during operations, in order to enhance interoperability in the planning and execution of various operations in jungle &amp; semi-urban/ urban terrain.</li><li>• The Year 2022 also marks <b>70 years of diplomatic relations</b> between the two countries.</li></ul>
8	<p style="text-align: center;"><b><u>NATIONAL STRATEGIC PLAN AND ROADMAP FOR LEPROSY 2023-2027</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Health Ministry has formulated the <b>National Strategic Plan and Roadmap for Leprosy 2023-2027</b> for achieving zero cases of leprosy infection by 2030.</li><li>• According to the Union Health Ministry, despite India being declared "<b>Leprosy Eliminated</b>" in <b>2005</b>, the country still accounts for about 52% of the world's new leprosy patients.</li><li>• States such as Delhi, Gujarat, Maharashtra, Arunachal Pradesh, Bihar, West Bengal, Jharkhand, Odisha, Chhattisgarh, Uttar Pradesh, Madhya Pradesh, Dadra &amp; Nagar Haveli and Daman &amp; Diu have either one or more districts (total 82 districts) which are yet to achieve leprosy elimination target and account for over 90% of cases in the country.</li></ul>
9	<p style="text-align: center;"><b><u>MONKEYPOX</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Fourth meeting of the <b>International Health Regulations (2005) (IHR) Emergency Committee</b> on the Multi-Country Outbreak of monkeypox was held.</li><li>• The International Health Regulations (IHR) 2005 are a legally binding agreement of 196 countries to build the capability to detect and report potential public health emergencies worldwide.</li><li>• It is a <b>viral zoonotic disease</b> that occurs primarily in tropical rainforest areas of Central and West Africa and is occasionally exported to other regions. It is <b>endemic to Nigeria</b>.</li><li>• It is <b>caused by the monkeypox virus, a member of the Orthopoxvirus genus in the family Poxviridae.</b></li><li>• The clinical presentation of monkeypox resembles that of smallpox, a related orthopoxvirus infection which was declared eradicated worldwide in 1980.</li></ul>
10	<p style="text-align: center;"><b><u>THE SIGNIFICANCE OF THE FINDINGS IN KEELADI</u></b></p> <ul style="list-style-type: none"><li>• <b>Keeladi</b> is a tiny hamlet in the <b>Sivaganga district</b> in south Tamil Nadu. It is about 12 km south-east to the temple city of Madurai and is located along the <b>Vaigai river</b>.</li><li>• The excavations here from 2015 prove that <b>an urban civilisation existed in Tamil Nadu in the Sangam age on the banks of the Vaigai river.</b></li></ul>



11	<p style="text-align: center;"><b><u>LAVANI DANCE</u></b></p> <ul style="list-style-type: none"><li>Recently, the State of Maharashtra witnessed a controversy surrounding <b>Lavani dance</b>, where the younger generation of women dancers was accused of vulgarising the traditional Folk art form.</li><li>Derived from 'lavanya' or beauty, Lavani is a traditional Folk art form in which women dancers wearing nine-yard-long sarees in bright colours, make-up, and ghunghroos (ankle bells) perform on dholak beats on a stage before a live audience.</li><li>It attained popularity in the <b>Peshwa era in the 18th century</b> with performances being held in front of kings and for the entertainment of tired soldiers resting during breaks in fighting.</li><li>Several sub-genres of Lavani exist, of which the most popular is the <b>Shringarik (erotic)</b> kind. With passage of time the art became sanitised with later performers choosing indirect references to erotic meanings over direct gestures and overt lyrics.</li><li>Lavani dance was generally performed by <b>Dhangars or Shepherds</b> living in the Solapur, inspired by nature, the dance form contains tales of the birth of <b>Biruba</b>, their deity. Live performances continue to get huge responses from the public in rural Maharashtra.</li><li>A Lavani performance can be broadly categorized into two parts. The <b>Nirguni Lavani, which deals with philosophy and Shringari Lavani which deals with sensuality</b>.</li><li>Shrinagri Lavani is more popular than Nirguni Lavani and is performed in theatres as well as in Bollywood movies. Shringari Lavani deals with a multitude of genres, with the love between a man and a woman being the most prominent.</li></ul>
12	<p style="text-align: center;"><b><u>LANDSLIDE ATLAS OF INDIA</u></b></p> <ul style="list-style-type: none"><li>Recently, ISRO released the <b>Landslide Atlas of India</b> identifying landslide hotspots in the country.</li><li>ISRO's National Remote Sensing Centre created a database of landslide-prone regions of India based on events during 1998 – 2022.</li><li>In addition to aerial images, high-resolution satellite images captured using ResourceSat-1 and 2, etc., were used to study the landslides.</li><li>The pan-India database classifies landslides into – seasonal (2014, and 2017 monsoon seasons), event-based and route-based (2000 – 2017).</li></ul>
13	<p style="text-align: center;"><b><u>EXERCISE BOLD KURUKSHETRA</u></b></p> <ul style="list-style-type: none"><li>Recently, the <b>Singapore Army and Indian Army participated in the 13th edition of Exercise "Bold Kurukshetra"</b>.</li><li>It was <b>first conducted in 2005</b>. This year, it was hosted by the Indian Army and the exercise involved soldiers from the 42nd Battalion, Singapore Armoured Regiment and an Armoured Brigade of the Indian Army. It involved an understanding of mechanised warfare in emerging threats and evolving technologies.</li></ul>
14	<p style="text-align: center;"><b><u>TROPEX 2023</u></b></p> <ul style="list-style-type: none"><li>It is an operational level exercise that is conducted biennially and witnesses participation not only by all Indian Navy units but also of Indian Army, Indian Air Force and Coast Guard assets. It included Coastal Defence exercise <b>Sea Vigil</b> and the Amphibious Exercise <b>AMPHEX</b>.</li><li>It was set in the Indian Ocean including the Arabian Sea and the Bay of Bengal.</li><li>TROPEX 23 witnessed participation of approximately 70 Indian Navy ships, six submarines and over 75 aircraft.</li><li>The exercise is being conducted in different phases, both in harbour and at sea, encompassing various facets of combat operations, including live weapon firings.</li></ul>



15	<p style="text-align: center;"><b><u>NORWAY'S SAKHAROV FREEDOM AWARD</u></b></p> <ul style="list-style-type: none"><li>• Recently, <b>Truth Hounds</b>, which documents war crimes in the Ukraine conflict was awarded <b>Norway's Sakharov Freedom Award</b>.</li><li>• Sakharov Freedom Award is named after Soviet scientist and dissident Andrei Sakharov.</li><li>• It was established in 1980 by the Norwegian Helsinki Committee with the support and consent of Andrei Sakharov to help people who, because of their opinions, beliefs, and conscience are persecuted or imprisoned.</li><li>• Truth Hounds is a Ukrainian rights group founded during the Maidan Revolution which led to the fall of pro-Russian former Ukrainian president Viktor Yanukovich.</li></ul>
16	<p style="text-align: center;"><b><u>THE AGNIPATH SCHEME</u></b></p> <ul style="list-style-type: none"><li>• Around 45,000 to 50,000 soldiers will be recruited annually, and most will leave the service in just four years. Of the total annual recruits, only 25 percent will be allowed to continue for another 15 years under permanent commission. Recruits under the scheme will be known as "Agniveers".</li><li>• Centralised online system to conduct rallies &amp; campus interviews at recognised technical institutes such as the Industrial Training Institutes, and the National Skills Qualifications Framework.</li><li>• It is <b>only for personnel below officer ranks</b>. On an 'All India All Class' basis with the eligibility age ranging from 17.5 to 21 years, with medical and physical fitness standards. Recruitment will be done twice a year.</li><li>• Educational qualification: Class X-XII</li><li>• Annual package of 4.76 lakh in the first year to 6.92 lakh in the fourth year along with hardship allowance.</li><li>• Under the "<b>Seva Nidhi</b>" package (which is exempt from Income Tax), they will receive about 11.71 lakh, including contribution and interest, on completion of service. The recruits will have to contribute 30% of their monthly emoluments to Seva Nidhi, with a matching contribution made by the government. There will be <b>no entitlement to gratuity and pensionary benefits</b> under the scheme.</li></ul>
17	<p style="text-align: center;"><b><u>RECOGNITION OF NATIONAL OR STATE PARTY BY ECI</u></b></p> <ul style="list-style-type: none"><li>• <b><u>A Political party would be considered a National Party if:</u></b></li><li>• It is '<b>recognised</b>' in four or more states; or</li><li>• If its candidates polled at least 6% of total valid votes in any four or more states in the last Lok Sabha or Assembly elections and has at least four MPs in the last Lok Sabha polls; or</li><li>• If it has won at least 2% of the total seats in the Lok Sabha from not less than three states.</li></ul> <p><b><u>To be recognised as a State Party, a party needs:</u></b></p> <ul style="list-style-type: none"><li>• At least 6% vote-share in the last Assembly election and have at least 2 MLAs; or</li><li>• Have 6% vote-share in the last Lok Sabha elections from that state and at least one MP from that state; or</li><li>• At least 3% of the total number of seats or three seats, whichever is more, in the last Assembly elections; or</li><li>• At least one MP for every 25 members or any fraction allotted to the state in the Lok Sabha; or</li><li>• Have at least 8% of the total valid votes in the last Assembly election or Lok Sabha election from the state.</li></ul>
18	<p style="text-align: center;"><b><u>CYBER SURAKSHIT BHARAT INITIATIVE</u></b></p> <ul style="list-style-type: none"><li>• The Cyber Surakshit Bharat initiative was conceptualised with the mission to <b>spread awareness about cyber-crime and build capacities of Chief Information Security Officers (CISOs) and frontline IT officials, across all government departments.</b></li></ul>





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	<ul style="list-style-type: none"><li>• It was <b>launched by the Ministry of Electronics and Information Technology (MeitY) in 2018</b> in cooperation with National e-Governance Division (NeGD) and various industry partners in India.</li><li>• The CISO training is the first-of-its-kind partnership between the Government and industry consortium under Public Private Partnership (PPP) model.</li></ul>
19	<p style="text-align: center;"><b><u>MEERA GAON MERI DHAROHAR PROGRAM</u></b></p> <ul style="list-style-type: none"><li>• In a bid to harness the <b>unique cultural heritage of rural India</b>, the government has identified and documented distinctive features of more than one lakh villages across the country. The entire exercise has been carried out under the <b>'Mera Gaon Meri Dharohar' (My Village My Heritage) programme of the National Mission for Cultural Mapping (NMCM)</b>.</li><li>• <b><u>About National Mission for Cultural Mapping (NMCM)</u></b></li><li>• The National Mission for Cultural Mapping (NMCM) aims to develop a comprehensive database of art forms, artists and other resources across the country.</li><li>• It was launched by the <b>Ministry of Culture in 2017</b>, the programme got off to a slow start and was handed over to the <b>Indira Gandhi National Centre for Arts (IGNCA) in 2021</b>. IGNCA was established in 1987 as an autonomous institution under the Ministry of Culture, as a centre for research, academic pursuit and dissemination in the field of the arts.</li><li>• The IGNCA plans to cover all the 6.5 lakh villages in the country. As of today, short films have been made on 750 clusters villages. The films, which gives a 360 degree view of the village, have been shot using drones.</li></ul>
20	<p style="text-align: center;"><b><u>KIRIT PARIKH PANEL RECOMMENDATIONS ON GAS PRICING</u></b></p> <ul style="list-style-type: none"><li>• The committee is headed by <b>energy expert Kirit Parikh</b>, and includes members from the fertiliser ministry, gas producers and buyers.</li><li>• The committee was tasked with suggesting a <b>"fair price to the end-consumer" while ensuring a "market-oriented, transparent and reliable pricing regime for India's long-term vision for ensuring a gas-based economy"</b>.</li><li>• The mandate was to suggest a regime that would help raise domestic production to help <b>meet the goal of 15% of energy coming from gas by 2030</b> and at the same time, provide fair price to consumers.</li></ul>
21	<p style="text-align: center;"><b><u>PRADHAN MANTRI STREET VENDORS' ATMANIRBHAR NIDHI (PM SVANidhi) YOJANA</u></b></p> <ul style="list-style-type: none"><li>• The PM SVANidhi is a <b>micro-credit scheme</b> which was launched by the government in 2020. The scheme is <b>funded by the Ministry of Housing and Urban Affairs</b>.</li><li>• It was launched with an aim to provide credit for working capital to street vendors who have been affected due to the Covid-19 crisis.</li><li>• PM SVANidhi facilitates collateral-free loans of Rs.10,000, with subsequent loans of Rs.20,000 and Rs.50,000 with 7% interest subsidy for vendors, and rewards digital transactions.</li><li>• All street vendors who have been in the business on or before March 24, 2020, are eligible to avail the benefits.</li><li>• For this scheme launched in the wake of the novel coronavirus pandemic, the Centre has earmarked a stimulus package of Rs 5,000 crore for nearly 50 lakh vendors.</li></ul>
22	<p style="text-align: center;"><b><u>THE COMPETITION AMENDMENT BILL, 2023</u></b></p> <ul style="list-style-type: none"><li>• The <b>Competition (Amendment) Bill, 2023 seeks to amend the Competition Act, 2002</b> which regulates competition in the Indian market and prohibits anti-competitive practices such as cartels, mergers and acquisitions that may have an adverse effect on competition.</li><li>• The <b>Competition Commission of India (CCI)</b> is responsible for implementing and enforcing the Act.</li></ul> <p><b><u>Amendments</u></b></p>



	<ul style="list-style-type: none"><li>• The Bill seeks to define 'turnover' for the purpose of penalty as global turnover derived from all the products and services by a person or an enterprise. The idea is to levy a penalty as a percentage of global turnover of the offending company, moving away from the current practice of levying a part of the local or relevant market turnover as penalty.</li><li>• The Bill decriminalises certain offences under the Act by changing the nature of punishment from imposition of fine to civil penalties. These offences include failure to comply with orders of the CCI and directions of the Director General related to anti-competitive agreements and abuse of dominant position.</li><li>• The new provisions expand the scope of CCI's merger regulation by bringing deals worth more than Rs 2,000 crore requiring regulator's clearance.</li><li>• The amendment introduces a scheme for commitment and settlement which is meant to reduce litigation by way of negotiated settlements. This scheme is available to cases of anti-competitive agreements and abuse of dominance, but not to cartels.</li><li>• By reducing the use of the US dollar, countries can reduce the influence of US monetary policy on their own economies.</li></ul>
23	<p style="text-align: center;"><b><u>SAGAR-SETU MOBILE APP</u></b></p> <ul style="list-style-type: none"><li>• The SAGAR-SETU app of the National Logistics Portal (Marine) will provide real-time information on vessel-related information, gate, container freight stations, and transactions, enabling digital transactions for payments.</li><li>• The app will boost maritime trade, enhance the economy of the country, and increase the visibility of operations and tracking.</li></ul>
24	<p style="text-align: center;"><b><u>NAGRI DUBRAJ RICE GETS GI TAG</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>Geographical Indication Registry granted Chhattisgarh's aromatic rice, Nagri Dubraj, a geographical indication (GI) tag.</b></li><li>• The Morena and Rewa Mango (both Madhya Pradesh) have also been given the Tag.</li><li>• It is produced by a women's self-help group. The women's self-help group "Maa Durga Swasahayata Samuh" of Nagri in Dhamtari district has been harvesting Dubraj.</li><li>• It is an indigenous variety and has small grains, is very soft to eat after cooking, and is known as the <b>Basmati of Chhattisgarh</b> because of its fragrance.</li></ul>
25	<p style="text-align: center;"><b><u>FOREIGN TRADE POLICY 2023</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Minister of Commerce and Industry, Consumer Affairs, Food and Public Distribution and Textiles has launched the <b>Foreign Trade Policy 2023.</b></li><li>• The New policy has replaced the old policy that had been in place since 2015, the new policy kicks in from 2023-24 and aims to almost triple India's goods and services exports to \$2 trillion by 2030, from an estimated \$760 billion in 2022-23. The Old Policy enabled the growth of exports by 75% from \$435 billion in 2015-16 to \$760 billion in 2022-23.</li><li>• India's global share in merchandise exports and services exports is very low and the government aims to grow it to the range of 7% to 10%.</li></ul>
26	<p style="text-align: center;"><b><u>CHANGES IN FEES FOR MERCHANT UPI TRANSACTIONS</u></b></p> <ul style="list-style-type: none"><li>• The <b>National Payments Corporation of India (NPCI)</b> has allowed <b>prepaid payment instruments (PPIs)</b> to be part of the interoperable <b>Unified Payments Interface (UPI)</b> ecosystem.</li><li>• The NPCI has recently introduced <b>interchange fees of up to 1.1 per cent on merchant UPI transactions done using prepaid payment instruments (PPIs) from April 1, 2023.</b></li><li>• PPIs are instruments that facilitate purchase of goods and services, conduct of financial services, enable remittance facilities, etc., against the value stored therein.</li></ul>



	<ul style="list-style-type: none"><li>• Examples includes <b>online wallets (like Paytm Wallet, Amazon Pay Wallet, PhonePe Wallet, etc.), smart cards, magnetic chips, vouchers and preloaded gift cards</b>. A PPI payment done via UPI refers to a transaction done via such a wallet through a UPI QR code.</li><li>• PPIs can be issued by banks and non-banks. Banks can issue PPIs after obtaining approval from RBI. The non-bank PPI issuers are companies incorporated in India and registered under the <b>Companies Act, 1956 / 2013</b>.</li><li>• Closed System PPIs are issued by an entity for facilitating the purchase of goods and services from that entity only. Cash withdrawals are not permitted. These instruments cannot be used for payment or settlement for third party services.</li></ul>
27	<p style="text-align: center;"><b><u>NEW INDIA LITERACY PROGRAMME</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Government has launched a new Centrally Sponsored Scheme namely, <b>“New India Literacy Programme” (NILP)</b> for implementation during five years from the FYs 2022-23 to 2026-27.</li><li>• The scheme aims to cover a <b>target of 5 crore non-literates in the age group of 15 years and above</b>.</li><li>• The Scheme has five components: (i) Foundational Literacy and Numeracy, (ii) Critical Life Skills, (iii) Vocational Skills Development, (iv) Basic Education and (v) Continuing Education.</li><li>• The beneficiaries under the scheme are identified through door-to-door survey on Mobile App by the surveyors in the States/UTs.</li><li>• The non-literate can also avail the benefit of the scheme through direct registration from any place through mobile app. The scheme is mainly based on volunteerism for teaching and learning.</li><li>• The scheme is based on technology and implemented predominantly through online mode. The teaching learning material and resources have been made available on the <b>DIKSHA platform</b> of NCERT and can be accessed through the mobile-apps.</li></ul>
28	<p style="text-align: center;"><b><u>DEEN DAYAL UPADHYAYA GRAMEEN KAUSHALYA YOJANA (DDU-GKY)</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Union Minister for Rural Development initiated <b>‘Captive Employment’</b> initiative under <b>Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)</b>.</li><li>• ‘Captive Employment’, is a first of its kind initiative aimed at addressing the vision of a dynamic and <b>demand-based skilling ecosystem</b> catering to the requirements of industry partners <b>ensuring sustainable placements for rural poor youth</b>.</li><li>• The initiative is a shot in the arm for the DDU-GKY programme, assuring post-training placement of candidates for a minimum of six months with a minimum CTC of Rs 10,000/-.</li><li>• Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) is a <b>placement linked skilling program of the Ministry of Rural Development under the aegis of National Rural Livelihood Mission (NRLM)</b>. This program caters to the rural poor youth. It was launched on 25 September 2014 and is funded by MoRD, Govt of India.</li><li>• Demand-led skill training aimed at rural poor youth between 15 and 35 years of age is provided. Mandatory coverage of socially disadvantaged groups (SC/ST-50%; Minority-15%; Women-33%). The emphasis is on Career Progression rather than just training.</li></ul>
29	<p style="text-align: center;"><b><u>NATIONAL ACTION PLAN FOR DOG MEDIATED RABIES ELIMINATION BY 2030 (NAPRE)</u></b></p> <ul style="list-style-type: none"><li>• Under this, the union will encourage all the States and UTs to make Rabies a notifiable Disease. A notifiable disease is any disease that is required by law to be reported to government authorities.</li><li>• <b>“Joint Inter-Ministerial Declaration Support Statement”</b> for Elimination of Dog mediated Rabies from India by 2030 was also launched. It emphasized on the need of <b>One Health Approach</b> for achieving the 2030 targets.</li></ul>



30	<p style="text-align: center;"><b><u>PRADHAN MANTRI UJJWALA YOJANA (PMUY)</u></b></p> <ul style="list-style-type: none"><li>• Recently, Cabinet has approved <b>targeted subsidies to Pradhan Mantri Ujjwala Yojana Consumers</b>.</li><li>• The Government launched PMUY in May 2016, to provide deposit-free LPG connections to adult women of poor households.</li><li>• It aims to safeguard the health of women &amp; children by providing them with a <b>clean cooking fuel – LPG</b>. Ensuring women’s empowerment, especially in rural India, the connections will be issued in the name of women of the households.</li><li>• After the successful completion of Ujjwala Phase 1, provision for an additional One crore LPG connections under Ujjwala 2.0 was announced in the Union Budget 2021-22. It aims to provide deposit-free LPG connections to those low-income families who could not be covered under the earlier phase of PMUY.</li><li>• As on 1st March 2023, there are 9.59 crore PMUY beneficiaries.</li></ul>
31	<p style="text-align: center;"><b><u>MARITIME INDIA VISION (MIV)-2030</u></b></p> <ul style="list-style-type: none"><li>• The <b>Ministry of Ports, Shipping and Waterways</b> has recently released the blueprint to increase share of Inland transport through <b>“Maritime India Vision (MIV)-2030”</b>. The vision comprises 150 initiatives across 10 themes, covering port infrastructure, logistics efficiency, technology, policy framework, shipbuilding, coastal shipping, inland waterways, cruise tourism, marine ecosystem, and maritime security.</li><li>• There is a need to push for Inland Water Transport (IWT) mode as these are cheaper operating costs, relatively lesser fuel consumption, less polluting mode of transportation and more environmentally friendly mode of transportation.</li></ul>
32	<p style="text-align: center;"><b><u>GLOBAL TERRORISM INDEX (GTI)</u></b></p> <ul style="list-style-type: none"><li>• Recently, the 2023 edition of the <b>Global Terrorism Index (GTI)</b> was released.</li><li>• The Global Terrorism Index (GTI) is a comprehensive study analysing <b>the impact of terrorism for 163 countries covering 99.7 percent of the world’s population</b>.</li><li>• The GTI report is <b>produced by the Institute for Economics &amp; Peace (IEP) using data from Terrorism Tracker and other sources</b>.</li><li>• The GTI produces a composite score so as to provide an ordinal ranking of countries on the impact of terrorism. The GTI scores each country on a scale from 0 to 10; Where 0 represents no impact from terrorism and 10 represents the highest measurable impact of terrorism. The GTI considers deaths, incidents, hostages and injuries from terrorism.</li></ul>
33	<p style="text-align: center;"><b><u>UN DEMOCRACY FUND (UNDEF)</u></b></p> <ul style="list-style-type: none"><li>• UNDEF was <b>created by UN Secretary-General Kofi A. Annan in 2005</b> as a <b>United Nations General Trust Fund</b> to support democratization efforts around the world.</li><li>• It was welcomed by the General Assembly in the <b>Outcome Document of the 2005 World Summit</b>.</li><li>• UNDEF subsists entirely on voluntary contributions from Governments.</li><li>• UNDEF funds projects empowers civil society, promote human rights, and encourage the participation of all groups in democratic processes. The large majority of UNDEF funds go to local civil society organizations.</li><li>• The Advisory Board, constituted by the Secretary General, includes eight largest Member State contributors and six other states to reflect diverse geographical representation.</li><li>• <b>India has been a member of the Board since the beginning.</b></li><li>• India and the US were instrumental in the establishment of the UN Democracy Fund in 2005, with India contributing \$5 million to the fund in its early years. However, India’s funding for the UNDEF has dwindled since 2012.</li></ul>



34	<p style="text-align: center;"><b><u>25<sup>TH</sup> ANNIVERSARY OF THE GOOD FRIDAY AGREEMENT</u></b></p> <ul style="list-style-type: none"><li>• The Good Friday Agreement was <b>signed on April 10, 1998, between factions of Northern Ireland, and the governments of Britain and Ireland.</b></li><li>• It ended 30 years of the violence known as ‘<b>The Troubles</b>’, has been hailed as a model deal to end long-standing conflicts, and <b>fetches a joint Nobel peace prize for David Trimble and John Hume, then leaders of the two opposing parties in Northern Ireland.</b></li><li>• It was <b>signed to end decades of violence in Northern Ireland among those who wished to remain with the United Kingdom (UK) and those who wanted to join Ireland.</b></li></ul>
35	<p style="text-align: center;"><b><u>FINLAND’S TO JOIN NATO</u></b></p> <ul style="list-style-type: none"><li>• On April 4, 2023, <b>Finland finally became the 31st country to join the North Atlantic Treaty Organization (NATO) after applying last May.</b> The Finnish president, Sauli Niinistö, marked the event by stating that “the era of military non-alignment in our history has come to an end”.</li><li>• The move to join the security alliance was precipitated by the Russian invasion of Ukraine last year, Finland’s historical experience with Moscow, and the changing nature of international geopolitics with a declining Russian influence.</li></ul>
36	<p style="text-align: center;"><b><u>SLINEX-23</u></b></p> <ul style="list-style-type: none"><li>• Recently, India– Sri Lanka has participated in an <b>annual bilateral maritime exercise.</b></li><li>• The <b>10th edition of India Sri Lanka annual bilateral maritime Exercise SLINEX-23</b> is underway at <b>Colombo.</b></li><li>• The Indian Navy is represented by INS Kiltan, an indigenous Kamorta class ASW corvette and INS Savitri, an Offshore Patrol Vessel.</li><li>• SLINEX aims at enhancing interoperability, improving mutual understanding and exchanging best practices while jointly undertaking multi-faceted maritime operations.</li></ul>
37	<p style="text-align: center;"><b><u>THE U.N. WATER CONFERENCE</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>United Nations 2023 Water Conference</b> was held in New York and was the first such meeting on water after 46 years. The conference coincided with the mid-term comprehensive review of the <b>International Decade for Action.</b></li><li>• In a report entitled ‘<b>Water for Sustainable Development 2018–2028</b>’, the U.N. recognised the urgent need for action given that we are not on track to meet the <b>2030 Sustainable Development Goal (SDG) no. 6 for water: “Ensure availability and sustainable management of water and sanitation for all”.</b></li></ul>
38	<p style="text-align: center;"><b><u>UK TO JOIN COMPREHENSIVE AND PROGRESSIVE AGREEMENT FOR TRANS-PACIFIC PARTNERSHIP (CPTPP)</u></b></p> <ul style="list-style-type: none"><li>• Comprehensive and Progressive Agreement for Trans-Pacific Partnership is an <b>11-nation Indo-Pacific free-trade bloc.</b></li><li>• Its members are Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam.</li><li>• Britain will be the first new member since the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) was <b>created in 2018</b>, and the first European country in the bloc.</li><li>• The bloc, which is home to 500 million people, will be worth 15% of global GDP once the UK joins.</li></ul>
39	<p style="text-align: center;"><b><u>EXPANSION OF SHANGHAI COOPERATION ORGANIZATION (SCO)</u></b></p> <ul style="list-style-type: none"><li>• Recently, <b>Saudi Arabia joined Shanghai Cooperation Organization (SCO) as a dialogue partner.</b></li><li>• SCO is a <b>Eurasian political, economic and military organisation</b> aiming to maintain peace, security, and stability in the region. It covers 40% of the global population, nearly 20% of the global GDP, and 22% of the world’s landmass.</li></ul>



- The Shanghai Cooperation Organisation was announced in 2001 by the Republic of Kazakhstan, the People's Republic of China, the Kyrgyz Republic, The Russian Federation, and the Republic of Tajikistan.
- The SCO currently comprises of eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan), four Observer States interested in acceding to full membership (Afghanistan, Belarus, Iran, and Mongolia) and six "Dialogue Partners" (Armenia, Azerbaijan, Cambodia, Nepal, Sri Lanka and Turkey).
- SCO Secretariat in Beijing and Executive Committee of the **Regional Anti-Terrorist Structure (RATS)** in Tashkent are its two permanent bodies.
- India and Pakistan became full members in 2017.
- The Chairmanship of SCO is held by rotation for a year among member states.

### **DEPLETED URANIUM AMMUNITION**

- Recently, the British government announced that it would provide Ukraine with **armour-piercing rounds (alongside Challenger 2 tanks) containing depleted uranium**. Due to its high density, which is about twice that of lead, DU has been used in munitions designed to penetrate armour plate and make for a formidable weapon against heavily armoured tanks. It can also be used to reinforce military vehicles, such as tanks.
- Munitions containing DU explode upon impact and release uranium oxide dust.
- Depleted uranium missiles were developed by the US and UK in the 1970s. They were first used in the Gulf War in 1991 to destroy T-72 tanks in Iraq, and then in Kosovo in 1999, and during the Iraq War in 2003.
- US, Britain, Russia, China, France and Pakistan produce DU weapons, which are not classified as nuclear weapons.

### **INDIA-BANGLADESH FRIENDSHIP PIPELINE (IBFPL)**

- Recently, the Prime Ministers of India and Bangladesh inaugurated the **India-Bangladesh Friendship Pipeline (IBFPL)**. It is the first cross-border energy pipeline between the two countries.
- The entire pipeline is 131.5 km long. The pipeline runs from the Siliguri-based marketing terminal of the Numaligarh Refinery Limited (NRL) to the Parbatipur depot of Bangladesh Petroleum Corporation (BPC).
- The pipeline has been built at an estimated cost of Rs.377 crores and the Bangladesh's section of the pipeline cost Rs.285 crores. The construction of the project started in 2018 with the help of India's grant funding.
- It will be used to supply diesel from India to Bangladesh. The supply will start on an experimental basis in June this year. The pipeline will transport one million metric ton of high-speed diesel every year to seven districts of North Bangladesh.
- The fuel transport deal will be effective for 15 years with an option for further extension.
- The operation of India- Bangladesh Friendship Pipeline will put in place a sustainable, reliable, cost-effective and environment friendly mode of transporting **HSD (High-speed diesel)** from India to Bangladesh and will further enhance cooperation in energy security between the two countries.

### **SALT MARSHES**

- Salt marshes have been playing an outsized role in stabilising the environment. But more than 90 per cent of these **biologically productive ecosystems** may soon succumb to sea level rise by the turn of the century.
- Salt marshes are **coastal wetlands that are flooded and drained by salt water brought in by the tides**. They are found in intertidal zones along coastlines, usually in protected areas such as estuaries or bays.



- They are dominated by grasses and other salt-tolerant plants such as sedges, cordgrass, rushes, and mangroves. Salt marshes occur worldwide, particularly in middle to high latitudes.

### **BIOTRANSFORMATION TECHNOLOGY**

- Biotransformation technology is a novel approach to ensure plastics that escape refuse streams are processed efficiently and broken down. The tech was **co-developed by the Imperial College in London, UK, and a Britain-based startup, Polymateria.**
- Plastics made using this technology are given a pre-programmed time during which the manufactured material looks and feels like conventional plastics **without compromising on quality.** Once the product expires and is exposed to the external environment, it self-destructs and bio-transforms into bioavailable wax. This wax is then consumed by microorganisms, converting waste into water, CO<sub>2</sub>, and biomass. This biotransformation technology is the world's first that ensures polyolefins fully biodegrade in an open environment causing no microplastics.

### **THE SARUS CRANE**

- Recently, the Uttar Pradesh (U.P.) Forest Department has relocated a **Sarus crane, Uttar Pradesh's State bird**, from Mandka village in Amethi to Raebareli's Samaspur Bird Sanctuary.
- It's known with the Scientific Name as **Grus Antigone.** The Sarus crane is the **world's tallest flying bird.** The birds are predominantly grey, with long, pale red legs. Their naked head is red, as is their neck. Juveniles have buff feathers on their head and slightly darker plumage.
- The Sarus crane is known for its ability to live in association with humans, inhabiting open, cultivated, well-watered plains and marshlands. These areas suit them well for foraging, roosting and nesting.
- These bird's nest on the ground. A bulky nest is formed from wetland vegetation.
- They are found in open wetlands in South Asia, seasonally flooded Dipterocarpus forests in Southeast Asia, and Eucalyptus-dominated woodlands and grasslands in Australia.

### **NATIONAL QUANTUM MISSION (NQM)**

- Recently, the Union Cabinet has approved the **National Quantum Mission (NQM)**, putting India among the top six leading nations involved in the research and development of quantum technologies.
- **About National Quantum Mission (NQM)**
- Its total cost is Rs.6003.65 crore from 2023-24 to 2030-31.
- It will mainly work towards strengthening India's research and development in the quantum arena alongside indigenously building quantum-based (physical qubit) computers which are far more powerful to perform the most complex problems in a highly secure manner.
- DST will lead this national mission, supported by other departments. Presently, R&D works in quantum technologies are underway in the US, Canada, France, Finland, China and Austria.
- It will entail the development of satellite-based secure communications between a ground station and a receiver located within 3,000 km during the first three years. For satellite-based communication within Indian cities, NQM will lay communication lines using Quantum Key Distribution over 2,000kms. For long-distance quantum communication, especially with other countries, tests will be conducted in the coming years.
- The mission will focus on developing quantum computers (qubit) with physical qubit capacities ranging between 50 – 1000 qubits developed over the next eight years.
- Computers up to 50 physical qubits will be developed over three years, 50 – 100 physical qubits in five years, and computers up to 1000 physical qubits in eight years.





	<ul style="list-style-type: none"><li>• It will also support the design and synthesis of quantum materials such as superconductors, novel semiconductor structures, and topological materials for the fabrication of quantum devices.</li><li>• Single-photon sources/detectors, and entangled photon sources will also be developed for quantum communications, sensing, and metrological applications.</li><li>• Four Thematic Hubs (T-Hubs) will be set up in top academic and National R&amp;D institutes on the domains - Quantum Computing, Quantum Communication, Quantum Sensing &amp; Metrology, and Quantum Materials &amp; Devices.</li><li>• The hubs will focus on the generation of new knowledge through basic and applied research as well as promote R&amp;D in areas that are mandated to them.</li></ul>
46	<p style="text-align: center;"><b><u>GIANT MAGNETORESISTANCE (GMR)</u></b></p> <ul style="list-style-type: none"><li>• Recently, the researchers found that “<b>graphene displays an anomalous Giant magnetoresistance (GMR) at room temperature</b>”.</li><li>• Magnetoresistance is the tendency of a material to change the value of its electrical resistance in an externally-applied magnetic field.</li><li>• <b>Giant Magnetoresistance (GMR)</b> is the large change in the electrical resistance which is induced by the application of a magnetic field to thin films composed of alternating ferromagnetic and nonmagnetic layers.</li><li>• The 2007 Nobel Prize in Physics was awarded to Albert Fert and Peter Grünberg for the discovery of GMR.</li></ul>
47	<p style="text-align: center;"><b><u>THE LARGE HADRON COLLIDER (LHC)</u></b></p> <ul style="list-style-type: none"><li>• The LHC is the <b>world’s largest science experiment that smashes tiny particles called hadrons together at really high speeds. It uses protons as the particles and has a long circular pipe where they’re accelerated.</b></li><li>• It is built by the <b>European Organisation for Nuclear Research (CERN)</b>.</li><li>• LHC’s goal is to test the <b>Standard Model</b>, the mathematical framework physicists use to describe all of the known fundamental particles in the universe and the forces through which they interact.</li><li>• LHC studies the smallest known building blocks of matter. It fires two beams of protons almost at the speed of light in opposite directions, guided by the magnetic field of superconducting electromagnets.</li><li>• <b>ATLAS</b> is the largest general purpose particle detector experiment at the LHC; the <b>Compact Muon Solenoid (CMS)</b> experiment is one of the largest international scientific collaborations in history, with the same goals as ATLAS, but which uses a different magnet-system design.</li></ul>
	<b><u>FOR THE MONTH OF JANUARY</u></b>
1	<p style="text-align: center;"><b><u>PIEZOELECTRIC EFFECT IN LIQUIDS</u></b></p> <ul style="list-style-type: none"><li>• For the first time, scientists have reported evidence of the piezoelectric effect in liquids.</li><li>• In the piezoelectric effect, a body develops an electric current when it is squeezed. The piezoelectric effect was discovered in 1880, in quartz.</li><li>• Quartz is the most famous piezoelectric crystal. <b>Quartz is silicon dioxide (SiO<sub>2</sub>)</b>. The quartz crystal consists of silicon and oxygen atoms at the four vertices of a three-sided pyramid; each oxygen atom is shared by two pyramids. These pyramids repeat themselves to form the crystal.</li><li>• It is used in this capacity in analog wristwatches and clocks. Such crystals are also used in cigarette lighters, electric guitars, TV remote controls, audio transducers, and other instruments where converting mechanical stress to a current is useful.</li><li>• When a mechanical stress is applied – i.e., when the crystal is squeezed – the position of the charge is pushed further from the centre, giving rise to a small voltage. This is the source of the effect.</li></ul>



## **GISAID (GLOBAL INITIATIVE ON SHARING ALL INFLUENZA DATA)**

- **GISAID (Global Initiative On Sharing All Influenza Data)** is an open-access database that was launched in 2008. Its initiative promotes the rapid sharing of data from all influenza viruses and the coronavirus causing COVID-19.
- It hit international headlines when, in January 2020, just before the pandemic began, researchers in China uploaded the first genetic sequence of the novel coronavirus to its server, giving the international community researchers quick and valuable insight into the virus that would change the world.
- GISAID's terms of use require those who download the data to make best efforts to collaborate with the data generators and involve them in such analyses and further research using such data.
- The Initiative ensures that open access to data in GISAID is provided free-of-charge to all individuals that agreed to identify themselves and agreed to uphold the GISAID sharing mechanism governed through its Database Access Agreement.
- The GISAID Initiative receives administrative support from Freunde von GISAID e.V. a **registered non-profit association**, organized and operated exclusively for charitable, scientific and educational purposes.

## **STARBERRY-SENSE**

- Researchers at the **Indian Institute of Astrophysics (IIA)** have developed a low-cost star sensor for astronomy and small CubeSat class satellite missions.
  - The star sensor named Starberry-Sense can help small CubeSat class satellite missions find their orientation in space.
  - The Starberry-Sense is ready for launch on the **PS4-Orbital Platform** by ISRO and can be used for CubeSats and other small satellite missions in the future.
- Star sensor**
- Any satellite needs to know where it is pointed in space, and the instrument used for this purpose is called a star sensor.
  - The position of stars in the sky is fixed relative to each other and can be used as a stable reference frame to calculate the orientation of a satellite in orbit.
  - This is done by correctly identifying the stars in the sky towards which the star sensor is pointed. The star sensor is essentially a celestial compass.

## **STATE ENERGY EFFICIENCY INDEX 2021-22**

- Recently, the **Ministry of Power** has released the **State Energy Efficiency Index (SEEI) 2021-22**.
- There are four categories in the index i.e., **Front Runner, Achiever, Contender and Aspirant**.
- Front Runner category (>60 points): It has 5 states - Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana.
- Achiever Category (50-60 points): Assam, Haryana, Maharashtra, Punjab.
- The objective of the Index is driving decarbonisation efforts in states and outlining recommendations to help states drive change in energy efficiency, which will contribute towards the fulfilment of SDGs and NDC.
- The **State Energy Efficiency Index (SEEI) 2021-22** is developed by **Bureau of Energy Efficiency (BEE) in association with Alliance for an Energy Efficient Economy (AEEE)**. SEEI is a tool designed to track Energy Efficiency initiatives in the states and UTs. It provides insights on focus areas of intervention with respect to state-level policy adoption, effective implementation, and monitoring.



## STATE OF WORLD POPULATION REPORT, 2023

- Recently, the **State of World Population Report, 2023** was released by the UN Population Fund (UNFPA).
- **Highlights of the report**
- India is set to overtake China to become the world's most populous country by the middle of 2023, according to data released by the United Nations.
- India's population is pegged to reach 142.86 crore against China's 142.57 crore. This shows India will have 29 lakhs more people than China.
- The world's population hit the 800-crore mark in November 2022. Just eight countries will account for half the projected growth in global population by 2050. The Democratic Republic of Congo, Egypt, Ethiopia, **India**, Nigeria, Pakistan, the Philippines and the United Republic of Tanzania.
- Two-thirds of people now live in a country where lifetime fertility corresponds with zero growth.
- The United States is a distant third, with an estimated population of 34 crore.
- The report says that contrary to the alarm bells about exploding numbers, population trends everywhere point to slower growth and ageing societies.

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### DEMOGRAPHIC INDICATORS

	Population	15-64 years	65+	TFR	Life expectancy
India	1,428.6 mn	68%	7%	2.0	72.5 yrs
China	1,425.7 mn	69%	14%	1.2	79 yrs
World	8,045 mn	65%	10%	2.3	73.5 yrs

UNFPA's State of World Population Report 2023

## MAHATMA JYOTIBA PHULE

- Every year April 11 is celebrated as Jyotiba Phule Jayanti.
- **Jyotirao 'Jyotiba' Govindrao Phule** was an Indian writer, social activist, thinker and anti-caste social reformer born in the Satara district of Maharashtra in 1827.
- He was bestowed with the honorific **Mahatma** title by **Maharashtrian social activist Vithalrao Krishnaji Vandekar in 1888**. He is believed to be the first Hindu to start an orphanage for the unfortunate children.
- Jyotiba realised the bad conditions of widows and established an ashram for young widows and eventually became an advocate of the idea of **Widow Remarriage**.
- His orphanage was established in an attempt to reduce the rate of infanticide. Along with his longtime friend Sadashiv Ballal Govande and Savitribai, he started an **infanticide prevention centre**.
- Jyotirao condemned the orthodox Brahmins and other upper castes and **campaigned against the authoritarianism of the upper caste people and urged the "peasants" and "proletariat" to defy the restrictions imposed upon them**.
- Jyotirao Phule was the first person to coin the term '**Dalits**' to apply to all people considered lower caste and untouchables by the Brahmins.

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	<ul style="list-style-type: none"><li>In 1873, Jyotiba Phule formed the <b>Satya Shodhak Samaj (Society of Seekers of Truth)</b> which undertook a systematic deconstruction of existing beliefs and history, only to reconstruct an equality promoting version.</li></ul>
7	<p style="text-align: center;"><b><u>UNSC 1267 COMMITTEE</u></b></p> <ul style="list-style-type: none"><li>Recently, <b>China placed a “hold” on a joint India-U.S. proposal, to designate Lashkar-e-Taiba commander Shahid Mehmood under the United Nations Security Council’s (UNSC) 1267 list of terrorists affiliated to Al Qaeda and ISIS.</b></li><li><b>The 1267 committee that was set up in 1999 (updated in 2011 and 2015) allows any UN member state to propose adding the name of a terrorist or terror group to a consolidated list, maintained by the Committee, that has affiliations to Al Qaeda and ISIS.</b> India has successfully proposed the listing of several terror entities in the past two decades, including Pakistan-based Jaish-e-Mohammed (JeM) and Lashkar-e-Taiba.</li></ul>
8	<p style="text-align: center;"><b><u>THE AMBEDKAR CIRCUIT</u></b></p> <ul style="list-style-type: none"><li>Recently, the <b>Bharat Gaurav Tourist train tour on Ambedkar Circuit</b> was flagged from Hazrat Nizamuddin Railway Station.</li><li>The Ambedkar Circuit was the fourth in the list of special tourist circuits namely, <b>the Ramayana Circuit, Buddhist Circuit, and North East Circuit.</b></li><li><b>IRCTC in association with the Ministry of Tourism is operating its first tour on the Ambedkar circuit.</b></li><li>The eight-day special tour will include visits to prominent places associated with the life of Dr. Ambedkar like <b>New Delhi, Mhow, Nagpur, and the sacred Buddhist sites of Sanchi, Sarnath, Gaya, Rajgir, and Nalanda.</b></li></ul>
9	<p style="text-align: center;"><b><u>WORLD PRESS FREEDOM DAY AND THE WINDHOEK DECLARATION</u></b></p> <ul style="list-style-type: none"><li>Every year, May 3 is observed as <b>World Press Freedom Day</b> to raise awareness about the state of press freedom globally as well the responsibilities and perils of the job.</li><li>It was proclaimed by the <b>United Nations General Assembly</b> in December 1993, and since then, the <b>anniversary of the Windhoek Declaration is celebrated as World Press Freedom Day.</b></li><li>The Windhoek Declaration was adopted on May 3, the last day of the seminar. <b>It consisted of 19 principles related to “independent, pluralistic, and free press”.</b> Later, in 1993, <b>May 3 was proclaimed as World Press Freedom Day by the U.N.</b></li><li>The Declaration builds on <b>Article 19 of the Universal Declaration of Human Rights</b>, which relates to the right to freedom of opinion and expression. <b>According to the Windhoek Declaration, a free press is essential for democracy as well as economic development.</b></li></ul>
10	<p style="text-align: center;"><b><u>ARTICLE 142 OF THE CONSTITUTION</u></b></p> <ul style="list-style-type: none"><li>A five-judge or constitution bench of the Supreme Court held that a court can directly grant divorce under <b>Article 142</b> of the Constitution.</li><li>The Court mentioned that in cases where the marriage has irretrievably broken down, without referring the parties to a family court first, where they must wait for 6-18 months for a decree of divorce by mutual consent. The decision enables couples to bypass the time-consuming process of obtaining a decree of divorce through family courts, which have a large number of similar cases pending.</li><li>Article 142 provides a unique power to the Supreme Court, to do “complete justice” between the parties, where, at times, the law or statute may not provide a remedy. In those situations, the Court can extend itself to put an end to a dispute in a manner that would fit the facts of the case.</li></ul>



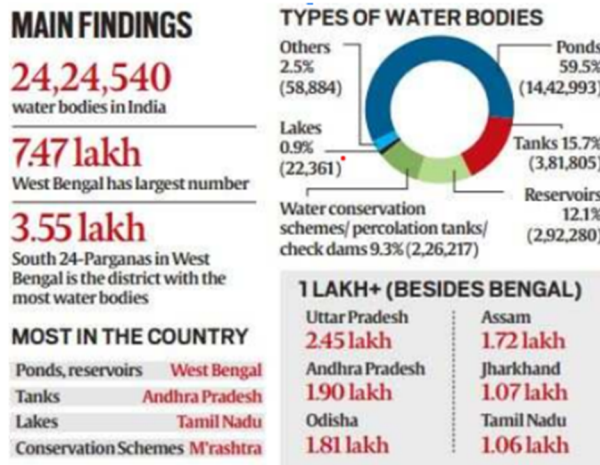
11	<p style="text-align: center;"><b><u>GIG WORKERS</u></b></p> <ul style="list-style-type: none"><li>• A 2022 report by NITI Aayog estimates that nearly <b>23.5 million workers will be engaged in the gig economy by 2029</b>. However, since the gig economy falls <b>outside the scope of traditional, full-time employment</b>, gig workers are usually not afforded basic employment rights such as minimum wages, overtime pay, medical leave, and a statutorily bound resolution of employer-employee disputes.</li><li>• Gig workers refer to workers outside of the traditional employer-employee relationship. There are <b>two groups of gig workers— platform workers, and non-platform workers</b>. When gig workers use online algorithmic matching platforms or apps to connect with customers, they are called <b>platform workers</b>. Those who work outside of these platforms are <b>non-platform workers</b>, including construction workers and non-technology-based temporary workers.</li></ul>
12	<p style="text-align: center;"><b><u>UNIFIED SECURITY FORCE</u></b></p> <ul style="list-style-type: none"><li>• The government is considering the creation of a <b>Unified Security Force</b> for all airports in the country along the lines of the <b>Transportation Security Administration (TSA) of the U.S.</b> which will also combine immigration and customs.</li><li>• The Transportation Security Administration (TSA) was created in the wake of 9/11 in the U.S. to strengthen the security of the nation's transportation systems while ensuring freedom of movement for people and commerce.</li><li>• In India, the proposal comes at a time when the country is pegged to be the <b>third-largest aviation market</b> in the world by 2024 and is already the <b>third-largest domestic aviation market after the U.S. and China</b>. It is also the <b>world's fastest-growing market at 9%</b>, though it accounts for only 2% of the global passenger traffic.</li></ul>
13	<p style="text-align: center;"><b><u>NATIONAL MANUFACTURING INNOVATION SURVEY (NMIS) 2021-22</u></b></p> <ul style="list-style-type: none"><li>• NMIS 2021-22 is a joint study by the <b>Department of Science and Technology (DST)</b> and the <b>United Nations Industrial Development Organization (UNIDO)</b> to evaluate the innovation performance of manufacturing firms in India. This study is a follow-up of DST's first National Innovation Survey held in 2011.</li><li>• 25.01% of the 8,074 firms surveyed were considered innovative. Of the 25% firms reporting innovations in the survey, 83% had increased turnover, 80% opened new market opportunities. Only 15% of micro firms are innovative while it is 56% in large firms.</li><li>• More than 45% of firms reported that the most frequent barrier was the <b>lack of funds within the firm or group</b>, followed by high innovation costs (40.30%) and the lack of finance from external sources (39.52%).</li><li>• Most critical barriers were <b>low demand for innovations in the market (71.23%)</b>.</li><li>• Firms with staff using innovative tools, an Industry 4.0 strategy, an R&amp;D strategy have better innovation performance.</li></ul>
14	<p style="text-align: center;"><b><u>NATIONAL PANCHAYATI RAJ DAY</u></b></p> <ul style="list-style-type: none"><li>• The Ministry of Panchayati Raj in collaboration with the Government of Madhya Pradesh commemorated <b>National Panchayati Raj Day (NPRD)</b>.</li><li>• It is celebrated on April 24 every year in India to commemorate the historic day when the Panchayati Raj System was introduced in the country.</li><li>• The Panchayati Raj System is a <b>decentralized system of governance in India</b>, where local bodies or Gram Panchayats are given the power to govern themselves and make decisions for the development of their respective areas.</li><li>• This system was introduced in 1993 by the <b>73rd Constitutional Amendment Act</b>, which aimed at bringing democracy at the grassroot levels and empowering people in rural areas.</li></ul>



## INDIA'S FIRST WATER BODY CENSUS

- Recently, the **Ministry of Jal Shakti** has released the report of **India's first water bodies census**.
- India's first water bodies census contains a **comprehensive database of ponds, tanks, lakes, and reservoirs in the country**.
- As per the report, **West Bengal's South 24 Pargana has been ranked as the district having the highest (3.55 lakh) number of water bodies across the country**. The district is followed by Andhra Pradesh's Ananthapur (50,537) and West Bengal's Howrah (37,301).
- The census found that 1.6% of enumerated water bodies — 38,496 out of 24,24,540 — had been encroached upon. More than 95% of these were in rural areas — which is logical because more than 97% of the water bodies covered by the census were in the rural areas. In almost 63% of encroached water bodies, less than a quarter of the area was under encroachment; In about 12% water bodies, more than three-quarters of the area was under encroachment.
- Uttar Pradesh accounted for almost 40% (15,301) of water bodies under encroachment, followed by Tamil Nadu (8,366) and Andhra Pradesh (3,920). No encroachment was reported from West Bengal, Sikkim, Arunachal Pradesh, and Chandigarh.

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## INDIAN HANDLOOM INDUSTRY

- Handloom refers to the process of weaving cloth using a manually operated loom.
- Handloom weaving is **one of the largest economic activities after agriculture** providing direct and indirect employment to 35.23 lakh weavers and allied workers.
- This sector **contributes nearly 15% of the cloth production in the country** and also contributes to the export earnings of the country; 95% of the world's hand-woven fabric comes from India.
- The sector employs 43.31 lakh weavers directly and indirectly throughout the country with 77% of them being women.
- Almost every state of India has a unique handloom product to offer such as Jacquard from Uttar Pradesh, Chanderi from Madhya Pradesh, Phulkar from Punjab, Brocade from Benares and Daccai from West Bengal.

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## Indian Handloom Sector at a Glance



Handloom sector is **second** largest employment provider

**95%** of handwoven textiles manufactured in India for global usage

Nearly **15%** of cloth production in India is from the handloom sector

Infrastructure of **2.4 million** looms with 8 major clusters

### **FIRST GLOBAL BUDDHIST SUMMIT**

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- Recently, PM has inaugurated the **First Global Buddhist Summit** hosted by the Ministry of Culture in collaboration with the International Buddhist Confederation.
- Theme: “Responses to Contemporary Challenges: Philosophy to Praxis”.
- The Summit is an effort towards engaging the global Buddhist Dhamma leadership and scholars on matters of Buddhist and universal concerns, and to come up with policy inputs to address them collectively.

### **WHAT IS THE WASHINGTON DECLARATION?**

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- Recently, the South Korean President Mr. Yoon arrived in the U.S. to commemorate the **70th anniversary of U.S.-South Korea bilateral relations**. A highlight of the visit was the signing of the “**Washington Declaration**” as a nuclear deterrence strategy.
- The agreement outlines cooperation towards deterrence.
- According to the declaration, an American nuclear ballistic submarine would be deployed in the Korean peninsula; a nuclear consultative group would be formed to formulate principles of joint response tactics; South Korea would receive Intel from the U.S. regarding nuclear advancements; and the U.S. will strengthen South Korea’s nuclear deterrence capabilities through joint military training programs and an annual intergovernmental simulation.
- The declaration reaffirmed the non-proliferation Treaty implying that South Korea would not venture into the creation of its own independent nuclear capabilities and would instead focus on deterrence measures through an alliance-based approach. It also mandates the U.S. President as the only ‘sole authority’ to use the nuclear arsenal of the U.S. in the event of a nuclear confrontation.

### **THE EU’S CARBON BORDER TAX**

#### ***Why is it in the news?***

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- Recently, the European Parliament has voted to approve a sweeping deal to reform the EU’s carbon market to **cut emissions by 62% from 2005 levels by 2030**. The carbon market mechanism has helped slashed power plant and factory emissions by 43% since 2005. The new reform, however, will phase out free CO2 permits to factories by 2034.
- Along with this phasing out of free carbon allowances, the EU will phase in another ambitious and first-of-its-kind policy— the **Carbon Border Adjustment Mechanism (CBAM)**, aimed at levelling the playing field for EU and non-EU manufacturers and spurring trading partners to adopt carbon pricing regimes as a critical approach to the climate fight.
- The CBAM plans to **impose a tariff on a set of carbon-intensive imports, which will have to be paid by EU importers and companies who export such goods to EU countries**.
- With the CBAM, the EU also wants to create a level-playing field for business in the bloc with those outside by making equal the price for the carbon content of goods regardless of where they are made.



20	<p style="text-align: center;"><b><u>THE EU'S ARTIFICIAL INTELLIGENCE ACT</u></b></p> <ul style="list-style-type: none"><li>• The members of the European Parliament reached a preliminary deal on a new draft of the <b>European Union's ambitious Artificial Intelligence Act</b>.</li><li>• The Act broadly defines AI as <b>"software that is developed with one or more of the techniques that can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with"</b>.</li><li>• Under the definition, it identifies AI tools based on machine learning and deep learning, knowledge and logic-based approaches and statistical approaches.</li><li>• The Act's central approach is the classification of AI tech based on the level of risk they pose to the "health and safety or fundamental rights" of a person. There are <b>four risk categories in the Act— unacceptable, high, limited and minimal</b>.</li></ul>
21	<p style="text-align: center;"><b><u>CHINA'S ANTI-ESPIONAGE LAW</u></b></p> <ul style="list-style-type: none"><li>• Recently, China's legislature approved sweeping <b>amendments to China's anti-espionage law</b>, broadening the scope of what may be defined as activities related to spying and national security.</li><li>• Article 1 of the law says the idea behind the legislation is <b>"to prevent, stop and punish espionage conduct and maintain national security."</b> The broad ambit of what constitutes "national security" as well as the law's focus on involving a "whole of society" approach to counter-espionage, including from Chinese enterprises and organisations, evoked concerns among both rights groups and foreign enterprises in China.</li><li>• Another article encourages ordinary citizens to take part in national anti-espionage efforts by reporting to the authorities any activity deemed to be suspicious and endangering national security.</li><li>• They have further broadened the law's scope, with one of the changes declaring that <b>"all documents, data, materials, and items related to national security and interests"</b> will be protected on par with what are deemed state secrets.</li><li>• The definition of espionage has also been expanded to include cyber- attacks. Essentially, the transfer of any information deemed by authorities to be in the interest of what they define to be "national security" will now be considered an act of espionage.</li></ul>
22	<p style="text-align: center;"><b><u>OPERATION KAVERI</u></b></p> <ul style="list-style-type: none"><li>• Recently, India airlifted 754 of its stranded citizens from Sudan.</li><li>• Under <b>Operation Kaveri</b>, India has been rescuing its citizens in buses from conflict zones in Khartoum and other troubled areas to Port Sudan from where they are being taken to Jeddah in Indian Air Force's transport aircraft and Indian Navy's ships. From Jeddah, the Indians are being brought home in either commercial flights or IAF's aircraft.</li></ul>
23	<p style="text-align: center;"><b><u>INDIA-UK NET ZERO INNOVATION VIRTUAL CENTRE</u></b></p> <ul style="list-style-type: none"><li>• Recently, the India and the United Kingdom have agreed to create <b>India-UK NET Zero innovation virtual centre</b>.</li><li>• It will provide a platform to bring stakeholders from both countries together to work in some of the focus areas including the <b>Decarbonization of manufacturing processes &amp; transport systems and Green Hydrogen as a renewable source</b>.</li></ul>
24	<p style="text-align: center;"><b><u>EXERCISE AJEYA WARRIOR</u></b></p> <ul style="list-style-type: none"><li>• The 7th edition of the joint military exercise <b>"AJEYA WARRIOR-23"</b> between India and the United Kingdom was conducted at Salisbury Plains, United Kingdom from 27 April to 11 May 2023. It is a <b>biennial training event with the United Kingdom</b>.</li><li>• It is conducted alternatively in the United Kingdom and India. The last edition was held at Chaubatia, Uttarakhand in October 2021.</li></ul>





- Soldiers of the Royal Gorkha Rifles from the UK and Indian Army soldiers from the BIHAR Regiment are participating in the exercise.

### THE WAGNER GROUP IN AFRICA

- The Wagner group is a **Russian paramilitary organisation** headed by Yevgeny Prigozhin. Though it has been reportedly engaged in counter-militancy operations in Africa, its involvement is believed to have a more extensive scope covering political, economic and military fields.
- There have also been reports of the **group supplying arms and weapons, and training regional forces in fighting jihadist threats**. Despite its involvement in the Russia-Ukraine war, the Wagner group's presence in Africa has continued. By siding with the domestic actors in a civil war situation, the group's actions have impacted the democratic process in Africa.
- Additionally, the West has been raising concerns over human rights violations and abuse of civilians related to the Wagner group's presence in Africa.

### THE EU'S NEW CRYPTO-LEGISLATION

- Recently, the **European Parliament, the legislative body of the 27-country block European Union**, has approved the world's first set of comprehensive rules to bring largely unregulated cryptocurrency markets under the ambit of regulation by government authorities. The regulation, called the **Markets in Crypto Assets (MiCA)**, will come into force after formal approval by member states.
- The MiCA legislation will apply to 'cryptoassets', which are broadly defined in the text as "**a digital representation of a value or a right that uses cryptography for security and is in the form of a coin or a token or any other digital medium which may be transferred and stored electronically, using distributed ledger technology or similar technology**".
- This definition implies that it will apply not only to traditional cryptocurrencies like Bitcoin and Ethereum but also to newer ones like stablecoins.
- **Stablecoins** are digital tokens that aim to stay pegged in value with a more stable asset — a fiat currency like the U.S. dollar or other stable cryptocurrencies.
- MiCA will establish new rules for three types of stablecoins — **asset-referenced tokens**, which are linked to multiple currencies, commodities or cryptocurrencies, **e-money Tokens**, which are linked to a single currency and **utility tokens**, which are intended to provide access to a good or service that will be supplied by the issuer of that token.

### REPORT ON CURRENCY & FINANCE 2022-23

- Recently, the **Reserve Bank of India's (RBI) Department of Economic and Policy Research (DEPR)** released a **Report on Currency & Finance 2022-23**.
- The cumulative total expenditure for adapting to climate change in India is estimated to reach **Rs. 85.6 lakh crores (at 2011-12 prices) by 2030**.
- India's goal of achieving the net zero target by 2070 would require an **accelerated reduction in the energy intensity of GDP by about 5% annually and a significant improvement in its energy mix in favour of renewables to about 80% by 2070-71**.
- India's green financing requirement is **estimated to be at least 2.5% of GDP annually till 2030 to address the infrastructure gap caused by climate events**.



## RAIL VIKAS NIGAM LIMITED (RVNL) GRANTED NAVRATNA STATUS

- 28
- Recently, the **Rail Vikas Nigam Limited (RVNL)**, a Central Public Sector Enterprises of Ministry of Railways, has been granted Navratna Status. The company was granted Mini-Ratna status in September 2013.
  - RVNL was incorporated as PSU in 2003, with following functions:
  - Undertaking project development and execution of works covering full project life cycle.
  - Creating Project specific SPVs for individual works, if required.
  - On completion of a Railway project by RVNL, the concerned Zonal Railway will undertake its operation and maintenance.

## QUASARS

- 29
- The collision of two galaxies likely ignites quasars, the new study published in journal Monthly Notices of the **Royal Astronomical Society** highlighted.
  - A quasar (also known as a QSO or quasi-stellar object) is an extremely luminous **active galactic nucleus (AGN)**.
  - Quasars were first discovered six decades ago. They are located in supermassive black holes, which sit in the centre of galaxies.
  - As a supermassive black hole feeds on gas and dust, it releases extraordinary amounts of energy in the form of radiation, resulting in a quasar.
  - Black hole is a point in space where matter is so compressed as to create a gravity field from which even light cannot escape.

## LOCKBIT RANSOMWARE

- 30
- First reported in September 2019 and dubbed the “**abcd**” **virus**, due to the file extension used when encrypting victim’s files, the LockBit ransomware is **designed to infiltrate victims’ systems and encrypt important files**. The virus is categorised as a “**crypto virus**” due to its requests for payment in cryptocurrency to decrypt the files on the victim’s device.
  - The ransomware is therefore typically deployed against victims who feel hindered enough by the disruption to pay heavy sums in exchange for access and can afford to do so.
  - The gang behind the LockBit ransomware reportedly maintains a dark web portal to recruit members and release data of victims who refuse to meet their demands, as part of their business model. In the past, LockBit ransomware has been used to target enterprises and organisations in the U.S., China, India, Ukraine, and Indonesia. Attacks have also been recorded throughout Europe, including in France, Germany, and the U.K.

## STATE OF THE GLOBAL CLIMATE 2022 REPORT

- 31
- Recently, the **State of the Global Climate 2022 report** has been released by the **World Meteorological Organization**.
  - Global GHGs emissions continued to increase in 2022. Carbon dioxide is at 149% of pre-industrial levels, Methane is at 262% of pre-industrial levels, Nitrous oxide is at 124% of pre-industrial levels. The annual increase of methane was 18 ppb from 2020 to 2021. This is the largest increase on record.
  - In 2022, the planet was  $1.15 \pm 0.13$  °C warmer than the pre-industrial (1850-1900) average, making the last 8 years the warmest on record. Despite cooling La Niña conditions, 2022 was the 5th or 6th warmest year.
  - As GHGs accumulate in the atmosphere, temperatures warm on land and in the ocean. It is expected that the ocean will continue to warm well into the future – a change which is irreversible on centennial to millennial time scales.



	<ul style="list-style-type: none"><li>• The Greenland Ice Sheet ended with a negative total mass balance for the 26th year in a row. <b>Summit Station, the highest point in Greenland</b>, had its warmest September and experienced melting for the first time. Heavy rain fell on the ice sheet for the first time.</li></ul>
32	<p style="text-align: center;"><b><u>GUM ARABIC</u></b></p> <ul style="list-style-type: none"><li>• Gum arabic is a natural gum originally consisting of the hardened sap of two species of the <b>Acacia tree</b>. The term "gum arabic" does not legally indicate a particular botanical source.</li><li>• The gum is harvested commercially from wild trees, mostly in Sudan (80%) and throughout the <b>Sahel region, from Senegal to Somalia</b>.</li><li>• It is soluble in water, edible, and used primarily in the food industry and soft-drink industry as a stabilizer (which helps bind together food and drink ingredients).</li><li>• It is a key ingredient in traditional lithography and is used in printing, paints, glues, cosmetics, and various industrial applications, including viscosity control in inks and in textile industries.</li></ul>
33	<p style="text-align: center;"><b><u>ZERO SHADOW DAY</u></b></p> <ul style="list-style-type: none"><li>• At 12:17 PM IST on April 25, Bengaluru and at all places along the 130 north Latitude experienced a <b>'Zero Shadow Day'</b>.</li><li>• A ZSD is a day on which the Sun does not cast a shadow of an object at solar noon, when the sun will be exactly at the zenith position (highest point in the sky).</li><li>• ZSD happens twice a year for locations in the tropics (between the Tropic of Cancer at +23.5 degrees of latitude and the Tropic of Capricorn at -23.5 degrees of latitude). <b>So, places north of Ranchi in India does not have Zero shadow day.</b></li><li>• One ZSD falls during Uttarayan (movement of the Sun from south to north from winter solstice to summer solstice) and one other during Dakshinayan (back from north to south). The dates will vary for different locations on Earth.</li></ul>
34	<p style="text-align: center;"><b><u>PSYCHEDELIC SUBSTANCES</u></b></p> <ul style="list-style-type: none"><li>• Psychedelic drugs are emerging in research as promising ways to treat treatment-resistant depression and post-traumatic stress disorder.</li><li>• Psychedelics are a group of drugs that alter perception, mood, and thought-processing while a person is still clearly conscious. Usually, the person's insight also remains unimpaired.</li><li>• They are non-addictive, non-toxic and compared to illicit drugs, they are less harmful to the end user.</li><li>• In India, the Narcotic Drugs and Psychotropic Substances Act 1985 prohibits the use of psychedelic substances. Ketamine, a dissociative anaesthetic with psychedelic properties, is used under strict medical supervision, for anaesthesia and treatment-resistant depression.</li></ul>
35	<p style="text-align: center;"><b><u>BLASTOMYCOSIS</u></b></p> <ul style="list-style-type: none"><li>• It is an infection caused by a fungus called <b>Blastomyces</b>. The fungus lives in the environment, particularly in moist soil and in decomposing matter such as wood and leaves.</li><li>• People can get blastomycosis after breathing in the microscopic fungal spores from the air.</li><li>• Blastomycosis doesn't spread between people or between people and animals through the air. In extremely rare cases, blastomycosis has been spread between infected people or animals through needlestick injuries, bites, or sexual contact.</li><li>• The symptoms include fever, cough, night sweats, muscle aches or joint pain.</li><li>• There is no vaccine to prevent blastomycosis. <b>Itraconazole</b> is a type of antifungal medication that is typically used to treat mild to moderate blastomycosis.</li></ul>



36	<p style="text-align: center;"><b><u>THRISSUR POORAM</u></b></p> <ul style="list-style-type: none"><li>• Recently, Kerala has celebrated a 36 hours long festival which is known as <b>Thrissur Pooram</b>.</li><li>• Thrissur Pooram is celebrated in the Malayalam month of Medam (April-May). This festival is considered the “<b>mother of all poorams</b>”. It is held in the Thekkinkadu Maidanam in Thrissur.</li><li>• It is confined to the temples of Devis and Sasthas.</li></ul>
37	<p style="text-align: center;"><b><u>SAURASHTRA TAMIL SANGAMAM</u></b></p> <ul style="list-style-type: none"><li>• Recently, the Prime Minister, Shri Narendra Modi addressed the closing ceremony of <b>Saurashtra Tamil Sangamam</b> via video conferencing.</li><li>• The genesis of the programme lies in the vision of the Prime Minister of promoting the spirit of <b>Ek Bharat Shreshtha Bharat</b> through initiatives which bring out and help rediscover the age-old links between people in different parts of the country.</li><li>• With this in mind, the Kashi Tamil Sangamam was organized earlier and the Saurashtra Tamil Sangamam takes forward this vision by celebrating the <b>shared culture and heritage between Gujarat and Tamil Nadu</b>.</li><li>• The plans including taking prospective visitors from Tamil Nadu to visit the <b>Statue of Unity, the world’s largest statue of Sardar Sahib along with Somnath-Dwarka</b>, were finalized.</li></ul>
38	<p style="text-align: center;"><b><u>GUIDED BOMB</u></b></p> <ul style="list-style-type: none"><li>• The Ukrainian government has reported an increase in the number of <b>guided bomb</b> attacks carried out by the Russian forces.</li><li>• A <b>guided bomb (also known as a smart bomb, guided bomb unit, or GBU)</b> is a precision-guided munition designed to achieve a smaller <b>circular error probable (CEP)</b>.</li><li>• Unlike simple bombs, guided bombs have small wings and tail surfaces that allow them to be put into gliding flight.</li><li>• Guided bombs carry a guidance system which is usually monitored and controlled from an external device. A guided bomb of a given weight must carry fewer explosives to accommodate the guidance mechanisms.</li></ul>
39	<p style="text-align: center;"><b><u>THE MASSIVE GRAIN STORAGE PLAN IN THE COOPERATIVE SECTOR</u></b></p> <ul style="list-style-type: none"><li>• The Union Cabinet recently approved the constitution of an <b>Inter-Ministerial Committee (IMC)</b> to facilitate the “<b>world’s largest grain storage plan in the cooperative sector</b>”.</li><li>• India, the most populous country in the world, <b>accounts for 18 per cent (1.4 billion) of the global population (7.9 billion). However, it accounts for only 11 per cent (160 million hectare) of the arable land (1,380 million hectare) in the world.</b> Also, India runs the world’s largest food programme under the <b>National Food Security Act, 2013</b>, that covers about 81 crore people. Therefore, to ensure food security of a billion plus population, a robust network of foodgrain storage facilities becomes essential.</li><li>• At present, India has a foodgrain storage capacity of <b>145 million metric tonnes (MMT) against the total food production of 311 MMT</b>—leaving a gap of 166 MMT. In the absence of sufficient storage facilities, foodgrains are sometimes stored in the open, which results in damage.</li><li>• According to the <b>Ministry of Cooperation</b>, several countries have better storage capacities. For instance, against the total foodgrain production of 615 MMT, China has a storage capacity of 660 MMT. USA, Brazil, Russia, Argentina, Ukraine, France, and Canada are among other countries with the capacity to store more food grains than they produce.</li><li>• India has a <b>storage capacity of 47 per cent of its total foodgrains production</b>. At the regional level, only a few southern states have the storage capacity of 90 per cent and above. In northern states like Uttar Pradesh and Bihar, it is below 50 per cent.</li></ul>



## DAILY LIMIT ON UPI TRANSACTIONS

- As transactions facilitated by the **Unified Payments Interface (UPI)** breach record highs, **banks have opted for daily limits**. These are over and above the already imposed ceilings mandated by the facilitator, the **National Payments Corporation of India (NPCI)**, in 2021.
- The idea is to sustain the smoother functioning of the payments interface as it continues to acquire popularity.
- At present, users can make up to 20 transactions or ₹1 lakh in a single day either all at once or through the day. For certain specific categories of transactions such as the capital markets, collections (such as bills, among others), insurance and forward inward remittances, the limit is ₹2 lakh.
- In December 2021, the limit for the **UPI-based ASBA (Application Supported by Blocked Amount) IPO and retail direct schemes** was increased to ₹5 lakh for each transaction.
- The conversation now revolves around banks and apps coming up with their own guidelines for transactions. For example, state-run lenders **Punjab National Bank (PNB) and Bank of Baroda** has set its transaction limit at a much lower ₹25,000. PNB's daily limit is ₹50,000.
- As for apps, among others, Google Pay users breach the daily limit if they try to send money more than ten times in a single day across all UPI apps.
- As the payments interface looks to expand its footprint (recall the boarding of non-resident accounts having international numbers into the ecosystem) and its growing utility in daily lives, limits would help maintain an essential security infrastructure and its seamless functioning. This is also important as the interface looks to expand its use-case, as also called for in the proposed pilot project for coin-vending machines with UPI as the facilitator.

## ANTARDRISHTI (FINANCIAL INCLUSION)

- Recently, the **Reserve Bank of India (RBI)** Governor launched a Financial Inclusion Dashboard, named **Antardrishti**.
- The dashboard will provide the required insight to assess and monitor the progress of financial inclusion by capturing relevant parameters.
- The dashboard, presently intended for internal use in the RBI, will further facilitate greater financial inclusion through a multi-stakeholder approach.

## THE ELECTRONIC INTERLOCKING SYSTEM IN RAILWAYS

- **Interlocking is an integral part of railway signalling**. It refers to a mechanism that controls the movement of trains to ensure trains move safely through a controlled area. The system is an arrangement of signals and points, which may be inter-connected mechanically or electrically or both, which operate so that a train can move from one track or junction to another safely, without coming in the way of another train.
- **Electronic interlocking (EI)** is an advanced signalling, computer-based system that uses electronic components to manage the movement of trains and the configuration of tracks. The EI, which is based on software, is designed to prevent two trains from running on the same track at the same time. It ensures that a train gets a go-ahead only when the route ahead is clear. The system is an **alternative to the conventional Relay Interlocking system**. As of last year, 2,888 stations in India were equipped with an electronic interlocking system — **comprising 45.5% of the Indian Railways network**.
- The EI signal system comprises three crucial elements:
- **Signal:** Based on the status of the track ahead, signals are used to tell a train to stop (red light), proceed (green), or exercise caution (yellow).



	<ul style="list-style-type: none"><li>• <b>Point switch:</b> A train can change its track using a point. These are movable sections of a track which guide the wheels towards either the straight or diverging track. Switch points are operated using switches to lead trains in the desired direction. For instance, if a train has to change lines, the switch point is activated ahead of time and the point is locked. A point machine is a device used for locking point switches and plays an important role in the safe running of trains.</li><li>• <b>Track circuit:</b> These are electrical circuits on tracks to detect the presence of a vehicle or a train on a section of track. Track circuits help to verify whether a particular route is clear or occupied and if it is safe for a train to proceed.</li></ul>
43	<p style="text-align: center;"><b><u>THE KAVACH SYSTEM</u></b></p> <ul style="list-style-type: none"><li>• The <b>KAVACH</b> is an indigenously developed <b>Automatic Train Protection (ATP)</b> system by the <b>Research Design and Standards Organisation (RDSO)</b> in collaboration with the Indian industry.</li><li>• The trials were facilitated by the <b>South-Central Railway</b> to achieve safety in train operations across Indian Railways. It is a state-of-the-art electronic system with <b>Safety Integrity Level-4 (SIL-4)</b> standards.</li><li>• It is meant to provide protection by <b>preventing trains to pass the signal at Red (which marks danger) and avoid collision</b>. It activates the train's braking system automatically if the driver fails to control the train as per speed restrictions.</li><li>• In addition, it prevents the collision between two locomotives equipped with functional Kavach systems.</li><li>• The system also relays SoS messages during emergency situations. An added feature is the centralised live monitoring of train movements through the <b>Network Monitor System</b>.</li><li>• 'Kavach' is one of the cheapest, SIL-4 certified technologies where the probability of error is 1 in 10,000 years.</li></ul>
44	<p style="text-align: center;"><b><u>GAINS 2023</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>Garden Reach Shipbuilders and Engineers (GRSE) Ltd</b> has launched <b>GAINS 2023</b>.</li><li>• <b>GAINS 2023 (GRSE Accelerated Innovation Nurturing Scheme – 2023)</b> is a startup challenge to identify and encourage the development of innovative solutions towards technological advances in shipbuilding by Startups.</li></ul>
45	<p style="text-align: center;"><b><u>NON-COMMUNICABLE DISEASES IN INDIA</u></b></p> <ul style="list-style-type: none"><li>• The new national estimates for diabetes and other <b>non-communicable diseases (NCD)</b> shows that 31 million more Indians became diabetic in <b>four years (2019-2021)</b>.</li><li>• In 2021, a study found that India has 101 million people with diabetes and 136 million people with prediabetes. Additionally, 315 million people had high blood pressure; 254 million had generalised obesity, and 351 million had abdominal obesity. 213 million people had <b>hypercholesterolaemia (wherein fat collects in arteries and puts individuals at greater risk of heart attack and strokes)</b> and 185 million had high <b>low-density lipoprotein (LDL)</b> cholesterol.</li><li>• The decade-long nationwide study was funded by the Indian Council of Medical Research and Department of Health Research, Ministry of Health and Family Welfare and co-ordinated by the Madras Diabetes Research Foundation.</li></ul>
46	<p style="text-align: center;"><b><u>WHO ON ARTIFICIAL SWEETENERS</u></b></p> <ul style="list-style-type: none"><li>• Recently, the <b>World Health Organisation (WHO)</b> recommended against using <b>artificial sweeteners</b> to achieve weight loss and prevent lifestyle diseases such as diabetes. WHO emphasised that while there was a need to cut intake of sugar, it should not be replaced by artificial sweeteners.</li></ul>



- Artificial sweeteners provide the sweet taste with very little to no calories. Many diabetics use the sweeteners in their tea and coffee, but there is a growing market for packaged foods and beverages using these sweeteners to offer low-calorie options.
- WHO suggests that **non-sugar sweeteners (NSS)** not be used as a means of achieving weight control or reducing the risk of non-communicable diseases.
- According to WHO report, while there could be some weight-loss and reduction in **Body Mass Index** in the short term as the artificial sweeteners bring down the calories consumed, but in the long run they have been linked to weight gain. The sweeteners have also linked to an **increased risk of Type-2 diabetes, cardiovascular diseases, and mortality** in the long run. Some low certainty data also linked the use of such artificial sweeteners to **bladder cancer and preterm birth** when consumed by pregnant women.
- The meta-analysis found that higher intake of NSS was associated with a 23% increase in the risk of type-2 diabetes when consumed in the form of beverages and 34% when added to foods. Higher intake of these sweeteners was also linked with 32% increase in the risk of cardio-vascular disease – including a 19% increase in risk for stroke – and 13% increase in the risk for hypertension. It was also linked with a 25% increase in the risk for pre-term birth.
- The WHO has made these recommendations for everyone other than those who are already diabetic. Replacing free sugars with non-sugar sweeteners does not help with weight control in the long term. People need to consider other ways to reduce free sugars intake, such as consuming food with naturally occurring sugars like fruit, or unsweetened food and beverages.

## **LEPTOSPIROSIS, A DISEASE THAT SURGES IN THE MONSOON MONTHS**

- **Leptospirosis** has emerged as an **important infectious disease** in the world today. It is a potentially **fatal zoonotic bacterial disease** that tends to have large outbreaks after heavy rainfall or flooding.
- The disease is more prevalent in **warm, humid countries and in both urban and rural areas**. It affects an estimated 1.03 million people every year, killing around 60,000. The burden of leptospirosis is expected to increase in the future as the urban poor population in tropical countries increases even as sanitary infrastructure falls shorter. In India, thousands of people are affected by leptospirosis every year.
- However, the numbers at the global and regional levels aren't exact because of **misdiagnosis** (its symptoms mimic those of dengue, malaria, and hepatitis), limited access to reliable diagnostics, lack of awareness among treating physicians, and lack of environmental surveillance.
- Within India, studies have found that leptospirosis is more common in the south, although this could be due to the region's better healthcare and thus better disease detection.
- The disease is caused by a bacterium called **Leptospira interrogans, or leptospira**. It is a contagious disease in animals but is occasionally transmitted to humans in certain environmental conditions.
- The carriers of the disease can be either wild or domestic animals, including rodents, cattle, pigs, and dogs.
- The cycle of disease transmission begins with the shedding of leptospira, usually in the urine of infected animals.
- According to the **U.S. Centres for Disease Control and Prevention**, infected animals can continue to excrete the bacteria into their surroundings for a few months, but sometimes up to several years.

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## **JOINT MALNUTRITION ESTIMATES**

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- The **United Nations Children's Fund (UNICEF), World Health Organisation (WHO) and World Bank** have released **Joint Malnutrition Estimates**.
- The UNICEF, WHO and the World Bank inter-agency team update the joint global and regional estimates of malnutrition among children under 5 years of age each year.
- These estimates of prevalence and numbers affected for child stunting, overweight, wasting and severe wasting are derived for the global population as well as by regional groupings of **United Nations (UN)** regions and sub-regions, **Sustainable Development Goals (SDG)**, UNICEF, WHO and World Bank regions, as well as World Bank country-income group classifications.

### **NEW EEL DISCOVERED**

- Recently, the scientists of the **Zoological Survey of India (ZSI)** have discovered a **new species of eel from Palur canal in Odisha's Ganjam district**.
- Eels are elongated ray-finned fish belonging to the order Anguilliformes, which consists of eight suborders and about 800 species.
- Eels **live both in salt and fresh water**, and some species are catadromous.



### **MISHTI (MANGROVE INITIATIVE FOR SHORELINE HABITATS AND TANGIBLE INCOMES)**

- Recently, PM Modi launched the **MISHTI (Mangrove Initiative for Shoreline Habitats and Tangible Incomes)**. The scheme was first announced by the Union finance minister in the **2023-24 Union budget**.
- Initially the mangrove cover will be restored in nine states across the country. Overall, the scheme envisages the development of mangroves covering nearly **540 sq km, spreading across 11 states and two union territories over five years, starting from FY2023-24**.
- This scheme will help in mitigating the threat to lives and livelihoods in coastal areas from rising sea levels and disasters like cyclones.
- It involves the sharing of best practices on plantation techniques, management practices, conservation measures and resource mobilization through the public-private partnership route.
- The Centre covers 80% of the project cost, while state governments contribute the remaining 20%.

### **VOLT TYPHOON**

- Recently, Microsoft has uncovered stealthy and targeted malicious activity focused on post-compromise credential access and network system discovery aimed at critical infrastructure organizations in the United States.
- The attack is carried out by **Volt Typhoon**, a state-sponsored actor based in China that typically focuses on espionage and information gathering.
- The Volt Typhoon campaign is pursuing development of capabilities that could disrupt critical communications infrastructure between the United States and Asia region during future crises.
- In this campaign, the affected organizations span the communications, manufacturing, utility, transportation, construction, maritime, government, information technology, and education sectors.
- Volt Typhoon has been active since mid-2021 and has targeted critical infrastructure organizations in Guam and elsewhere in the United States.





- Observed behaviour suggests that the threat actor intends to perform espionage and maintain access without being detected for as long as possible.

## SENGOL

- Prime Minister Narendra Modi will install the 'Sengol', a historical sceptre from Tamil Nadu, in the new Parliament building.



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- The 'Sengol' was received by Independent India's first Prime Minister, Jawaharlal Nehru, from **Lord Mountbatten** to symbolically represent the transfer of power from the British and was later kept in a museum in Allahabad.
- It was freedom fighter **Rajaji (C. Rajagopalachari)** who suggested to Nehru the ceremonial gesture, a tradition found to have been documented even in the Chola-era as a symbol of the transfer of power to a new king.
- The "sengol" sceptre is a long, stick-like item (5 feet) made of silver and covered in gold.
- The sceptre has a carving of a bull, called a Nandi, at the top. This is done to remind everyone about the importance of fair and just leadership in the country.
- 'Sengol' is derived from the Tamil word '**semmai**,' which means '**full of wealth**', the 'Sengol' represents the embodiment of power and authority.

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