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TATHASTU

Institute of Civil Services



CURRENT AFFAIRS March Month 2023

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4.	Guindy National Park
5.	Falkland Islands

FALKLAND ISLANDS WAR OF 1982

The map shows the Falkland Islands in the South Atlantic Ocean, including West Falkland, East Falkland, and various smaller islands like Stanley, Goose Green, and Port Stanley. It marks Argentine air force bases (green trees), Argentine naval bases (green buildings), and areas of conflict (orange stars). Arrows indicate British advances from the east coast towards the west coast. Key locations include King George Bay, Port Howard, Port San Carlos, Teal Inlet, Port Louis, Stanley, Fitzroy, Adventure Sound, North Arm, and Bay of Harbours. The map also shows the South Atlantic Ocean, Weddell Island, and the British 200-mile war zone.

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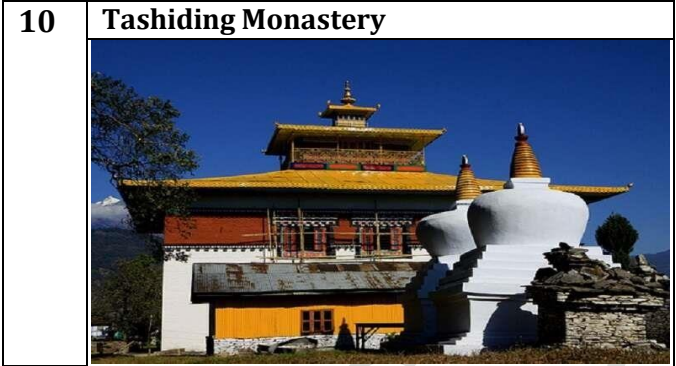
6. Madhav National Park

7. Mozambique Channel

The map shows the Mozambique Channel between the east coast of Africa (Mozambique, Malawi, Zimbabwe, Botswana, Namibia, South Africa) and the island of Madagascar. Major cities like Antananarivo, Toamasina, and Port Louis are marked on Madagascar. Other islands shown include Reunion (Fr.), Mauritius, and the Comoros. The map also shows the Indian Ocean, Mozambique Channel, and various geographical features like Lake Malawi and the Limpopo River.

8. Hantan River

9. Kermadec Island



11. Karnala Bird Sanctuary

12. Hasdeo Aranya

13. Loktak Lake

14. Merapi Volcano

15. Torres Strait

The map shows the Torres Strait region between Papua New Guinea and Australia. It includes the Gulf of Papua, Gulf of Carpentaria, and the Torres Strait. Major islands shown include New Guinea, New Britain, and the Torres Strait Islands (e.g., Waigani, Waigani, Waigani, Waigani). The map also shows the Gulf of Carpentaria, Coral Sea, and the Australian Peninsula. Key locations include Wausan, Koro, and various other islands.

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17. Aves Island

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Editorials of the Month

Foundational Stage of Learning in India

Background:

- The stage of Foundational learning is very critical for Holistic development of children. The NEP 2020 lays strong focus on it backed by several initiatives by the Government.

What is Foundational Learning?

- Foundational learning is exactly what it sounds like – the foundations of a child’s education. It refers to basic literacy, numeracy, and transferable skills, that are the building blocks for a life of learning.
- Just as we would not build a house without solid foundations, we cannot expect a child to thrive without solid foundational skills. Yet today, across most of the developing world, these foundations of learning are not strong enough.

What is the importance of Foundational stage?

- Brain development is most rapid in the first eight years of a child’s life.
- Early childhood lays the foundation for life-long learning and development. It is a key factor in determining the overall quality of life.
- Having necessary framework that govern foundational learning is important as each year number of school-going children routinely fail to pass basic learning outcome tests.
- What children learn and are equipped to in their foundational stages will eventually help in economic and social development of the nation in long run. Therefore, it becomes critical to invest more in foundational stages of learning.
- A clear pedagogy in foundational stage will also equally help the teachers to prepare themselves better for this stage of education.

What are government initiatives taken for foundational learning?

- Foundational learning study 2022 was jointly conducted by NCERT and Ministry of Education.
- National Education Policy 2020 accords highest priority to achieving FLN among all children by 2025.
- National Curriculum Framework explains in detail the steps to be taken care of for Foundational learning stage.
- National initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN-BHARAT) Mission provides roadmap for strengthening foundational learning at national level.

What are challenges in Foundational learning?

- Lack of appropriate teacher training.
- Focus on rote-learning.
- Lack of standardized skill-based assessment.
- In Nationwide Foundational Learning Survey (FLS), it was observed that more than 50% of the assessed class III children from Delhi have either “limited” foundational numeracy skills or “lacking the most basic knowledge and skills”.
- Adoption of curriculum that doesn’t meet the requirements of modern day education.

Conclusion

- Foundational stage of learning is important for overall development of children who will eventually become future entrepreneur's, leaders and contribute to nation building process. Thus, it is vital that necessary interventions are made wherever necessary.

How to double India's farmer's income?

News: On February 28, 2016, Prime Minister Narendra Modi shared his dream of doubling farmers' incomes in the year when India completes 75 years of Independence and enters Amrit Kaal.

Background:

- In this editorial we will discuss about the agricultural sector, issues and how Farmers income can be doubled.

How is the government helping Farmers?

- **Fertilizer subsidy** - Even when global prices of urea crossed \$1,000/metric tonne, the Indian price of urea remained flat at around \$70/tonne.
- Budgetary allocation of INR 60,000 crore for **PM KISAN scheme**.
- Many small and marginal farmers also get **free ration** of at least 5 kg/person/month through the **PM Garib Kalyan Anna Yojana**.
- There are also **subsidies** for **crop insurance, credit and irrigation** (drip).
- States also dole out **power subsidies** in abundance, especially on irrigation.
- Even **farm machinery** for **custom hiring centres** is being subsidised by many states.

Have the subsidies helped the farmers?

- The policy of heavy subsidisation of input subsidies, especially fertilisers and power, along with assured and open-ended procurement of paddy and wheat at least in some selected states, is playing **havoc with the environment**.
- Probably, the CAG should take up the audit of all subsidies given by the Centre and by the states to examine their outcomes in terms of the incomes of farmers and environmental consequences.

How can we realign these support policies?

- Firstly, we must keep in mind the environmental outcomes and what can alternatively be done is to give **carbon credits to incentivize** cultivation of **millets, oil-seeds, and much of horticulture**.
- We need to make **subsidies/support crop-neutral** by not favoring water guzzling crops like wheat and rice alone as part of free food grains.
- The author of article Ashok Gulati also shares about his recent field visit in MP, "He found one corporate working on 100 acres to develop **medicinal plants**, which they have already scaled up to 5,000 acres on farmers' fields. The lands are much poor for wheat or paddy, and farmers are readily adopting these medicinal plants as it gives them better incomes. The corporate is giving them an assured buyback arrangement to reduce their market risk. (Quote such examples in your answers, make note of them in your books)
- Another corporate was buying soybean at Rs 6,000/quintal, way above the MSP of Rs 4,300/quintal to make tofu, soya milk powder, soya ice cream, and even frozen soya yoghurt.
- We need innovations in technologies, products, institutions and policies for more diversified high-value agriculture that is also planet friendly.
- Diversify to high value crops, put solar panels on farmer's fields.

Way Forward

- Only concerted and sustained efforts can help double farmers' incomes.

Positing India's stand on Ukraine war

News: Recently, UNGA adopted a resolution, calling for an end to the war. The resolution was favoured by 141 members and opposed by seven, while 32 states abstained. India was one among the 32.

What is India's stand?

- India has refused to condemn Russia for the invasion

- It has refused to join the West's sanctions
- It has stepped up buying Russian fuel at a discounted price, and has consistently abstained from UN votes on the war.

What is West's viewpoint on Ukraine war?

- For U.S. President (as Simon Tisdall argued in The Guardian: This is a global crusade for democracy. He called the Russian invasion "a test for the ages"
- For the Atlanticists the war by an authoritarian Russia on a "democratic" Ukraine is an affront to global democracy. According to this narrative, anything less than a complete Russian defeat would mean "the end of the international order".
- To save global democracy, the rules based order and international law, all democratic states should take a position against Russia and join the western coalition.

Is this a battle between democracies and autocracies?

- An overwhelming majority of nations have supported UNGA resolutions calling for the war to be brought to an end.
- The U.S. has hardly managed to mobilize democracies outside its traditional western alliance system against Russia.
- India and South Africa, large democracies from Asia and Africa, have consistently abstained from votes at the UN and refused to join the sanctions
- The sanctions were unilateral, imposed by specific countries or blocs, without UN approval.
- Brazil, the largest democracy in South America, has not joined the sanctions and so have many smaller democracies (and non-democracies) across geographies.
- Other countries that are part of the western alliance system, for example Israel and Turkey, are reluctant to join the US's crusade.

Why western claims of morality in the Ukraine war seem to be dubious?

- There is no doubt here that Russia has violated the sovereignty of Ukraine. Russia's annexation of Ukrainian territories is a clear violation of international laws.
- But a key dilemma before any country in international relations is clash between moral positions and national interests.
- For the U.S. and much of Europe, there is a convergence of their moral positions and foreign policy objectives in the case of the Ukraine war. The U.S. wants to "weaken" Russia. So, the moral line they take serves their strategic purpose.
- However, this position was violated when there were clashes between values and interests.
- For example, in 2003, the U.S. launched its illegal invasion of Iraq, violating the country's sovereignty. In 2011, NATO turned a UNSC resolution to establish a no fly zone in Libya into a full scale invasion. Right now, the U.S. has illegally placed its troops in Syria.
- Israel has illegally annexed East Jerusalem and Syria's Golan Heights. The U.S. has recognized Israel's annexation of Golan and moved its embassy to Jerusalem.

Why our ties with Russia are important?

- From the perspective of meeting energy needs and energy security the Discounted fuel from Russia is a relief for India. It meets over 80% of its fuel needs through imports.
- Defence ties are also important, Russia has fulfilled over 46% of India's defence needs in the last five years. There is a sound argument that India should diversify its source of defence imports, but such a change would take time.
- Russia is deepening relations with China and for our own strategic interests in the region and our relations with China, maintaining relations with Russia is important.
- To manage its continental interests, India has to work with powers in the Eurasian landmass. The U.S. is practically absent, especially after its disastrous withdrawal from Afghanistan. Russia plays a key role in India's continental foreign policy.

Way Forward

- Neither the weakening of Russia nor the destruction and splintering of Ukraine is in its interests. India wants an immediate end to the war.

- A new security equilibrium between great powers is needed so that the global economy could be stabilized. The world could focus on more pressing problems — from climate change to UN reforms.
- India should stick to its pragmatic neutrality, rooted in realism. It should continue to push for a practical solution to the Ukraine crisis.

Crisis of Multilateralism

News: The inability of the Group of Twenty foreign ministers, who met in Delhi this week, to agree on a final statement was no surprise.

Background:

- The principal reason for the diplomatic failure at Delhi was the decision by Russia to walk away from the Bali consensus and China's decision to support it.
- India, which has the responsibility to lead the G20 at this difficult juncture, is not ready to throw in the towel. It is confident that there is much time before the G20 leaders arrive in Delhi for the September summit.

What is Multilateralism?

- Multilateralism, process of organizing relations between groups of three or more states. Beyond that basic quantitative aspect, multilateralism is generally considered to comprise certain **qualitative elements** or **principles** that shape the **character of the arrangement or institution**.
- Those principles are an indivisibility of interests among participants, a commitment to diffuse reciprocity, and a system of dispute settlement intended to enforce a particular mode of behaviour.
- Multilateralism has a long history, but it is principally associated with the era after World War II.

What were the issues that needed to be addressed in recent meetings?

- The war in Ukraine - The G20 members accept that security issues can have a big impact on the world economy but that the G20 is not the platform to address such issues.
- Upholding international law that safeguards peace and stability - This includes defending the Principles enshrined in the Charter of the UN and adhering to international humanitarian law.
- Pressing global issues such as conflicts, climate change, migration, macroeconomic instability, and cybersecurity can indeed only be solved collectively.

What agreements were highlighted by EAM?

- A number of issues of interest to India and the developing world. These include food and energy security, cooperation to counter terrorism, climate change, global health and disaster management.

What are ambitions of India?

- To continue the campaign to reform multilateralism and to get the world to take greater cognizance of the challenges faced by the "Global South".

Phasing out the line, 'math is not for a girl'

Background:

- The representation of females in Science, Technology, Engineering, and Mathematics (STEM) or other math-intensive fields and careers remains far from 'fair' or desirable.
- STEM was introduced in 2001 by scientific administrators in the National Science Foundation (NSF). It is a curriculum based on the idea of educating students in 4 specific disciplines — science, technology, engineering and mathematics.
- India is one of the countries that produce the highest number of scientists and engineers, the growth of STEM has picked up significantly over the last few years.

Do girls really perform poorly in Basic math when compared to boys?

- According to Annual Survey of Education Report (ASER) report - Boys outperform girls in mathematics significantly, which has been persistent over time.
- There is a considerable variation. For example, in the north Indian States of Uttar Pradesh, Bihar, and Madhya Pradesh, boys outperform girls substantially while in south India, girls outperform boys in mathematics.

- On average, the performance of girls remains worse than that of boys.
- There is a widespread prevalence of the systematic devaluation of girls related to their mathematical aptitude in the classroom, at home, and in society more broadly.
- The oft-repeated line that “science and math are meant for boys and arts and humanities for girls” is reflective of the kind of stereotyping that parents, relatives/neighbors, and even schoolteachers push.

What are steps taken by Government to address this issue?

- The National Education Policy 2020 (NEP) acknowledges the need to address several gender-related gaps in schooling. For example, it recognizes the existence of continued disparities across all social groups., the need for developing interventions that enhance attendance and academic performance for girls.
- It stresses the need to implement gender-sensitive training for teachers
- Establishing a ‘Gender-Inclusive Fund’ for States to utilize in implementing community-based interventions.

What more can be done in this context to address the Gender bias?

- Position paper on the “Teaching of Mathematics” published by the NCERT in 2005:
- The paper talks about poorer outcomes for girls in mathematics through the devaluation of girls in society. It discusses classroom research, indicating how **gendered perceptions** and the **behavior of teachers** might **negatively impact** how girls view and perform in mathematics in the classroom.
- **References to female mathematicians** in textbooks, **female names**, and **characters in word problems**, and providing exposure to female role models in STEM fields in the course curriculum are among other simple tweaks that are worth trying and likely to be beneficial.

The worker, the outsider

News: A serious concern to protect interstate migrants from all forms of violence must be reflected in the draft National Migrant Labour policy and its future implementation.

Background:

- The recent social media rumours in TN about attacks against migrants reportedly kept them away from work. Their absenteeism badly affected the state’s industries, creating state-wide panic and raising several concerns, especially for north Indian migrants. Consequently, many migrant workers started to leave TN for fear of being attacked.

What is the Migrant worker issue in India? Why are they targeted?

- Hostility and negative attitudes towards migrants are not new, and several such incidents have occurred in the past in Maharashtra, Assam etc.
- Their victimisation is deeply rooted in the **politicisation of migrants**, the stigma, **power dynamics** of the labour market and **scapegoating**, which need to be understood with broader and intersectional perspectives.
- The strong antipathy towards migrants starts with “**sons of the soil**” politics, and results in conflicts between “insiders” and “outsiders”.
- Interstate migrants are selected as “scapegoats” as they are the easiest targets.

Scapegoating is a psychological process that describes prejudice and discrimination as a means to express hostility arising from frustration. For example, let’s say a state has failed to provide quality education or develop essential skills and create employment opportunities. To hide such failures, they blame interstate migrants of stealing away jobs of locals and are portrayed as outsiders.

- Another major concern is that violence or the constant fear of it adversely affects the **mental health** of migrants. In absence of family and care groups, the migrant workers face enormous stress and anxiety.
- Migrants are not only victims of physical violence but also of structural violence.

How do we protect physically and mentally interstate migrants at their destinations?

- Promoting their **unionization** is one aspect.
- Portability of entitlements.

- Ensuring **universal social security** provisions at the destination state could prove fruitful.
- **Strong and committed political will** and bureaucratic structures are required to reduce xenophobic and violent acts against migrants.

Way Forward

- The **draft National Migrant Labour policy** must strive to protect interstate migrants from all forms of violence.
- Adequate steps should be taken to **make migrants aware of their legal and civic rights** by providing legal-aid and counselling services.
- Migration is a **constitutional right** in India and a symbol of hope and prosperity and comprehensive steps are important to ensure meaningful inclusion of migrants.

Look at AI, not ChatGPT

Background:

- This editorial talks about focusing on AI. It highlights the issues behind launching half-baked products launched by tech giants and how it diminishes a meaningful conversation behind the real uses of AI.

What are consequences when half-baked products are launched?

- Quick adoption by Top tech-companies in order to capture the market has come at some costs.
- For example, Google's own version of ChatGPT called Bard, which made a single mistake in responding to a question about the James Webb Space Telescope sent Google's parent Alphabet's shares plummeting, **costing the company \$100 billion** in lost market value.
- Similarly, Microsoft's Bing had a problematic first outing when it expressed its desire to hack computers and spread misinformation.
- It detracts from more meaningful issues. The media coverage regarding ChatGPT has been myopic and it comes at a cost of insufficient coverage of more societally meaningful uses of AI.
- Short attention and shorter memories is yet another limitation of human intelligence as our attention is ephemeral and we have short memories.

What would be an example of a more societally meaningful area of AI? How about AI that affects human health, where its contributions could be a matter of life and death?

- An AI system, **Alphafold**, showed it could **predict the structure of almost every protein** catalogued by science. This could **open the door to breakthroughs in the discoveries of medicines and bring efficiencies** to processes that cost billions, take decades and deny treatment to so many people.
- The concern is why didn't Alphafold receive as much attention as Bard, Bing or ChatGPT did? For one, its implications are harder for readers to grasp. Second, it hasn't delivered immediately usable results.
- Opening the troves of data, providing the appropriate privacy protections and regulatory oversight will be critical to unlocking other AI advances in human health — algorithms for identifying patients at risk of opioid overuse, remotely gauging mental health symptoms or catching signs of breast cancer on mammograms.
- Few of us paid attention to the fact that the **first alert** of a mysterious new virus out of Wuhan, China, **came through AI. Data scraping systems** raised a red flag before the humans at the WHO got wind of the impending disaster.
- At the other end, the search for a vaccine was accelerated by algorithms: Researchers got help from AI in understanding the SARS-CoV-2 virus better and predicting how to elicit an immune response.

Conclusion

- It is time we paid attention to the right uses of AI and applied more intelligence to how to direct money, talent, data access and regulatory and ethical resources.

Powering Amrit Kaal

Background:

- This editorial contains details as mentioned by Union Minister Hardeep S Puri (Minister of Petroleum and Natural Gas).
- It talks about an **integrated approach** that focuses on **renewable energy** along with **exploration of traditional fuels** is the key to energy security in the next 25 years.

What is the need for an integrated approach?

- To ensure 3A's - Ensuring **energy access, availability** and **affordability** for India's large population.
- As the world's fastest-growing major economy with rising energy needs, India will account for **approximately 25%** of the global energy demand growth between 2020-2040.

What is India's success story in energy sector?

- In the past 1 year, petrol and diesel prices have gone up by 35-40% in countries like Canada, USA, Spain whereas price of Diesel in India have actually come down. This is important because we import 85% of crude oil and 55% of natural gas requirements.
- When several countries in India's neighborhood have had dry outs and power cuts to manage demand, there has been no shortage of fuel anywhere in India.
- It was made possible due to a pragmatic and balanced energy strategy which emphasizes on Energy Justice.

What steps have been taken by India?

- The Centre and many states announced massive cuts in excise duty and VAT rates.
- Oil PSUs absorbed huge losses to ensure that the massive hikes in the prices of crude oil and natural gas were not passed on to Indian consumers.
- Imposing an export cess on petrol, diesel and ATF.
- A windfall tax on domestically produced petroleum products to prevent refiners and producers from profiteering at the cost of domestic consumers.
- Over the years, India has **expanded its network of crude oil suppliers** from 27 nations to 39 nations, it has expanded its refining capacity (450 MMT by 2040) – India is a global exporter of petroleum products [refining capacity is the **4th-largest** after the US, China and Russia].
- These strategic market cards not only ensured affordable energy for Indian consumers but also had a calming effect on global petroleum markets.
- India is also pushing to move towards a gas-based economy by increasing the share of gas from the current 3 to 15% by 2030.

What are steps taken in field of Energy transition?

- India announced its net-zero emissions by 2070 and cutting down carbon emissions by 1 billion tonnes by 2030 targets.
- Prime Minister launched **E20 fuel** at 84 Retail Outlets of Oil Marketing Companies in 11 States/UTs. E20 is a blend of 20% ethanol with petrol. The Government aims to achieve a complete 20% blending of ethanol by 2025.
- India is also setting up **five 2nd-generation ethanol plants** that can convert agricultural waste into biofuel, further reducing pollution due to stubble burning, and generating additional income for farmers.
- The launch of National Green Hydrogen Mission. It will **save Rs 1 lakh crore** in cumulative fossil fuel import savings by 2030.
- India is also supporting **electric vehicles** through a **production-linked incentive** scheme to make **advanced fuel cells** of 50-gigawatt hours.
- India is also targeting the installation of **alternative fuel stations** (EV charging/ CNG/ LPG/ LNG/ CBG) at 22,000 retail outlets by May 2024.

Conclusion

- As India implements Amrit Kaal plan to become a \$ 26 trillion economy by 2047, ensuring energy security and achieving energy independence remain key objectives.

India and the Anglosphere

News: Recently, the US, UK and Australia have unveiled details of their plan to create a new fleet of nuclear-powered submarines, aimed at countering China's influence in the Indo-Pacific region. Under the AUKUS pact Australia is to get at least three nuclear-powered submarines from the US.

What is AUKUS grouping?

- It is a **trilateral security partnership** for the Indo-Pacific, between **Australia, the UK and the US (AUKUS)** which was signed in 2021.
- The major highlight of this arrangement is the **sharing of US nuclear submarine technology** to Australia.
- For Canberra, London, and Washington, the AUKUS is about promoting deterrence and stability in the Indo-Pacific.
- For China, AUKUS, along with the Quadrilateral forum or the Quad, is one of the dangerous “small cliques” that the US is building in Asia.

What are the consequences of AUKUS grouping for Asia?

- The AUKUS partnership has been perceived as a challenge to the security and stability of the region, particularly by China. The agreement includes the sharing of sensitive defense technologies and intelligence, which has raised concerns about its impact on the strategic balance in the region.
- The AUKUS partnership involves the transfer of nuclear-powered submarine technology to Australia, which has raised concerns about its impact on global non-proliferation efforts.
- Renewed role of London who will now seek long-term stakes in the Indo-Pacific region.
- The recent agreement is expected to lead to increased competition and could potentially impact countries such as India as it will be difficult to sell defence equipment to Australia.
- AUKUS has reinvigorated the idea of an “Anglosphere” that speaks of the enduring geopolitical bonds between the US, UK, Australia, Canada, and New Zealand.

How can India utilize potential of AUKUS grouping?

- With Australia's upgraded scientific and technical capabilities, there is an opportunity for India to deepen its S&T cooperation with Australia, which could eventually expand to sensitive strategic areas. This would enhance India's own technological capabilities and contribute to regional peace and security.
- India can have a rethink of how it should look towards UK. UK's growing influence in the region can prompt more engagements and cooperation between India and UK.
- With the US seeking to boost the strategic capabilities of its allies and partners in the Indo-Pacific, India has a rare opportunity to develop its own set of arrangements with the US and its allies. This could involve closer military cooperation, joint exercises, and intelligence sharing, among other things.

Way Forward

- AUKUS marks a significant change in US regional strategy for the Indo-Pacific. In the past, the US sought to promote regional security unilaterally through its own military capabilities. As it comes to terms with the enormous scale of the military challenges that China presents, Washington is now eager to boost the strategic capabilities of its allies and partners in the Indo-Pacific.
- Delhi, therefore has a rare opportunity to develop a unique set of arrangements of its own with Washington and its allies that will strengthen India's comprehensive national power as well as enhance its contribution to regional peace and security.

CJI DY Chandrachud's views on Press

News: Recently, CJI delivered his speech at 16th Ramnath Goenka Excellence in Journalism Awards. Some of his views on Freedom of Press, the challenges it faces and its role as 4th pillar in Democracy are important.

Role of Media:

- Journalists are constantly engaged in the endeavour of **simplifying complex information** for the consumption of the public, which is frequently unaware of even the most basic facts underlying the issues sought to be exposed.

- The media has always played and continues to play an important role in shaping the course of current events, and by extension, the course of history itself. For example, In India, the **media's coverage** of the rape of Jyoti, or Nirbhaya, by certain men in Delhi resulted in widespread protests and later, in **reforms to criminal law**.
- Even on a day-to-day basis, some news stories **prompt questions** and **discussion** in **Parliament** and in the **legislative assemblies** of states.
- The media is the **fourth pillar** in the conception of the State, and thus an **integral component of democracy**. The vibrancy of democracy is compromised when the press is prevented from speaking truth to power.
- India has a great legacy of newspapers that have acted as **catalysts of social and political change**. For instance, **Dr. Ambedkar** launched several newspapers such as Mooknayak, Bahishkrut Bharat, Janata, and Prabuddha Bharat to **create awareness** about the **rights of the most neglected communities** in India.
- The newspapers have also acted as a **source of history, knowledge, facts** about our colonial pasts and how courageous men and women fought fiercely against colonial rulers.
- Technology has evolved and so has the influence and opportunities for media. Now, online platforms have led to the democratization of media.
- **Community journalism** has also thrived recently. It has played an important role in encouraging social cohesion and political activism.
- The **relevance of the media** was best highlighted during the period of the **Covid-19** pandemic. Electronic, print and social media **facilitated the State** to **disseminate relevant information** to the general public at large even during the lockdown.

Challenges faced in Journalism:

- **Fake news** poses a serious threat to the independence and impartiality of the press in the current society. A comprehensive fact-checking mechanism should be in place to verify all news items before reporting. Fake news **can misguide** millions of people at once, and this will be in direct contradiction with the fundamentals of democracy which form the bedrock of our existence.
- Another issue affecting the media is that of **legitimacy**. A **diverse and representative newsroom** is essential for media institutions to provide well-researched and complex stories that explore a multiplicity of perspectives and voices. Maintaining a **diverse workforce** is imperative for the **longevity of any media** platform.
- Lastly, another issue that has percolated our system is **trial by media**. There have been instances when the media has carried narratives that make a person guilty in the eyes of the public, even before the court finds them guilty. This can have long-lasting repercussions on the life of the affected individuals, as well as on due process.

Conclusion

- **Responsible journalism** is the beacon of truth that can guide us to a better tomorrow. It is the engine that drives democracy forward, based on the quest for truth, justice, and equality.

Rejuvenate Small Water Bodies

Background:

- The **Water and Related Statistics (2021)** published by the Central Water Commission (CWC) of India, mentions that **one out of three people** will live in a **water-stressed area by 2025**.
- Despite the concerns, small water bodies which have been supporting the agriculture and domestic requirement of water for many years in India are fast vanishing now. So, there is an urgent need to augment the water supply wherever possible to avert the looming water crisis.

Significance of small water bodies:

- SWBs can provide **easy access** to water for domestic needs, animal husbandry, drinking water and agriculture particularly in rural areas. This will promote water security.
- SWBs are low cost to construct and maintain when compared to large dams etc.
- They are useful for irrigation and aquaculture, providing a reliable source of water for farming activities. This can help increase crop yields and support livelihoods for farmers.
- They recharge groundwater levels.

- Existence of SWBs ensure women do not have to travel distant places to fetch water.
- They may help to reduce flood control by capturing and storing excess water.

What are threats faced by SWBs?

- SWBs such as lakes, ponds, and streams are under constant threat due to encroachment on their catchment areas.
- Small water bodies require regular maintenance to keep them healthy and functional. However, due to limited resources, these bodies are often neglected and left to deteriorate.
- Exposed to pollution from other sources such as agriculture runoff, sewage, industrial waste etc.
- They are threatened by habitat loss and fragmentation due to land use changes, such as urbanization, deforestation. This consequently results in loss of biodiversity.
- Small water bodies can be overused and exploited for a variety of purposes, such as irrigation, drinking water, recreation, and fisheries. It can lead to depletion of water resources, degradation of water quality, and declines in biodiversity.

Way Forward

- Encroachment on water bodies can be made cognizable offence.
- Understanding the dying state of SWBs, a separate Ministry for Small Water Bodies should be created with adequate funding to conduct periodic repair and rehabilitation works.
- Farmers must voluntarily come forward to set up a tank users' organisation and undertake the repairing of SWBs, as followed earlier under the age-old **Kudimaramathu system**. (Kudiramaramathu literally means maintenance and repairs of waterbody by people. Kudi means farmer/people, maramathu means repair.)
- Prevent discharge of harmful effluents from entering SWB's.
- Raising public awareness about the importance of small water bodies can help to generate support for their protection.

Eliminating TB in India by 2025

News: According to WHO's Global TB report 2021, with 25.9 lakh TB cases, India is home to 25% of the global tuberculosis cases.

Background:

- Recently, World TB Day was celebrated on 24th March.

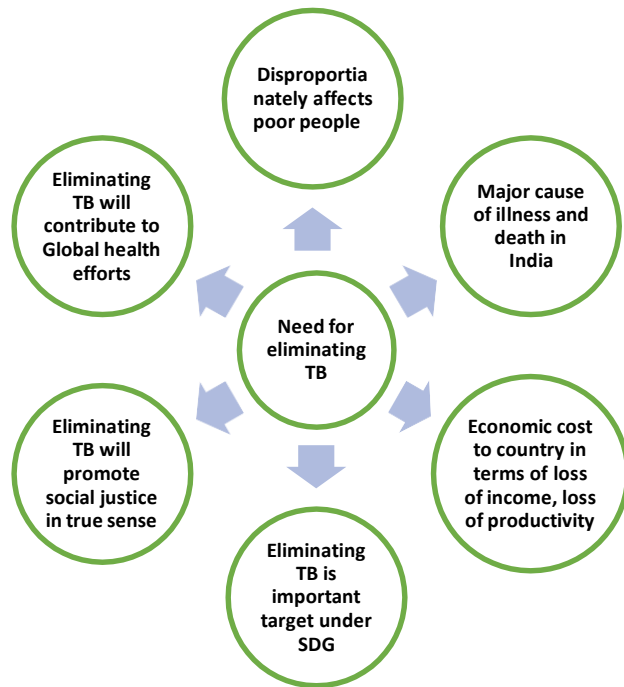
What is TB?

- Tuberculosis (TB) is an infectious airborne **bacterial disease** caused by *Mycobacterium tuberculosis*. It most commonly affects the lungs but can also damage other parts of the body.
- Types of TB related conditions – I) Active TB II) Latent TB III) Multi-Drug Resistant TB III) Extensive Drug Resistant TB (More serious condition than MDR TB where it is resistant to both first and second line TB drugs)

What are causes of high occurrence behind TB in India?

- A majority of TB patients in India get affected due to **undernourishment**. Poverty impacts their accessibility to food and ability to get treated which makes them more susceptible to occurrence and continuance of TB.
- **Bad habits** such as smoking tobacco which is a strong risk factor for both developing TB and dying from it.
- One of the major factors of TB prevalence in India is **under-reporting** of TB cases. This leaves the risk of spreading TB to other healthy individuals.
- Due to **fear of stigmatization** and **social discrimination** patients hesitate to seek treatment and in some cases completely deny their condition.





What steps has Government taken to combat TB?

- The government has increased healthcare facilities, TB diagnosis instruments and has increased access to more molecular diagnostic tests like **CB-NAAT** and **TureNAT**.
- Injectable kanamycin, which caused kidney failure and deafness, has been replaced by **Bedaquiline** and **Delamanid**. These new pharmaceuticals have also been included in the new **National List of Essential Medicines**, giving the government the authority to control their market pricing.
- The government has **targeted high-risk populations**, such as people living with HIV/AIDS, migrants, and those living in poverty, to improve TB diagnosis and treatment. An online **Ni-kshay portal** has been set up to track the notified TB cases.
- **National Strategic Plan for TB elimination (2017-25)**: It plans to **provide incentives to private providers** for following the standard protocols for diagnosis and treatment as well as for notifying the government of cases. Further, patients referred to the government will receive a cash transfer to compensate them for the direct and indirect costs of undergoing treatment and as an incentive to complete treatment.
- TB Haarega Desh Jeetega Campaign
- **Nikshay Poshan Yojana** – Nutritional support to TB patients.
- Currently, two vaccines VPM (Vakzine Projekt Management) 1002 and MIP (Mycobacterium Indicus Pranii) have been developed and identified for TB, and are under Phase-3 clinical trial.

Way Forward

- To combat TB by 2025 we must have a comprehensive and targeted approach towards eliminating TB. Expanding access to healthcare and increased funding to prevent TB should be priority of the government.
- In addition, efforts must be made to increase public awareness about minimizing stigma associated with TB. Also, living conditions of vulnerable communities must be improved.

General Studies – 1

Indian Heritage and Culture

1. Indian culture will cover the salient aspects of Art Forms, Literature and Architecture from ancient to modern times.

History

2. Modern Indian history from about the middle of the eighteenth century until the present significant events, Personalities, Issues.
3. The Freedom Struggle — Its various stages and Important contributors / contributions from different parts of the country.
4. Post-independence consolidation and reorganization within the country.
5. History of the world will include events from 18th century such as Industrial revolution, World wars, Redrawing of national boundaries, Colonization, decolonization, Political philosophies like communism, capitalism, socialism etc.— their forms and effect on the society

Society

6. Salient features of Indian Society, Diversity of India.
7. Role of women and women's organization, Population and associated issues, Poverty and developmental issues, Urbanization, their problems and their remedies.
8. Effects of globalization on Indian society.
9. Social empowerment, Communalism, regionalism & secularism.

Geography

10. Salient features of world's physical geography.
11. Distribution of key natural resources across the world (including South Asia and the Indian sub-continent) Factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).
12. Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., Geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes

A thumbs down for the 'Adopt a Heritage' scheme

News: The tenfold increase in the number of sites being brought under the ambit of the controversial 'Adopt a Heritage' scheme of 2017 raises concerns. Unless the 'revamped' scheme is suspended, the nation's precious pluralistic heritage stands at the threshold of obliteration.

What is Adopt a Heritage scheme?

- The 'Adopt a Heritage' scheme was launched by the Indian government in September 2017 under the aegis of the Ministry of Tourism, Ministry of Culture, and Archaeological Survey of India (ASI).
- The main objective of the scheme is to provide world class tourist facilities at the various natural/cultural heritage sites, monuments and other tourist sites to make them tourist friendly, enhance their tourist potential and cultural importance in a planned and phased manner across the country.
- The project primarily focuses on providing basic amenities that include cleanliness, public convenience, drinking water, ease of access for tourists, signage etc. and advanced amenities like TFC, Souvenir shop, Cafeteria etc.
- The public, private sector companies and individuals will develop tourist amenities at heritage sites. They would become 'Monument Mitra' and adopt the sites essentially under their Corporate Social Responsibility (CSR) activity.

What are concerns raised?

- A watch company without expertise in bridge engineering to maintain a colonial-era bridge in Morbi, Gujarat, possibly contributed to a heart-wrenching tragedy.
- The current plan side-lines the mandate of the Archaeological Survey of India (ASI) and abandons The Sarnath Initiative, guidelines devised by the ASI, the Getty Trust, U.S., the British Museum, and National Culture Fund to safe keep excavated objects and present them to visitors in an engaging manner.
- Many monuments selected for the scheme — including the stupas at Sanchi, the Brihadeshwar temple in Thanjavur, and Akbar's palace city at Fatehpur Sikri — already have tourist infrastructure.
- Guided tours led by employees of large businesses who have received permission to adopt a monument may endanger livelihoods of those who have lived near the site and made a living by regaling visitors with stories of its colorful past.
- There are some monuments selected for the scheme that are not protected by the ASI and are in States without Archaeology Directorates. One fears that businesses that sign agreements with the Union Ministry of Culture to adopt these monuments will be able to alter their historical character without much opposition.

What can Corporate India rather do?

- Businesses can help citizens understand why monuments matter. Earmarking CSR funds for grants for researching, writing, and publishing high quality textbooks, and developing imaginative and effective ways of teaching history.
- Industrial houses can support the meaningful conservation of heritage buildings by looking within. Their CSR funds can be used to purchase new equipment that release fewer noxious gases that darken and corrode marble buildings and discharge fewer effluents into rivers, thus making these water bodies less likely to serve as breeding grounds of microbes that gather on the walls of ancient buildings erected on riverbanks and cause their decay.
- In the past, Tata Sons, ONGC, and other companies have regularly contributed funds to organisations training individuals in much needed restoration skills and creating jobs for them.
- Since the COVID-19 pandemic, humanities and social sciences departments at some universities have been witnessing a hiring freeze. Corporates can give them a new lease of life by instituting fellowships, endowing professorships, and supporting research training programmes.

Conclusion

- Unless the 'revamped' scheme is suspended, the nation's precious pluralistic heritage stands at the threshold of obliteration.

Khalistan Issue

News: The high-decibel protests abroad against the Punjab government crackdown on Waris Punjab De chief Amritpal Singh, and their relative absence in the state, once again underline the foreign support that sustains the separatist agenda in Punjab.

What is Khalistan movement?

- The Khalistan movement is a fight for a separate, sovereign Sikh state in present day Punjab (both India and Pakistan).
- The movement was crushed in India following **Operation Blue Star** (1984) and **Operation Black Thunder** (1986 and 1988), but it continues to evoke sympathy and support among sections of the Sikh population, especially in the Sikh diaspora in countries such as Canada, the UK, and Australia.

Time-Line of Khalistan Movement:

Indian Independence and Partition

- The origin of Khalistan movement dates back to India's independence in 1947 and division of nation along religious lines.
- The Punjab province bore the brunt of one of worst forms of communal violence following partition and resulted in millions of refugees.

Trifurcation of Punjab following Punjabi Suba Movement

- The political struggle for greater autonomy began around the time of Independence, with the Punjabi Suba Movement for the creation of a **Punjabi-speaking state**.
- In 1966, after years of protest, Punjab was reorganized to reflect the Punjabi Suba demand. The erstwhile Punjab state was trifurcated into the Hindi-speaking, Hindu-majority states of Himachal Pradesh and Haryana, and the Punjabi-speaking, Sikh-majority Punjab.

Claims for Political autonomy under Anandpur Sahib Resolution

- In 1973, The Anandpur Sahib Resolution (By Akali Dal) demanded autonomy for the state of Punjab, and identified regions that would be part of a separate state, and sought the right to frame its own internal constitution.
- While the Akalis themselves repeatedly made it clear that they were not demanding secession from India, for the Indian state, the Anandpur Sahib Resolution was of grave concern.

Bhindranwala

- Jarnail Singh Bhindranwale, a charismatic preacher, soon positioned himself as "the authentic voice of the Sikhs, in contrast to the Akali Dal's leadership.
- It is believed that Bhindranwale was propped up by the Congress party to stand up against the Akalis for Congress's political benefit. However, by 1980s, Bhindranwale's stature had grown a lot and he started to become a headache for the government.

Dharam Yudh Morcha

- In 1982, Bhindranwale, with support from the Akali Dal's leadership, launched a **civil disobedience movement** called the Dharam Yudh Morcha. There was no rule, no laws and no morality. Extremism was at peak. He took up residence inside Golden Temple for 2 years.
- The movement was geared towards the demands first articulated in the Anandpur Sahib Resolution, which addressed concerns of the state's rural Sikh population. However, amidst growing religious polarization, sectarian violence, and Bhindranwale's own harsh rhetoric against Hindus, Indira Gandhi's government declared the movement tantamount to secession.

Operation BlueStar

- Operation Blue Star began on 1st June 1984, but due to fierce resistance from Bhindranwale and his heavily armed supporters, the Army's operation became larger and more violent than had been originally intended, with the use of tanks and air support.
- Bhindranwale was killed and the Golden Temple was freed of militants, however it gravely wounded the Sikh community around the world. It further galvanised the demand for Khalistan.

Consequences of Operation Bluestar

- In 1984, PM Indira Gandhi was assassinated by 2 Sikh bodyguards triggering the worst communal violence since 1947. Over 8,000 Sikhs were massacred.
- A year later, Sikh nationalists based in Canada blew up an Air India flight killing 329 people. They claimed that the attack was to “avenge Bhindranwale’s killing”.
- Punjab saw the worst violence, becoming the hub of a long-drawn-out insurgency that lasted till 1995. The bulk of the population turned against the militants, and India headed towards economic liberalisation.

What is the status of Khalistan movement today?

- Punjab has long been peaceful, but the movement lives among some Sikh communities overseas.
- The diaspora is composed predominantly of people who don’t want to live in India. These people include many who remember the bad old days of the 1980s, and thus the support for Khalistan remains stronger there.
- The deep-rooted anger over Operation Blue Star and the desecration of the Golden Temple continues to resonate with some in the newer generations of Sikhs. However, even as Bhindranwale is viewed as a martyr by many and the 1980s remembered as dark times, this has not manifested into tangible political support for the Khalistan cause.
- There is a small minority that is clinging to the past, and that small minority remains significant not because of popular support, but rather because they are trying to keep up their political influence with various political parties both from the left and the right.

To have an in-depth understanding of the Khalistan Issue we recommend you to watch the following video by Abhinav Shah sir <https://youtu.be/NAW-v9XOeiE>

Antiquities abroad – What Indian, international laws say

News: According to an RTI, only 486 antiquities have been reported as missing (since Independence) from the 3,696 monuments protected and maintained by the ASI.

What is Antiquity?

- India’s Antiquities and Art Treasures Act (AATA), 1972, defines “antiquity” as any coin, sculpture, painting, epigraph or other work of art or craftsmanship that has been in existence for not less than 100 years. For a manuscript, record or other documents which are of scientific, historical, literary or aesthetic value, this duration is not less than 75 years.
- The UNESCO 1970 Convention defines “cultural property” as the one designated by countries having importance for archaeology, prehistory, history, literature, art or science.

What are Indian laws relating to country’s heritage?

- Before Independence, the Antiquities (Export Control) Act 1947 ensured that no antiquity could be exported without a license.
- After Independence, All the Union, State and Concurrent Lists of the Schedule VII of the Indian Constitution deal with the country’s heritage.
- In 1958, The Ancient Monuments and Archaeological Sites and Remains Act was enacted.
- A few incidents of theft of antiquities along with the UNESCO convention (1970), prompted the government to enact the AATA 1972.

Key Provisions of AATA 1972:

- Other than the Central Government, no person can export any antiquity or art treasure.
- No person can carry on the business of selling any antiquity except in accordance with the terms and conditions of a license – granted by the Archaeological Survey of India (ASI).
- After the AATA was implemented (1976), the Centre asked traders in antiquities and art objects to declare their possessions of antiquities.
- Every person who owns, controls or is in possession of any antiquity shall register such antiquity and obtain a certificate.

What is the ‘provenance’ of antiquity?

- It includes the list of all owners from the time the object left its maker's possession to the time it was acquired by the current owner.

What are threats to antiquities?

- The illicit import, export and transfer of ownership of cultural property are one of the main causes of the impoverishment of the cultural heritage of the countries of origin (UNESCO).
- Almost 50 years after the UNESCO convention, the illicit international traffic of cultural items is sadly increasing according to INTERPOL report (2019).

Can India bring back antiquities?

- There are three categories – antiquities taken out of India pre-independence; taken out since independence and until the implementation of AATA and antiquities taken out since 1976.
- For items in the first category, requests have to be raised bilaterally or on international fora.
- Antiquities in the second and third categories can be retrieved by raising an issue bilaterally with proof of ownership and with the help of the UNESCO convention.

Why is it difficult to stop illicit activity?

- The registered antiquities in India are a very small portion of the total number (estimated to be around 58 lakh).
- In India, the problem with missing antiquities is that in many cases, there is no FIR, which is the first thing in order to prove ownership.
- The biggest challenge India is facing in bringing back antiquities is the gap between the artefacts officially declared missing and surfacing in global markets/museums.

Way Forward

- Robust database of existing and stolen antiques and artefacts.
- ASI must be provided with additional resources for the protection and maintenance of antiquities.
- International co-operation constitutes one of the most efficient means of protecting each country's cultural property.

Bumchu Festival

News: Bumchu, the Tashiding holy water vase ritual, is a unique and important occasion that draws travellers from all over the world. Annual performances of this ancient ceremony are held at the **Tashiding Monastery**, located in the western part of **Sikkim**.

About:

- The Bumchu festival commemorates a **supernatural occurrence** that took place in the 18th century under Chogyal Chakdor Namgyal. A legend says that a Lama was told by a deity to visit a nearby spring and gather water in a vase. The Lama followed the instructions and found that no matter how much water was used, **the water level in the vase never dropped**.
- The Lama understood that the vase was scary and that its water had healing properties. The vase was delivered to the **Tashiding Monastery**, where it was revered as a holy object and served as the centrepiece of the Bumchu festival.
- Bumchu means "**pot of sacred water**" in Tibetan. The vase is opened during the event, and the water inside is shared among the worshippers. The water is thought to have **healing qualities** and to **grant luck and riches** to those who drink it.
- The celebration takes place on the 14th and 15th of the first lunar month, which often falls in February or March.
- In Sikkim, the Bumchu festival is a time of intense delight and celebration. At the event, pilgrims travel to Tashiding from all around India as well as from close by nations like Bhutan, Nepal, and Sri Lanka.



- The celebrations feature **complex rituals, colourful processions, and traditional music and dance displays.**
- The Bumchu festival is a significant cultural celebration that showcases Sikkim's distinctive cultural heritage in addition to being a religious occasion.

Sandalwood Buddha Statue

News: Prime Minister Narendra Modi presented a sandalwood Buddha statue to Japanese Prime Minister Fumio Kishida during the latter's two-day state visit.

About:

- The Buddha figure, made of pure sandalwood, has hand carvings along with traditional designs and natural scenes.
- In this posture, Buddha is sitting in '**dhyana mudra**' under the Bodhi tree. The 'dhyana mudra' is the mudra of meditation and the attainment of spiritual perfection.
- According to tradition, this mudra derives from the one assumed by the Buddha when meditating under the Bodhi tree before his enlightenment. The obverse of the image has an intricate carving of the Bodhi tree.
- **The Kadamwood Jali Box** in which the statue was encased is also considered auspicious in Indian culture.

About Indian sandalwood:

- The sandalwood tree, a species native to India, has been an important part of Indian culture for centuries.
- Indian Sandalwood is one of the most sacred herbs of Ayurveda.
- As it is strong and durable, Sandalwood is mostly harvested for its timber.
- **Karnataka** is sometimes also called '**gandhada gudi**' or the land of sandalwood.

What are different mudras in Buddhism?

- Abhaya Mudra - It represents fearlessness, protection, and the dispelling of negativity.
- Varada Mudra - It represents generosity, compassion, and the granting of wishes.
- Bhumisparsha Mudra - It involves touching the ground with the fingertips of the right hand, while the left hand rests on the lap. It represents moment of Buddha's enlightenment.
- Anjali Mudra - It represents respect, greeting, and gratitude.
- Vitarka Mudra - This mudra is also known as the "teaching mudra" or "gesture of discussion. It represents the transmission of knowledge and the communication of the Buddha's teachings.
- Dharmachakra Mudra - It represents the constant cycle of birth, death, and rebirth, and the Buddha's teachings as the means to break free from this cycle.
- Other Mudras include Tarjani Mudra, Jnana Mudra, Karana Mudra, Uttarbodhi Mudra.



India's Traditional New Year Festivals

News: Recently, The Vice President greeted fellow citizens on the eve of Ugadi, Gudi Padava, Chaitra Sukladi, Cheti Chand, Navreh and Sajibu Cheiraoba.

Background

- Known by different names in different parts of India, these festivals mark the beginning of our traditional New Year and usher in the same with a spirit of joy and togetherness across the country. These festivals, unique in form but one in essence, are yet another testament to the richness of our composite culture.

What are the festivals?

Gudi Padva and Ugadi

- These festivals are celebrated by the people in the Deccan region including Karnataka, Andhra Pradesh and Maharashtra.
- A famous concoction served is jaggery (sweet) and neem (bitter), called bevu-bella in the South, signifying that life brings both happiness and sorrows.
- Gudi is a doll prepared in Maharashtrian homes.
- For Ugadi, doors in homes are adorned with mango leaf decorations called toranalu or Torana in Kannada.

Chaitra Sukladi

- It marks the beginning of the new year of the Vikram Samvat also known as the Vedic [Hindu] calendar.
- Vikram Samvat is based on the day when the emperor Vikramaditya defeated Sakas, invaded Ujjain and called for a new era.
- It is the first day during the waxing phase (in which the visible side of moon is getting bigger every night) of the moon in the Chaitra (first month of Hindu calendar).

Cheti Chand

- Cheti Chand is the new year festival of the Sindhi community. The festival is celebrated to commemorate the birth anniversary of Jhulelal, the patron saint of the Sindhi community.

Navreh

- Navreh is the Kashmiri New Year's Day. The day is marked by performing various rituals, decorating houses with flowers, preparing traditional dishes, and offering prayers to the deities.

Sajibu Cheiraoba:

- It is considered one of the most important festivals of Manipur. It is celebrated with great pomp and joy, especially by the Meitei of the state.

Mission Shakti

News: The Supreme Court has sought more information from the government about Mission Shakti, an umbrella scheme for the safety, security, and empowerment of women.

Background:

- It comes after recent backdrop where concerns were raised about a **possible shortage of protection officers** to handle domestic violence cases.

What is Mission Shakti?

- Mission Shakti' is a scheme of Ministry of Women and Child Development aimed at strengthening interventions for women safety, security and empowerment.
- It seeks to realise the Government's commitment for "women-led development" by addressing issues affecting women on a life-cycle continuum basis and by making them equal partners in nation-building through convergence and citizen-ownership.
- It has two sub-schemes - 'Sambal' and 'Samarthya'. While the "Sambal" sub-scheme is for safety and security of women, the "Samarthya" sub-scheme is for empowerment of women.
- The components of 'Sambal' sub-scheme consist of erstwhile schemes of One Stop Centre (OSC), Women Helpline (WHL), Beti Bachao Beti Padhao (BBBP) with a new component of Nari Adalats - women's collectives to promote and facilitate alternative dispute resolution and gender justice in society and within families.
- The components of 'Samarthya' sub-scheme consist of erstwhile schemes of Ujjwala, Swadhar Greh and Working Women Hostel have been included with modifications.
- In addition, the existing schemes of National Creche Scheme for children of working mothers and Pradhan Mantri Matru Vandana Yojana under umbrella ICDS have now been included in Samarthya.
- A new component of Gap Funding for Economic Empowerment has also been added in the Samarthya Scheme.

What concerns were raised regarding Domestic Violence?

- According to a government document presented in court, **4.4 lakh cases** of domestic assault are pending across 801 districts.
- While most of these districts have one-stop centres to assist victims under Mission Shakti, it remains unclear how many of them actually have protection officers to effectively support survivors.
- Under Section 8 of the Protection of Women from Domestic Violence Act, 2005, the appointment of protection officers is mandatory.
- Protection officers, who should ideally be women, have a pivotal role under the law. They help victims file complaints, give information to the police, provide immediate protection and support, inform victims about their legal rights and support them through court proceedings.

Manual Scavenging

News: In the Union Budget 2023, the Government of India allocated Rs 100 crores for the NAMASTE scheme. With this, the GoI aims to **mechanize septic tank cleaning** and **sewer cleaning** in towns and cities.

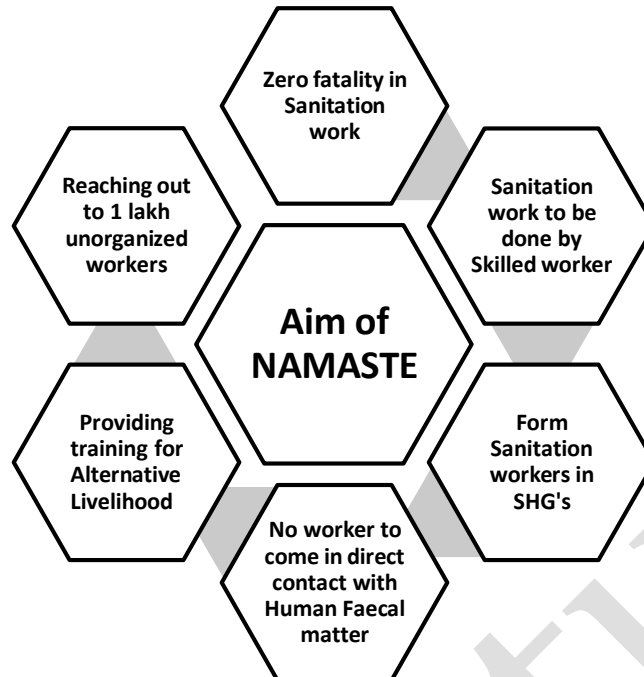
Background:

- In this context, we will discuss about NAMASTE scheme, the issue of Manual scavenging in India and a way forward.

About National Action Plan for Mechanized sanitation ecosystem (NAMASTE):

- It is launched to promote **100% mechanization**, specially cleaning of sewers, septic tanks, desilting of drains, garbage lifting, sludge handling, solid and medical waste disposal etc.

- It is a **Central sector scheme** and involves joint collaboration between **Ministry Social Justice and Empowerment** and **Ministry of Housing and Urban Affairs**.
- **National Safai Karamchari Financial Development Corporation (NSKFDC)** would be implementing agency for NAMASTE.



- Additionally, the identified sanitation workers and their family members will be extended benefits of all social security schemes such as PM Suraksha Yojana, Atal Bima Yojana.
- The identified Sewer and Septic Tank workers (SSWs) and their families will be covered under the Ayushyaman Bharat- Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and will also be provided livelihood assistance including capital subsidy and interest subvention.

What is Manual Scavenging?

- Manual Scavenging is lifting of human excreta from unsanitary latrines as defined in Section 2 (1) (g) of the **“Prohibition of Employment as Manual Scavengers and Rehabilitation Act 2013”**
- Manual scavengers die of the potent mix of methane, hydrogen sulphide and carbon monoxide fumes from septic tanks.

Which factors contribute to continued practice of Manual scavenging?

- Acute Poverty
- Issues in mechanization
- Low conviction
- The issue receives little Media attention
- The 2013 act fails to define what is meant by Protective Gear
- Failure to report instances of manual scavenging

What steps have been taken to address Manual Scavenging?

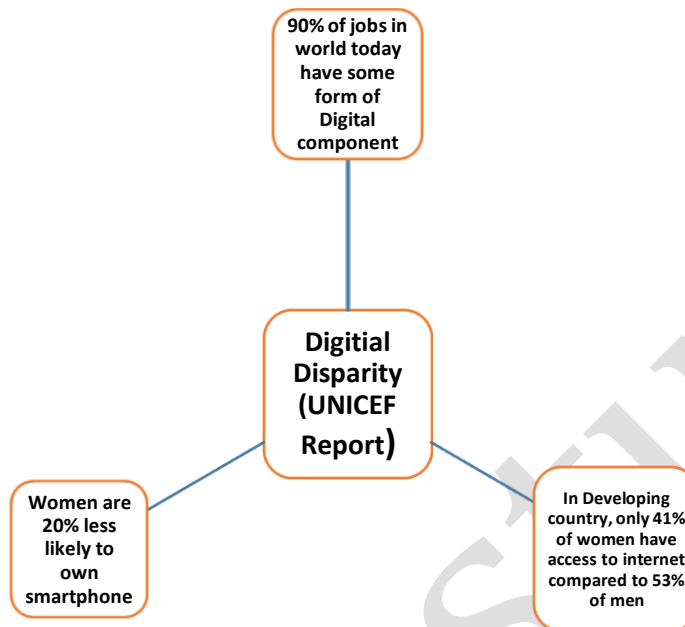
- **Swacchta Abhiyaan App** – It works on creating database to map unsanitary latrines and identify manual scavengers who needs rehabilitation.
- **Safai-Mitra Suraksha Challenge** – To be carried out across 243 cities where sewer and septic tanks will be mechanized.
- In the **Safai Karamchari vs Union of India, 2014** the SC ruled that continuance of manual scavenging in India is **blatant violation of Article 17 of the Constitution of India** by which untouchability is abolished and its practice is forbidden in any form.

Way Forward

- NAMASTE scheme is a positive step towards mechanized cleaning of septic tanks however, systemic issues such as improper maintenance of drains, open drains, improper waste disposal that clogs drains and corruption issues at local levels need to be addressed first.
- Article 21 of Constitution guarantees dignified life and ending manual scavenging should be top priority of the nation.

Significance of women-led Digital solutions

News: The theme for International Women's Day 2023 is 'DigitALL: Innovation and Technology for Gender Equality.'



- Another report by the Organization for Economic Cooperation and Development revealed that the gender gap in internet use is widening. Software development remains a male-dominated field, with women comprising only 15% of software designers.
- Data on the use of the internet in India indicates that in comparison with 58% male internet users, female users are only 42% (ICUBE 2020).

Importance of Digital literacy:

- There are vast opportunities for girls and women to power India's digital economy and benefit from it. We have the world's largest young population, and women and girls constitute almost half of it.
- The Food safety for Mid-Day Meals (FoSafMDM) application by the United Nations World Food Programme (WFP) in partnership with the Governments of Odisha and Rajasthan has rolled out technology-based training modules This helps in strengthening the capacity of the community in ensuring that proper hygiene and safety measures are followed so that children reap the full benefits of the nutrition that these school meals offer.
- Young women known as 'Digital Sakhis' from Madhya Pradesh are upturning discriminatory social norms through the use of smartphones.

Way Forward

- In the current context, digital literacy for women is a necessity if India wants to achieve the ultimate goal of gender equality.
- Women20—the G20's official engagement platform to promote gender equity—identifies "bridging the gender digital divide" as one of its five priorities that need to be mainstreamed as part of the G20 agenda this year.

Migrant Workers in India

News: Rumours of migrant workers being assaulted in Tamil Nadu have triggered concern among manufacturers in the state.

What are issues related to migrant workers in India?

- Lack of data on migrant workers which makes it difficult to track labourers during times of crisis
- Lack of portability of state-provided benefits
- Lack of social security and health benefits
- Affordable housing remains a challenge
- Poor coordination among states on formal exchange of information
- The nativist agenda of political parties in the states. For example, many state governments have reserved a certain percentage of employment for locals.

What are legal framework for migrant welfare?

- The Inter-State Migrant Workmen Act, 1979 mandates that the establishments which employ migrant workers be required to be registered with destination states. Contractors will also have to obtain a licence from the concerned authority of the home as well as host states. However, this Act has not been fully implemented in practice.
- This Act has been subsumed into the four labour codes notified by the Centre - The Code on Wages, 2019, The Industrial Relations Code, 2020, The Code on Social Security, 2020; and The Occupational Safety, Health and Working Conditions Code, 2020. However, they remain to be implemented.

What are some of best practices adopted by states?

- Kerala has set up facilitation centres for migrant workers whom the state refers to as “guest workers”.
- Jharkhand has started the Safe and Responsible Migration Initiative (SRMI) in 2021 to generate data and then map the labourers who move out to several states for work.
- Gujarat government has recently launched the Mukhyamantri Shramik Basera Yojana which facilities construction of houses for construction workers/laborers/migrants near their place of work so that they can have a decent lifestyle with their family.

Way Forward

- The 4 labour codes need to be implemented at the earliest and central and state government’s efforts need to be coordinated.
- The welfare measures for the community should include the supply of pulses and edible oil at concessional rates under the PDS, supplementing what is being given under the ‘One Nation One Ration Card’
- Focused efforts on children of migrant workers who should be given adequate opportunities for their schooling and education.

The Elephant Whisperers

News: The Elephant Whisperers is a directorial debut of Ooty-based photographer-turned-filmmaker **Kartiki Gonsalves**. The 41-minute film beat four other contenders to clinch the statuette in the **Best Documentary Short Category**, making it the first Indian documentary and one of only two Indian productions to win an Oscar (the other one being RRR).

Background:

- What makes ‘The Elephant Whisperers’ distinct from other documentaries is the fact that it wasn’t just a heart-touching story of a bond between animal and human and a shining example of how we can continue to coexist, but also touched upon **Indian culture, our long-forgotten values** and **spoke of conservation** in the most positive, hopeful light.



What is central theme of the story?

- The Elephant Whisperers follows the story of a young orphaned elephant, Raghu, and his two human “parents”, Bomman and Bellie, in Tamil Nadu’s **Mudumalai Tiger Reserve**.
- While the tragedy that undergirds Raghu’s story his mother was **electrocuted** when she went looking for food during a **prolonged period of drought** in the region — is never hidden, Gonsalves retains a **tight focus on the love and hope** that Bomman and Bellie come to represent in his life.

Will this Oscar win blaze a trail for other documentary films from India?

- Global recognition for India’s non-fiction cinema talent has risen in past few years.
- Nomination in the last year of **Writing with Fire** featured in Documentary feature nominations and this year by a nomination in the same category for **All That Breathes**, Shaunak Sen’s film about two Muslim brothers in Delhi, running a clinic for black kites. The story of the brothers’ love for these magnificent birds is beautifully interwoven with the depiction of a city that is plagued by bad air and an unravelling social fabric.
- In this dreary landscape of few resources and almost no recognition at home, the Oscar for The Elephant Whisperers stands as a beacon of hope.

What else should you learn from Prelims perspective?

- Boman and Bellie belong to the **Kattunayakan tribe**.
- Kattunayakan, **one of 75 PVTG** in India, are settled in parts of **Tamil Nadu** and **Kerala**. In Kerala, they are mostly found distributed in the Wynad and Kozhikode districts while in TN, they inhabit the Gudalur and Pandalur Taluk in the Nilgiris. Traditionally, the Kattunayakans have been hunter-gatherers. They get their name from the words 'kadu' (forests) and 'nayakan' (leader/chief) connoting that they are the lords of the forest.
- It is first ever Oscar for an Indian production.
- Producers – Douglas Blush, Kartiki Gonsalves, Guneet Monga and Achin Jain (Source – Wikipedia) and story by Priscilla Gonsalves.



Women and Men in India, 2022

News: Recently, the Ministry of Statistics and Programme Implementation has released Women and Men in India 2022 report.

Key Findings:

Sex Ratio

- The sex ratio at birth went up by three points to 907 in 2018-20 from 904 in 2017-19.
- India’s sex ratio (females per 1,000 males) is expected to improve to 952 by 2036, up significantly from 943 in 2011.

Population Growth

- The population growth, already on a downward trend from 2.2% in 1971 to 1.1% in 2021, is projected to fall further to 0.58% in 2036.
- In absolute figures, this translates into 1.2 billion people with 48.5% female population as per Census 2011 to an expected 1.5 billion in 2036 with a marginal improvement in the female population share (48.8%).

Labour Force Participation

- India's Labour Force Participation Rate for those above 15 years of age has been on the rise since 2017-2018. However, women are severely lagging behind men. The rate was 77.2 for males and 32.8 for females in 2021-22, with no improvement in this disparity over the years.
- Less participation is due to social factors, educational qualifications and gender discrimination in terms of wages and opportunities in the workplace.

Age of Sex structure

- India's age and sex structure, as per which the population under 15 years of age is expected to decline and the population above 60 years is expected to increase by 2036. Accordingly, the population pyramid will undergo a shift as the base of the pyramid in 2036 would narrow down, while the middle would be broadened.
- The age and sex structure of a country's population can affect gender issues in a variety of ways. Age structure impacting various aspects of societies is determined primarily by trends in fertility and mortality.

Access to health information and services

- Lack of access to resources and decision-making power, restrictions on mobility, etc make access to health information and services more difficult for women and girls than men and boys.

Fertility Rate

- The age-specific fertility rate for the 20-24 year and 25-29 years' age group between 2016 and 2020 reduced from 135.4 and 166.0 to 113.6 and 139.6 respectively. This is likely a function of economic independence by attaining proper education and securing a job.
- The same indicator for the 35-39 years' age group increased from 32.7 in 2016 to 35.6 in 2020. The mean age for marriage has improved marginally up from 22.1 years in 2017 to 22.7 years in 2020.

Geography

Utilizing potential of Helium Reserves

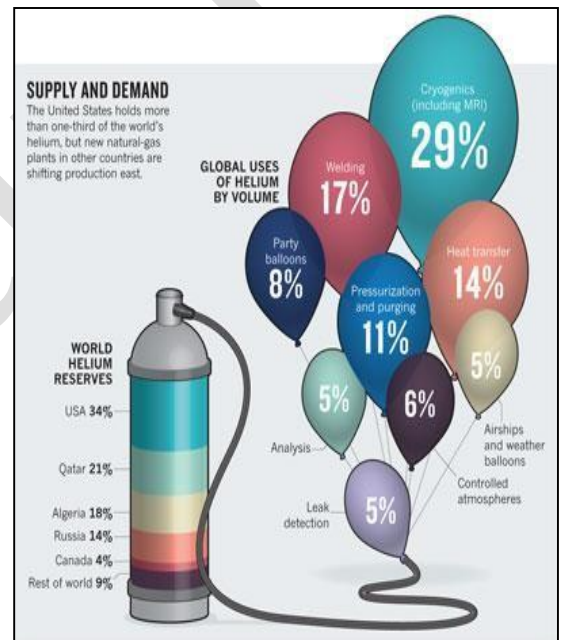
News: Recently, researchers have proposed a new model to tap into helium reserves to address shortage issues. Recent new study suggests that reservoirs of this gas, with no carbon footprint, likely exist in geological formations beneath the Earth.

About the Model:

- The gas can be produced and stored in crystalline basement rocks, dense rocks that extend from the mantle to the near-surface or surface. These rocks naturally contain uranium and thorium, both of which decay to form helium naturally.
- These rocks are 30-40 kilometer thick. They have also existed for millions or billions of years, allowing large amounts of helium to be produced and stored.
- These rocks could also be a source of hydrogen. The model showed that energy generated from the radioactive decay of uranium and thorium could split water to form hydrogen.

Key Facts about Helium:

- Helium is a noble gas and has a closed-shell electronic configuration, making it stable and unreactive.
- Helium is the second most abundant element in the universe, after hydrogen. However, it is relatively rare on Earth, with most of it being produced by the decay of radioactive elements in the Earth's crust.
- As of 2022, USA has largest reserves of helium followed by Algeria and Russia. (World Helium reserves as shown in image are based on 2017 Data and are for reference purpose only)
- India's Rajmahal volcanic basin in Jharkhand is the storehouse of helium trapped for billions of years.
- There is currently a shortage of helium in the world owing to factors such as shutdown of some helium plants, the increasing demand for helium in emerging economies, and the lack of new helium sources.



Application of Helium:

- Balloons and airships (as it is lighter than air and does not react chemically with other elements).
- Industrial applications, including welding, cooling, and as a protective gas in the production of semiconductors and fiber optic cables.
- In medical applications, such as magnetic resonance imaging (MRI), as a cooling agent for superconducting magnets.
- It is also used in nuclear magnetic resonance (NMR) spectroscopy and as a carrier gas in gas chromatography.

Way Forward

- The proposed model for tapping into carbon-free helium reserves could provide a sustainable and cost-effective solution to the current helium shortage, with the added benefit of hydrogen production.

Glacial Retreat

News: Recent studies on Himalayan glaciers show that the variability in retreat rate and mass balance in different sectors of the mountain range is primarily linked to topography and climate.

Which factors contribute to Glacial retreat?

- A study by **Wadia Institute of Himalayan Geology** (Uttarakhand) of 2 glaciers Pensilungpa (Ladakh) and Durung Drung (Ladakh) between 1971 and 2019 revealed following facts.
- Their study confirms that the glacier retreat rate is controlled by **climate change** and the **topographic setting** and **morphology** of the glacier.
- They also found that the **thickness of the debris cover** significantly alters the glacier response to climate forcing.
- Other factors such as snout geometry, glacier size, elevation range, slope, aspect, debris cover, as well as the presence of supra and proglacial lakes also influence the heterogeneous glacial dynamics.



What is Glacial retreat?

- Glacial retreat refers to the process of a glacier shrinking or receding in size over time due to a decrease in ice accumulation or an increase in ice melt.
- Factors responsible for Glacial retreat include rising global temperatures, changes in precipitation pattern, or when surrounding geography changes.
- As a glacier retreats, it can lead to a number of significant environmental impacts, including **changes in water availability**, **alterations to local ecosystems**, and **increased risk of natural disasters** such as floods and landslides.
- It also contributes to **rising sea levels** which impacts those living near coastal areas.

Significance of Glacier

- Glaciers play a significant role as reservoirs of water, habitats for species, enhancing electric power generation, as well as serving as tourist destinations.
- The balance between the advance and ablation of glaciers, termed as mass balance (or budget), is an essential measure in sustaining Earth's ecosystem.
- Glacial shrinking is higher today than it has been in the last 100 years. It is estimated that the Arctic could be ice-free by 2040 if the current rate of glacial melting is not stopped.

What is the McMahon line?

News: Two United States Senators, a Republican and a Democrat, have introduced a bipartisan resolution in the upper chamber of Congress reiterating that the US recognises the McMahon Line as the international boundary between China and India in Arunachal Pradesh.

What is the McMahon line?

- The McMahon Line serves as the de facto boundary between China and India in the Eastern Sector. It specifically represents the boundary **between Arunachal Pradesh and Tibet**, from Bhutan in the west to Myanmar in the east.
- China has historically disputed the boundary and claims the state of Arunachal Pradesh as part of the Tibetan Autonomous Region (TAR).

Under what circumstances was it drawn?

- The McMahon Line was drawn during the **Simla Convention** of 1914, officially described as the Convention Between Great Britain, China, and Tibet.
- The McMahon Line delimited the respective spheres of influence of Tibet and British India in the eastern Himalayan region in what is today India's Northeast and northern Myanmar. The border in this region was undefined prior to the signing of the convention.

What happened at the Shimla Convention of 1913-14?

- The convention attempted to settle the question of Tibet's sovereignty and avoid further territorial disputes in the region.
- The treaty divided the Buddhist region into "Outer Tibet" and "Inner Tibet" – the former would "remain in the hands of the Tibetan Government at Lhasa under Chinese suzerainty", though China was not allowed to interfere in its affairs.
- The latter would be under the direct jurisdiction of the newly formed Republic of China. The latter of these newly decided boundaries would later be called the McMahon Line after McMahon, the chief British negotiator.



Why China did not sign the convention?

- It argued that Tibet had no independent authority to enter into international agreements.

How was the border between British India and China decided?

- Following the "highest watershed principle". This principle, considered to be the most logical way of drawing borders in mountainous regions by the British, basically drew the border along the highest ridge between two river plains.

What has the status of the McMahon line been since 1914?

- After the communists took power in 1949, they pulled China out of all international agreements and the so-called "unequal treaties" that had been imposed on it during its "century of humiliation", and demanded a renegotiation of all its borders.
- During the 1962 Sino-Indian War, China was able to quickly overpower India and make deep inroads into Indian territory across the McMahon Line. However, its forces retreated to pre-war positions after the announcement of unilateral ceasefire.

Africa to split into 2 continents?

News: Scientists, in 2020, predicted a new ocean would be created as Africa gradually splits into two separate parts.

Background:

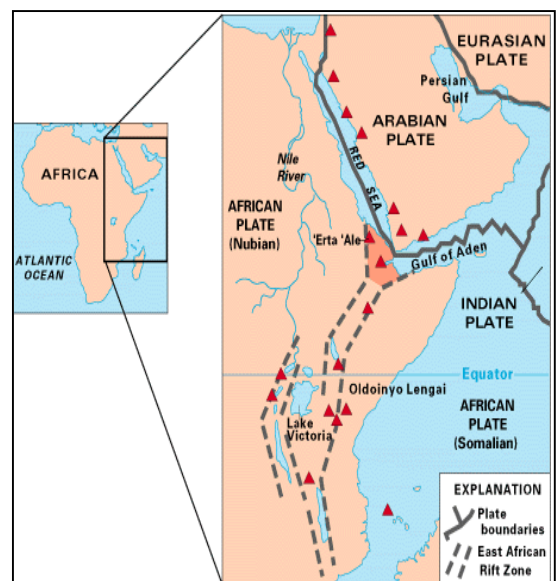
- The division of the continent is connected to the East African Rift, which appeared in the desert of Ethiopia in 2005, triggering the formation of a new sea.

What is Rifting?

- Rifting refers to the geological process in which a single tectonic plate is split into two or more plates separated by divergent plate boundaries.
- It leads to the emergence of a lowland region known as a rift valley, which can occur either on land or at the bottom of the ocean. These rift valleys occur due to the movement of Earth's tectonic plates.

What is happening in Africa?

- The three plates — the Nubian African Plate, Somalian African Plate and Arabian Plate — are separating at different speeds.
- The Arabian Plate is moving away from Africa at a rate of about an inch per year, while the two African plates are separating even slower.



- As the Somali and Nubian tectonic plates continue to pull apart from each other, a smaller continent will be created from the rift, which will include present-day Somalia and parts of Kenya, Ethiopia, and Tanzania.
- This new ocean will result in East Africa becoming a separate small continent with its own unique geographic and ecological characteristics.

What are its impact?

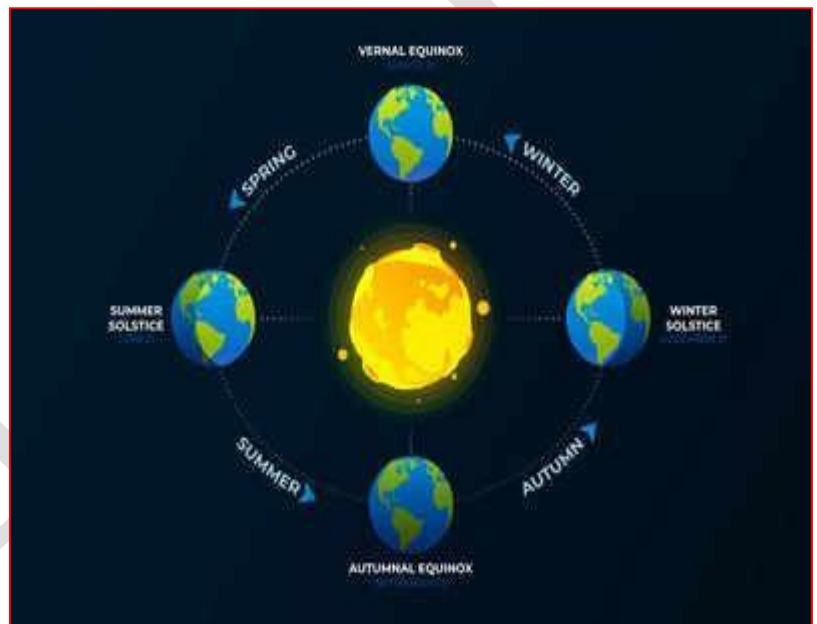
- Displacement of communities, settlements and various flora and fauna.
- Impact their habitats due to climate change, resulting in environmental degradation.
- Rapid urbanisation and increased settlements will put pressure on natural resources, leading to a scarcity of water, energy and food.
- Uncontrolled waste disposal.
- Some species will disappear, while others will become endangered due to habitat changes.

Vernal Equinox

News: The vernal equinox is observed on March 21st 2023.

What is Equinox?

- Equinox happens **twice a year** when the **sun is directly above the equator**, and it occurs on approximately 21st March and 23rd September.
- During an equinox, both the Northern and Southern Hemispheres have **equal day and night time**. The vernal equinox (spring equinox) takes place in the Northern Hemisphere around 20th or 21st March, while in the Southern Hemisphere, it happens on 22nd or 23rd September. Conversely, during the autumn season in the Northern Hemisphere on 23rd September (autumn equinox), it is springtime in the Southern Hemisphere, and on 21st March, it is the opposite.



Importance:

- As a result, the Sun is located directly above the equator, and both hemispheres receive an almost equal amount of sunlight.
- After the spring equinox, the northern hemisphere tilts closer to the sun in March, resulting in more hours of daylight, with earlier sunrises and later sunsets.
- According to Hindu astrology, Vernal Equinox is known as Vasant Vishuva or Vasant Sampat. The Spring equinox brings earlier sunrises, later sunsets, and sprouting plants in the northern hemisphere.
- Later sunrises, earlier sunsets, chillier winds, and dry and falling leaves are observed in the south of the equator (southern hemisphere).

Atmospheric Rivers

News: Recently, California has experienced an exceptionally wet winter with **11 atmospheric rivers** battering the state and a twelfth such storm threatening to cause even more flooding, landslides and road closures.

What are Atmospheric rivers?

- Atmospheric rivers are **vast airborne currents of dense moisture** carried aloft for hundreds of miles from the Ocean and funneled over land to fall as bouts of heavy rain and snow.
- As far as California is concerned, during any normal 20-year period of the 20th century, about 10 years were wet and 10 years were dry.
- But in the past 25 years, only nine years were wet and 16 were dry, meaning the state needs seven more wet years to recover. And climate change points to future years that are likely to get warmer, exacerbating the increasingly dry climate.

How does rain impact wildfires?

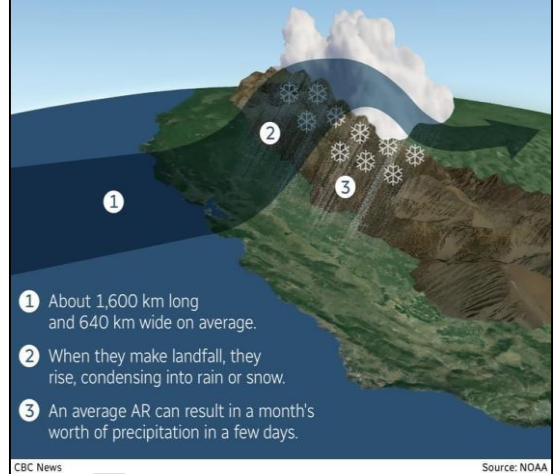
- The current winter's bountiful rainfall has already triggered considerable growth in grasses and scrub that will dry out by summer, leaving a larger, thicker fuel bed for wildfires.
- The heavy rains can create dangers around burn scars from previous wildfires. The denuded land becomes susceptible to mudslides.

What are its impact on people, climate?

- They transport huge amounts of water vapor from one place to another which is essential for the transfer of heat and equalizing heat across various latitudes.
- They are being amplified by global warming as they are predicted to grow longer, wetter and wider in a warming climate.
- In dry conditions, atmospheric rivers can replenish water supplies and quench dangerous wildfires.
- While in wet conditions, they can cause damaging floods and debris flow, wreaking havoc on local economies.
- Visibility is also diminished as these rivers increase haze-fog conditions which harm agriculture and transport.

What are atmospheric rivers?

Atmospheric rivers (or ARs) are large, narrow streams of water vapour that travel through the sky.



Western Disturbances

News: Recently large parts of the country experienced hailstorms which were also accompanied by torrents of rain.

What led to the hailstorms and rains?

- The primary reason was that of multiple Western Disturbances (WD), several other WD related weather systems and many troughs, which are extended low pressure areas, formed due to the interaction of the WDs and associated systems with winds blowing in from the eastern part of India, primarily BOB.
- A warming Arabian Sea could also be responsible for the intense storm activity and rain.
- The IMD also cited a **strong subtropical westerly jet stream**, a band of winds that



circles the subtropical regions of the planet in the upper layers of the troposphere, as a reason for the storm activity. This was further aided by the incursion of moisture-laden winds from the Bay of Bengal and the lowering of the freezing level in the atmosphere, which helped in the formation of hail.

- Recent studies have also shown that the **warming of the Arctic** and the **Mediterranean Sea** means that Western Disturbances are **striking India less in winter and more in summer**; with catastrophic consequences on crops, cropping patterns and crop productivity.
- The hail and rains have led to extensive damage to standing crops in many states, such as Maharashtra, Rajasthan, Punjab, Haryana and Gujarat.

What are Western Disturbances?

- Western disturbances are **extra-tropical storms** that originate in the Caspian or Mediterranean Sea, which is an **area of low pressure** & bring sudden showers(non-monsoonal), snow and fog to northwest India.
- The **westerly jet stream** is responsible for bringing WD from Mediterranean region in to the Indian sub-continent.

Geomagnetic Storm

News: Recently, Earth has been hit by a powerful Geomagnetic Storm, having a **severity grade of G4** according to the US National Ocean and Atmospheric Administration (NOAA).

What does G4 severity imply?

- Severity grade of G4, which is the **second-highest grade** possible, can potentially cause **widespread voltage control problems** for power grids. It can also cause protection systems to mistakenly trip key electric assets of the grid.

What is a Geomagnetic storm?

- A geomagnetic storm refers to the disruptions to the Earth's magnetic field caused by solar emissions.
- When a Coronal Mass Ejection (CME) or a high-speed solar stream reaches our planet, it slams into the magnetosphere. The Earth's magnetosphere is created by its magnetic fields and it usually protects us from the particles emitted by the Sun.
- When a CME or a high-speed stream arrives at Earth, it peels open the planet's magnetosphere, kind of like an onion. This allows energetic solar wind particles to stream down and hit our atmosphere over the poles. Solar weather events like this can also supercharge auroras, sometimes making them visible in places where they wouldn't have been otherwise.

Impact of Geomagnetic Storm:

- Impact space weather in near Earth space and the upper atmosphere.
- It can hit space dependent services like GPS, radio, satellite communications, aircraft operations can also get vulnerable.
- It can potentially create disturbances in the magnetosphere, the protective shield surrounding the Earth.
- Astronauts on spacewalks face health risks from possible exposure to solar radiation outside the Earth's protective atmosphere.

General Studies – 2

Polity & Constitution

1. Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.
2. Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.
3. Separation of powers between various organs dispute redressal mechanisms and institutions
4. Comparison of the Indian constitutional scheme with that of other countries.
5. Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.
6. Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.
7. Salient features of the Representation of People’s Act.
8. Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
9. Statutory, regulatory and various quasi-judicial bodies.

Social Justice

10. Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
11. Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.
12. Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.
13. Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
14. Issues relating to poverty and hunger.

Governance

15. Important aspects of governance, transparency and accountability, e-governance, applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.
16. Role of civil services in a democracy.

International Relations

17. India and its neighborhood- relations.
18. Bilateral, regional and global groupings and agreements involving India and/or affecting India’s interests.
19. Effect of policies and politics of developed and developing countries on India’s interests, Indian diaspora.
20. Important International institutions, agencies and fora- their structure, mandate

Polity & Governance

Right Against Self-incrimination

News: The Supreme Court on Tuesday refused to hear a plea by Delhi Deputy Chief Minister Manish Sisodia seeking bail in the excise policy case after a Delhi court on Monday remanded him in CBI custody till March 4. Instruction – Link this article with Fundamental Rights chapter in Lakshmikanth in context with Article 20, 32 and 226 of the Constitution.

Background:

- The Supreme Court disapproved of Sisodia approaching it directly under Article 32 of the Constitution when the remedy of moving the High Court under Section 482 of the CrPC was available to him.

What is an individual's right against Self-incrimination?

- **Article 20(3) in Part III** (Fundamental Rights) of the Indian Constitution says, "No person accused of any offence shall be compelled to be a witness against himself."
- The right to be presumed innocent until proven guilty, and the right to remain silent in an interrogation essentially flow from this constitutionally guaranteed right against self-incrimination. The right also ensures that police cannot coerce anyone to confess to a crime, and obtain a conviction based on that confession.

How does the right against self-incrimination apply in criminal cases?

- Since the onus of proving the case against the accused beyond reasonable doubt is on the state, a person cannot be compelled to testify against himself or share information that might go against him in a trial.

What does not violate the right against self-incrimination?

- In the landmark 1961 verdict in **The State of Bombay versus Kathi Kalu Oghad**, Supreme Court ruled that obtaining photographs, fingerprints, signatures, and thumb impressions would not violate the right against self-incrimination of an accused. The court distinguished "to be a witness" from "furnishing evidence".
- In 2019, the Supreme Court in its ruling in **Ritesh Sinha versus State of Uttar Pradesh** broadened the parameters of handwriting samples to include voice samples, adding that this would not violate the right against self-incrimination.

What amounts to violation of the right against self-incrimination?

- In **Selvi v State of Karnataka**, the Supreme Court held that a **narcoanalysis test without the consent of the accused** would amount to violation of the right against self-incrimination.
- However, obtaining a DNA sample from the accused is permitted. If an accused refuses to give a sample, the court can draw adverse inferences against him under Section 114 of the Evidence Act.

On what grounds did Supreme court reject Sisodia's plea?

- The SC refused to intervene in Sisodia's arrest "at this stage". He had moved the SC under Article 32, which gives citizens the right to approach the top court when their fundamental rights are violated.
- However, CJI said that Sisodia's arrest is under the Prevention of Corruption Act and his case does not involve matter of free speech when earlier journalists such as Arnab Goswami and Vinod Dua's matter were heard by SC in context to Article 32.

Punchhi Committee report

News: Union Ministry of Home Affairs (MHA) has decided to start the process of seeking the states' comments on the issue afresh.

What is Punchhi commission report?

- The Punchhi Commission was constituted in 2007 under the chairmanship of former Chief Justice of India Madan Mohan Punchhi. In 2010, the Commission submitted its report to the Centre in seven volumes.

- Deliberation on the report was carried out by Inter-State Council (ISC's) Standing Committee in 2017 and 2018. However, the report is yet to be implemented and the government has said that it will seek the state's view on the report again.
- The Commission examined and reviewed how the **existing arrangements** between the **Union and States** were functioning, as well as **various court rulings** regarding the powers, duties, and responsibilities in all areas, including **legislative relations, administrative relations, the role of governors, emergency provisions** and others.

What were its important recommendations?

- **On Appointment and Removal of Governors**
 - Governor should be from outside the State and not involved in regional politics.
 - He should be nominated after consulting with Chief Minister.
 - Establishment of a committee for selecting governors.
 - Repeal of the Constitution's Doctrine of Pleasure.
 - Guaranteed tenure of Governor with a fair chance to object to removal.
 - Impeachment of Governor by state legislature.
- **On Concurrent List**
 - Consultation with States through inter-state council before laws are filed on concurrent list issues.
- **Amendment to Article 355 and 356**
 - Changes to Articles 355 and 356 of the Constitution to limit misuse of authority by the centre.
- **On Communal Violence**
 - Communal Violence Bill amendment to allow temporary deployment of forces in State without State's permission.
- **Appointment of Chief Ministers**
 - Clear guidelines should be made with regard to the appointment of chief ministers so that the governor's discretionary powers are limited in this aspect.
 - A pre-poll alliance is to be considered as a single political party.
 - It recommended Principles for selecting Chief Minister (number-wise priority) – 1) Broadest support in Legislative Assembly, 2. Head of the party with an absolute majority, 3. A coalition of parties established before elections, 4. Largest single party with the backing of other parties, 5. A post-election coalition of parties with members forming a government and others supporting from outside.
- **On Union's Diplomatic Power**
 - Restriction of the union's ability to negotiate treaties to those involving subjects on the State list. The Commission identified that the states need to be more involved in such kinds of treaties that are formulated in reference to their issues. This will ensure a peaceful co-existence between the different levels of the government.
- **On Finance Commission**
 - Efficient inclusion of States in the formulation of final terms of the contract, Review of current cesses and surcharges to reduce contribution to gross tax income and to turn Finance Commission Division into a full-fledged department.

Centre for Policy Research's FCRA Registration Suspended

News: Recently, The MHA suspended the Foreign Contribution Regulation Act (FCRA) license of the Centre for Policy Research (CPR) following prima facie inputs regarding the violation of funding norms.

About CPR:

- The Centre for Policy Research (CPR) has been one of India's leading public policy think tanks since 1973.
- CPR is a non-profit, non-partisan, independent institution dedicated to conducting research that contributes to high quality scholarship, better policies, and a more robust public discourse about the issues that impact life in India.

What is FCRA?

- The FCRA was enacted during the Emergency in 1976 amid concerns that foreign powers were interfering in India’s affairs by pumping money into the country through independent organizations. The law sought to regulate foreign donations to individuals and associations.
- An amended FCRA was enacted in 2010 to “consolidate the law” on the utilization of foreign funds, and “to prohibit” their use for “any activities detrimental to the national interest”.
- The law was amended again in 2020, giving the government tighter control and scrutiny over the receipt and utilization of foreign funds by NGOs.

Key Provisions:

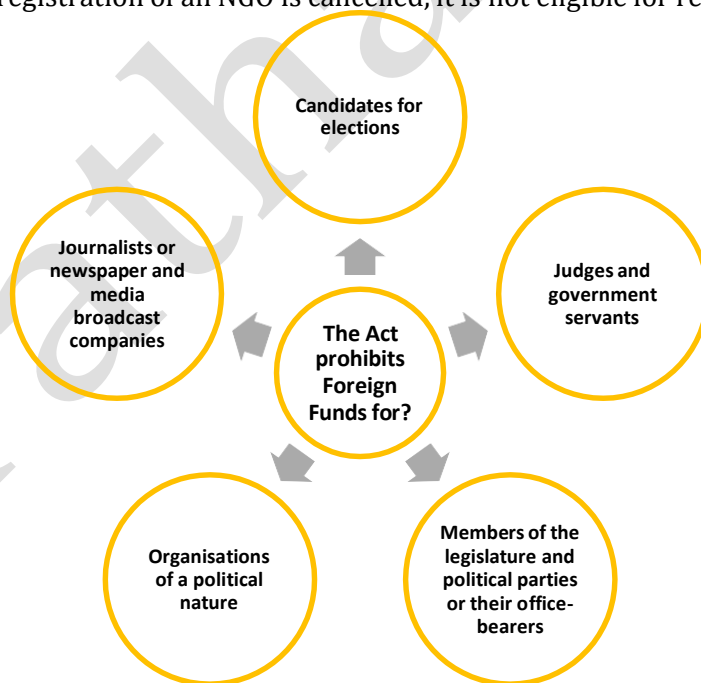
- The FCRA requires every person or NGO wishing to receive foreign donations to be registered under the Act.
- To open a bank account for the receipt of foreign funds in State Bank of India, Delhi is mandatory.
- These funds can be utilised only for the purpose for which they have been received, and as stipulated in the Act.
- The receivers of foreign funds are also required to file annual returns, and they must not transfer the funds to another NGO.

How are registrations granted?

- FCRA registrations are granted to individuals or associations that have definite cultural, economic, educational, religious, and social programmes.
- MHA makes inquiries through the Intelligence Bureau into the antecedents of the applicant and accordingly processes the application.
- The MHA is required to approve or reject the application within 90 days — failing which it is expected to inform the NGO of the reasons for the same. Once granted, FCRA **registration is valid for five years**.
- NGOs are expected to apply for renewal within six months of the date of expiry of registration. In case of failure to apply for renewal, the registration is deemed to have expired.

When is registration cancelled or suspended?

- The government reserves the right to cancel the FCRA registration of any NGO if it finds it to be in violation of the Act.
- Registration can be cancelled for a range of reasons including, if “in the opinion of the Central Government, it is necessary for the public interest to cancel the certificate”.
- Once the registration of an NGO is cancelled, it is not eligible for re-registration for three years.



Supreme Court's Verdict on ECI Appointments

News: A five-judge bench of the Supreme Court unanimously ruled that a high-power committee consisting of the Prime Minister, Leader of Opposition in Lok Sabha, and the Chief Justice of India must pick the Chief Election Commissioner (CEC) and Election Commissioners (ECs).

Background:

- In 2015, a public interest litigation was filed by **Anoop Baranwal** challenging the constitutional validity of the practice of the Centre appointing members of the Election Commission.

What was the challenge?

- **Article 324(2)** reads: "The Election Commission shall consist of the Chief Election Commissioner and such number of other Election Commissioners, if any, as the President may from time-to-time fix and the appointment of the Chief Election Commissioner and other Election Commissioners shall, subject to the provisions of any law made in that behalf by Parliament, be made by the President."
- **Crux of challenge** – Since no law has been made by Parliament on this, the Court must step in to fill the "Constitutional Vacuum."
- Two corollary issues that were also examined by the Court are whether the process of removal of the two Election Commissioners must be the same as the CEC; and regarding the funding of the EC.

As per the current process, the Law Minister suggests a pool of suitable candidates to the Prime Minister for consideration. The President makes the appointment on the advice of the PM.

What did the court decide?

- The appointment of the CEC and the EC's shall be made by the President on the advice of a Committee consisting of the **Prime Minister**, the **Leader of the Opposition** of the **Lok Sabha**, and in case no leader of Opposition is available, the leader of the largest opposition Party in the Lok Sabha in terms of numerical strength, and the **Chief Justice of India**,"
- The SC also ensured that this will be subject to any law to be made by Parliament. This means that Parliament can undo the effect of the SC verdict by bringing in a new law on the issue.

What were the basis of Court's verdict?

- They were based on a reading of the debates of the Constituent Assembly.
- The deliberate addition of the words "subject to the provisions of any law made in that behalf by Parliament" after prolonged discussions, according to the court, indicate that "what the Founding Fathers clearly contemplated and intended was, that **Parliament would step in** and **provide norms**, which would govern the appointment to such a uniquely important post as the post of Chief Election Commissioner and the Election Commissioners."
- The courts observed that founding fathers did not intend the executive exclusively calling the shots in the matter of appointments to the EC.
- The ruling cites past instances of the Court stepping into to fill a gap in the law, including the **Vishaka guidelines** to curb sexual harassment at workplace, and the interpretation on the process of appointment of judges.

What are other findings of the court?

- On the issue of whether the process of removal of Election Commissioners must be the same as it is for the CEC, the Court ruled that it cannot be the same.
- On the issue of funding the EC, the court left it to government but stated the need for establishing a permanent secretariat for EC and also to provide that expenditures be charged on the Consolidated Fund of India.

Court Martial

News: An Army court has recommended life imprisonment for a Captain involved in the staged killings of three men at Amshpora in Jammu and Kashmir's Shopian district in 2020.

Background:

- The Captain was court-martialed after a Court of Inquiry (CoI) and subsequent summary of evidence found that troops under his command had exceeded their powers under the Armed Forces (Special Powers) Act.

What is process of Court Martial?

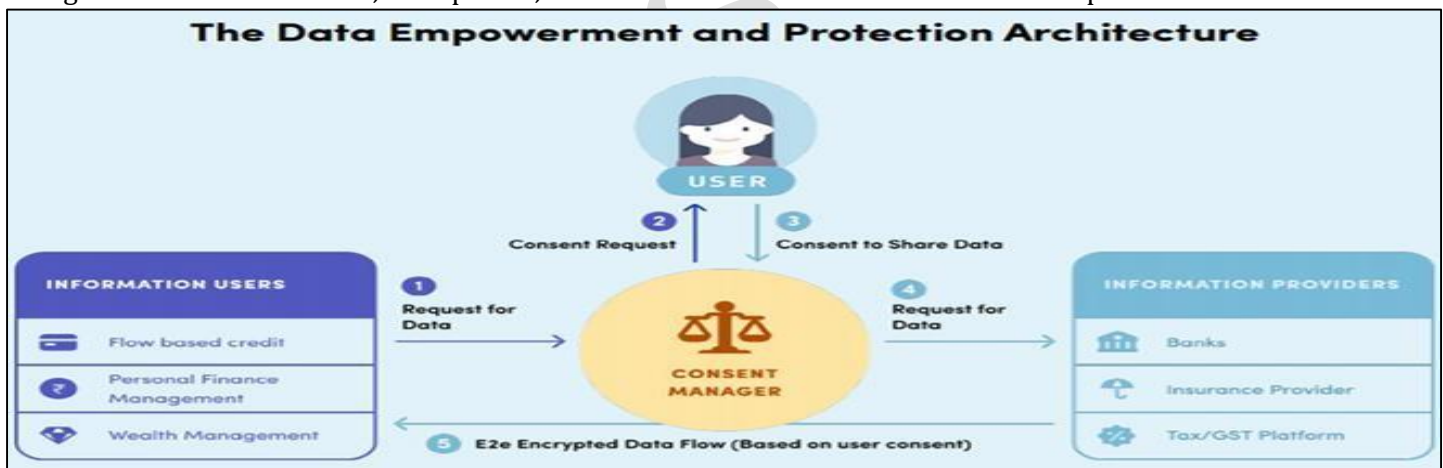
- When the Army wants an allegation against its personnel investigated, it first sets up a CoI for the purpose. It is similar to the registering of a First Information Report (FIR) by police.
- A Court of Inquiry investigates the complaint but cannot award a punishment. The CoI records the statements of witnesses. Based on the findings of the CoI, a tentative charge sheet is drawn up by the commanding officer of the accused officer.
- After this, the hearing of charges takes place (just like the initial summoning of an accused by the magistrate in a case involving civilians). The summary of evidence is then recorded.
- Once this process has been completed, a General Court Martial (GCM) is ordered; similar to the conduct of a trial by a judicial court for civilian matters.

What legal recourse is available to the accused?

- Under section 164 of the Army Act 1950, the accused can file a pre-confirmation petition as well as one post-confirmation.
- A pre-confirmation petition will go to the Army Commander, who may look into its merits.
- Whereas a post-confirmation petition must be filed with the government since the officer is cashiered — his ranks are removed, and he is dismissed from service — after confirmation of the sentence by the Army commander.
- After these options have been exhausted, the accused can approach the Armed Forces Tribunal, which can suspend the sentence.

Data Empowerment and Protection Architecture

News: India's G-20 presidency has provided an opportunity for the country to ensure that its digital strategies and data governance are inclusive, transparent, secure and conducive to sustainable development.



Background:

- In recent years, India has made great strides in its digital strategies/data governance by embracing technology (say, UPI) and digitalisation which has been driving force for economic growth and improving the lives of citizens.
- However, the issues of ownership and governance of data generated and collected and data sovereignty have become increasingly important.
- Data sovereignty is the idea that data is subject to the laws and governance structures of the nation where they are collected.
- Given this, it is unreasonable to deny people control over their data and India's DEPA a consent management tool, has generated both excitement and concern among stakeholders.

What is DEPA?

- It was launched by the **NITI Aayog** in 2020 on the premise that individuals themselves are the best judges of the 'right' uses of their personal data.
- It is designed as an evolvable/agile framework for good data governance that empowers people to seamlessly and securely access their data and share it with third-party institutions.

What are advantages of DEPA?

- Potential to improve data protection and privacy for citizens
- Allowing individuals to easily manage and control their data consent
- Build trust in digital technologies and data governance.

What are its limitations?

- Personal data could be misused or misappropriated if the consent management tool is not properly implemented.
- An implementation may be inconsistent across different sectors and jurisdictions which undermine effectiveness, and creates confusion among citizens.

Way Forward

- The DEPA must be implemented in a transparent, consistent and secure manners.
- Clear, transparent and accountable data governance policies and regulations. India Data Management Office (IDMO) proposed by MeitY will frame/manage review/revise the National Data Governance Framework Policy (NDGFP).
- Investment in the necessary digital infrastructure and skills. India Stack is a unified software platform that provides digital public goods, and application interfaces and facilitates digital inclusion.
- Advances in financial inclusion (UPI) can be replicated successfully in other areas (health, agriculture).
- International cooperation and collaboration in addressing risks posed by the rapid growth of data and digital technologies.

Bar Council of India

News: The Bar Council of India (BCI) has notified the Rules for Registration and Regulation of Foreign Lawyers and Foreign Law Firms in India, 2022.

About BCI:

- The Bar Council of India (est. 1961; HQ: New Delhi) is a **statutory body** established under section 4 of the Advocates Act 1961 that **regulates legal practice** and **legal education** in India.
- Its members are elected from amongst the lawyers in India and as such represents the Indian bar.

What are the new rules?

- It allows foreign lawyers and law firms to practice in India but not appear in court.
- Eligibility - The lawyer or firm should be entitled to practice law in their home countries
- Limitations - They cannot practice Indian law in any form or before any court of law, tribunal, board, or any other authority legally entitled to record evidence on oath.
- Permission - They are only permitted to practice transactional work/corporate work (such as joint ventures, mergers and acquisitions, IPR), can advise clients on foreign law, international law and international arbitration matters in India.
- Section 29 of the Advocates Act, states that only advocates enrolled with BCI can practise law.

How will it help?

- It will help attract **foreign direct investment** and make India a **hub of international commercial arbitration**. The new rules enable foreign lawyers and law firms to register with the BCI to practice in India if they are. It will further incentivize Legal Process Outsourcing (LPOs) in India.

Centre opposes same-sex marriage

News: The Centre has opposed same-sex marriage in the Supreme Court, stating that marriage between a biological man and woman is a holy union, a sacrament, and a sanskar in India.

What is Government's view?

- The government argued that the Court **had only decriminalised sexual intercourse** between same-sex persons in its 2018 judgement in **Navtej Singh Johar v. Union of India**, and not legitimised this "conduct". The court, while decriminalising homosexuality, did not accept same-sex marriage as part of the fundamental right to life and dignity under Article 21 of the Constitution.
- The government argues that marriage depends on customs, rituals, practices, cultural ethos, and societal values. Same-sex marriage cannot be compared to a man and woman living as a family with children born out of the union.
- The Parliament has designed and framed the marriage laws in the country to recognize only the union of a man and a woman. Registration of marriage of same-sex persons would result in a violation of existing personal as well as codified law provisions. The Special Marriage Act of 1954 provides a civil form of marriage for couples who cannot marry under their personal law.
- The government argued that any deviation from this norm can only be made through the legislature, and not the Supreme Court.

What are arguments in favor of same sex marriage?

- All individuals, regardless of their sexual orientation, have the right to marry and form a family.
- Marriage provides social and economic benefits to couples and their families. Allowing same-sex couples to marry strengthens families and communities by promoting stability and security.
- It is globally accepted in many countries and denying similar rights to individuals in India goes against the principles of democracy.

What are arguments against same sex marriage?

- Many religious and cultural groups believe that marriage should only be between a man and a woman.
- Some people argue that the primary purpose of marriage is procreation, and that same-sex couples cannot have biological children.
- Allowing for same sex marriage will create legal hurdles in future based on inheritance, tax, property rights etc.
- It will be challenging to change all laws and regulations to fit the interests of same sex marriage couples.

Way Forward

- Any legislative or judicial decision on same-sex marriage must consider the cultural sensitivities of diverse communities in India at the same time protecting fundamental rights of individuals.
- To begin with education and awareness campaigns should be developed to promote acceptance and understanding of heterosexuality and later on same-sex marriages should be considered.

Friction of Revenue Sharing Formula

News: Critics argue that the 15th Finance Commission formula is skewed in favour of some states, resulting in wide inter-state variations.

How are Taxes distributed among states?

- The Centre collects taxes from states and distributes it among them based on the Finance Commission's (XVFC) formula.
- The XVFC formula is based on **each state's needs** (population, area and forest and ecology), equity (per capita income difference), and **performance** (own tax revenue and lower fertility rate).
- Needs are given 40% weightage, equity 45%, and performance 15%.
- The XVFC introduced the **fertility rate component** to reward states that have reduced fertility levels, but this has a **lower weightage than equity and needs**.

What are issues in XVFC formula?

- The XVFC formula is **skewed in favour of some States**, resulting in wide inter-State variations. For example, for **every one rupee that Tamil Nadu gives the Centre, it gets back 29 paise** while (UP gets ₹2.73 and Bihar gets back ₹7.06)
- Critics argue that this formula favours some northern states, as the population is given higher weightage. (Rewarding those who have not been able to achieve population control)

- While the developed States that have lowered their TFR below replacement rate benefit from the drop in TFR, the component's weight is considerably less.

What do those defending the formula say?

- The objective of the transfer of funds is to enable a State to provide comparable levels of services.
- The basic rationale is horizontal equity.
- However, others contend that the formula should not adversely impact a state's efficiency and progress.

Way Forward

- The new fiscal federal architecture must be developed via forums like the GST Council, Inter-state Council, and NITI Aayog to accommodate the specific needs and aspirations of states as the dynamics of fiscal federalism change in India.

Defamation, Disqualification and RPA

News: Recently, a member of Parliament was sentenced to two years in jail in a 2019 Defamation Case by Surat court over his remarks in context of particular community.

Under which sections of IPC was the case filed?

- The case was filed under Indian Penal Code (IPC) **sections 499 and 500**, dealing with defamation.
- **Section 499** of the IPC elaborates on how defamation could be through words – spoken or intended to be read, through signs, and also through visible representations. These can either be published or spoken about a person with the intention of damaging the reputation of that person, or with the knowledge or reason to believe that the imputation will harm his reputation.
- **Section 500** stipulates **imprisonment of up to two years**, with or without a fine, for someone held guilty of criminal defamation.

What is Defamation?

- Defamation is the act of communicating false statements about a person that injure the reputation of that person when observed through the eyes of an ordinary man.
- Any false and unprivileged statement published or spoken deliberately, intentionally, knowingly with the intention to damage someone's reputation is defamation.
- Article 19 of the Constitution grants freedom of speech to its citizens. However, **Article 19(2)** has imposed certain reasonable **exemptions** to this freedom such as - **Contempt of Court, defamation and incitement to an offense**.

What is the conflict between Free speech and Defamation? What did SC say?

- It is argued that the defamation laws are a violation of Fundamental Rights guaranteed under Article 19 of the constitution. The Supreme Court has ruled that the criminal provisions of defamation are **constitutionally valid** and are not in conflict with the right to free speech.
- The SC said protection of reputation is a **fundamental right** as well as a **human right**. It relied on the judgments of other countries and reaffirmed the **right to reputation** as a part of the right to life under Article 21.

What are Article 102(1)(e) of the Constitution and Section 8 of the RP Act?

- **Article 102** of the Constitution deals with grounds for disqualification of a parliamentarian. Sub-clause (e) of Article 102(1) says an MP will lose his membership of the House "if he is so disqualified by or under any law made by Parliament". The law in this case is the RP Act.
- **Section 8** of the RP Act deals with disqualification of a lawmaker for conviction in certain offences. The provision is aimed at "preventing criminalisation of politics and keeping 'tainted' lawmakers from contesting elections.

What happens when MP is convicted?

- The conviction may disqualify an MP if the offense for which he is convicted is listed in **Section 8(1) of the Representation of the People (RPA) Act of 1951**. This section includes offences such as section 153A (offence of promoting enmity between different groups on ground of religion, race, place of birth, residence, language, etc.

- As per **Section 8(3) of the Representation of the People Act 1951**, conviction of a lawmaker for an offence with a **two-year sentence or more** leads to disqualification from the House.
- As per **Section 8(4) of the RPA** the disqualification takes effect only after three months have elapsed from the date of conviction. Within that period, the convicted lawmaker could have filed an appeal against the sentence before a higher court. However, this provision was struck down as “**unconstitutional**” in the SC’s landmark 2013 ruling in ‘**Lily Thomas v Union of India**’.

Disqualification of Legislators

News: The topic has been in news in recent times and it is important to study the constitutional provisions surrounding Disqualification of MP, MLA, MLC, legal protection available to them and some of the SC judgements pertaining to the issue.

What are Constitutional provisions for disqualification of Legislators?

- **Article 102** – Basic disqualification criteria of a MP. The article empowers parliament to enact legislation governing grounds of disqualifications.
- **Article 191** – Disqualification criteria concerning those of MLA.
- Other provisions within Constitution which laid conditions for Disqualification such as holding profit-making position in government of India or state government, being of unsound mind, not being citizen of India, acquiring citizenship of other country and undischarged insolvent.

According to Schedule 10 (Anti-Defection Act), a person shall be disqualified as MLA or MLC when:

- An elected member voluntarily gives up his membership of a political party.
- An elected member votes or abstains from voting in such House contrary to any direction issued by his political party or anyone authorised to do so, without obtaining prior permission.

According to Representation of the People (RP) Act, 1951 a person shall be disqualified as MLA or MLC when:

- One is found guilty of an illegal practice in relation to election, and
- A person convicted of any offence and sentenced to imprisonment for varying terms under Sections 8 (1) (2) and (3).

Office of Profit - The MLA/MLC can also be disqualified on the Grounds of holding an office of Profit.

What legal protection is available against Disqualification of legislators?

- If a legislator feels she/he has been wrongly disqualified, then a petition can be filed in the SC or HC challenging the decision of Speaker.
- If a legislator is disqualified by the Speaker of the Lok Sabha or the Speaker of the Legislative Assembly, the decision can be challenged in a court of law through the remedy of judicial review.
- While the power to disqualify legislators rests with the Speaker of the Lok Sabha or the Speaker of the Legislative Assembly concerned, the courts act as a check on the exercise of this power and provide legal protection to legislators against arbitrary or illegal disqualification.

Important SC judgements regarding the disqualification of legislators:

- **Kihoto Hollohan vs. Zachillhu and Others (1992)** – Here, the SC upheld the validity of 10th schedule of the Constitution. The court ruled that the decision of the Speaker on the question of disqualification of a member is subject to judicial review, but the courts should not interfere unless the decision is mala fide, arbitrary or violative of the Constitution.
- **Ravi S Naik vs. Union of India and Others (1994)** – Here, the SC held that the power of the Speaker to disqualify a member under the Tenth Schedule is a quasi-judicial power and that the Speaker must give the affected member an opportunity to be heard before passing an order of disqualification.
- **Jaya Bachchan vs Union of India and others (2006)** – Here, the SC held that the appointment of Jaya Bachchan as a member of the Rajya Sabha was invalid as she was holding an office of profit at the time of her appointment.
- **In Lily Thomas vs Union of India (2013)** - The SC held that Section 8(4) of The Representation of the People Act, 1951 is unconstitutional which allows MPs and MLAs who are convicted to continue in office till

an appeal against such conviction is disposed of. The court held that MP/ MLA convicted for two years or above would be disqualified immediately.

What are challenges associated with disqualification of legislators?

- **Prolonged legal process** - Disqualifications can be challenged in courts of law, which can lead to a prolonged legal process. Example – Disqualification of 20 AAP MLA's on grounds of holding office of profit.
- **Accusation of Political vendetta**
- Enforcing disqualification of MLA's can be a challenge in itself. Example – When a MLA from Tamil Nadu refused to vacate his seat in 2017
- Disqualifications can **impact the voters** who elected the disqualified legislator, who may feel that their mandate has been nullified.

What needs to be done?

- There should be clear guidelines and a time bound process for disqualifications should be followed.
- The legal framework concerning disqualifications should be consistent with democratic principles of Constitution.
- The disqualification process should be free from political interference, and should not be used as a tool for settling political scores.

Civil Services Reforms

News: Asserting that the nearly 15 months long recruitment process wastes candidates' prime years besides taking a heavy toll on their physical and mental health, a Parliamentary Committee has asked the UPSC to reduce the civil services examination's selection cycle.

Key Recommendations:

- Reduce the civil services examination's selection cycle
- Comprehend reasons for low turnout of candidates during exams
- Publish answer key after the preliminary stage of the exam
- Furnish details of exam fee collected
- Appoint an expert group to assess the impact of changes
- Collect feedback and effect improvements

Suggestions by other committees:

- **Hota committee** – It recommended the reduction in the age limit for general category candidates from 32 to 26 years and advocated for Introduction of a common preliminary examination for all central services.
- **2nd ARC** – Recommended lateral entry of specialists into civil services, Strengthening the training and capacity-building of civil servants.

What are other issues in Civil services in India?

- No attempts were made to link IAS with India's philosophy of public administration, thereby **prolonging the colonial attitude** of civil servants.
- **Article 311** of the Constitution of India acts as a safeguard for civil servants so that they are not dismissed arbitrarily from service. However, security cover provides them with a **sense of permanency** in power, and their behaviour often shows a total disregard for transparency and accountability.
- Lack of specialization makes it impractical for them to handle assignments that require specific expertise.
- There is no inbuilt mechanism for the re-inculcation of sense of purpose and motivation in the civil services. The absence of such a mechanism can lead to insensitivity and lack of concern.

What are recent initiatives taken to improve Civil services in India?

- **Lateral Entry** - Personnel from the private sector are selected for administrative posts in the government.
- **E-Samiksha** - Real-time online system for monitoring and follow-up action on government decisions.
- **Mission Karmayogi** – It is a national programme that emphasizes on capacity building of Civil servants concerning modern day issues.

- **National e-Governance Service Delivery Assessment** - Assessment of the efficiency of e-Governance service delivery by States, UTs, and Central Ministries.

Institutions of Eminence scheme

News: There are many Institutes which, after being selected for the Institution of Eminence (IoE) Status, are still waiting for the IOE status for more than three years.

About:

- The central Government formulated the IoE scheme to establish 20 prestigious educational institutions in the country.
- It was introduced by the **University Grants Commission (UGC)** in 2017 that required the IoE scheme to receive accreditation within five years of notification.
- The status of 'Institute of Eminence' was launched to **empower higher education** institutions in India and help them **implement world-class teaching systems** to enhance affordable access to high-quality education. **Twenty institutions (10 Public and 10 Private Institutions)** received the grant, and eleven among the selected ones got the Institutions of Eminence status in April 2021.

Objectives:

- **Excellence and Innovation** - To provide for higher education leading to excellence and innovations in such branches of knowledge as may be deemed fit at post-graduate, graduate and research degree levels.
- **Specialization** - To engage in areas of specialization to make distinctive contributions to the objectives of the university education system.
- **Global Rating** - To aim to be rated internationally for its teaching and research as a top hundred Institution in the world over time.
- **Quality Teaching and Research** - To provide for high quality teaching and research and for the advancement of knowledge and its dissemination

Criteria:

- Only those institutions which have appeared in any of the global/national ranks (e.g., QS, NIRF) shall be recommended for the IoE status. The Institutions should be among:
- **Top 50** in the **National Institutional Ranking Framework (NIRF)** in their category.
- **Top 500** in internationally recognised rankings like the **Times Higher Education World University Rankings, QS**.
- Only after exhausting the above criterion, if any slot remains vacant, shall consideration be given to yet to be established (Greenfield) proposals.
- The term greenfield project generally refers to the initiation of a project without the need to consider any prior work. Such Institutions would get a 3-year period to establish and operationalize the institution, and thereafter, EEC will consider giving IoE status to such institutions.

Advantages:

- Institutes with IOE tag will be given greater autonomy and freedom to decide fees, course durations and governance structures.
- The public institutions under the IOE tag will receive a government grant of Rs 1,000 crore, while the private institutions will not get any funding under the scheme.

National Assessment and Accreditation Committee

News: This article discusses the problems associated with the National Assessment and Accreditation Committee (NAAC).

What is NAAC?

- NAAC is an **autonomous body** established by the **University Grants Commission (UGC)**. HQ - Bengaluru
- It was established in **1994** on the basis of recommendations made under the **National Education Policy (1986)**.

- Mandate - It conducts assessment and accreditation of Higher Educational Institutions (HEI) such as colleges, universities or other recognised institutions to derive an understanding of the 'Quality Status' of the institution.

What are the issues observed with NAAC?

- Complaints have been raised about its accreditation system, i.e. they are **unreliable** and **corrupted**. For example, a private university has received the highest achievable grade within just over a few years of establishment.
- Further, accreditation is granted to institutions for the papers they claim to have published without questioning them about the linkages between their research and industry.
- No verifications are made for the patents won by the institutions, or about the creation of new products/procedures claimed by the institutions. It assesses outcomes poorly.
- The Joreel committee has also drawn attention to the fact that NAAC depends on institutional processes for assessment rather than using scientific methods to validate the data. Hence, NAAC is adopting opacity in its system of accreditation.

How is accreditation process carried out?

- The current accreditation approach has been described as “**input-based**”. In other words, NAAC relies heavily on **self-assessment reports** of applicant institutions.
- The first step has an applicant institution submitting a self-study report of information related to quantitative and qualitative metrics. The data is then validated by NAAC expert teams followed by peer team visits to the institutions.

Way Forward

- The education system is about to undergo a rapid transformation due to the advancement of AI and other technologies. Thus, it is necessary to evaluate the universities properly before granting them accreditation.
- UGC and the education ministry must step in to check the corruption involved in the accreditation system.

Social Justice

Women's reservation Bill

News: Bharat Rashtra Samithi (BRS) leader K Kavitha began a day-long hunger strike in New Delhi, demanding passage of the Women's Reservation Bill (WRB).

Why does India need a Women reservation Bill?

- As per data compiled by the **Inter-Parliamentary Union (IPU)**, in India, women make up **14.44 per cent** of the Lok Sabha.
- A glance at the data in the latest available report of the **Election Commission of India (ECI)**, shows that women represent **10.5 per cent** of all Members of Parliament as of October 2021.
- According to **Global Gender Gap Report 2021**, India has declined on the **political empowerment index** by 13.5 percentage points, and a decline in the number of **women ministers**, from **23.1% in 2019 to 9.1% in 2021** (way short of the international average of nearly 22%)
- According to several reports, development in India is being severely hampered by the widening of the gender gap and limited female participation in traditionally male dominated institutions and social strata.

Key Provisions of Women's reservation bill:

- To reserve **33% seats** in Lok Sabha and all state legislative assemblies for women.
- Reserved seats may be allotted **by rotation** to different constituencies in the state or union territory.
- Reservation of seats for women **shall cease to exist** 15 years after the commencement of this Amendment Act.

What are arguments in favor of the Bill?

- It is important for women to participate in politics which will help them fight the abuse, discrimination, and inequality they have experienced.
- A woman in power is more likely to holistically understand the issues faced by another women and act accordingly.
- Woman will better ensure progress against human development indicators.
- Political participation of all sections of society is essential for building a functioning, representative democracy.
- It is intrinsic to eliminate gender discrimination and strengthening women's empowerment as enshrined by equality of rights and freedoms in the Preamble and Constitution of India.
- Reservation for women in panchayats has shown impressive results where elected women leaders in panchayats have invested more in public goods closely linked to women's concerns and it has helped further increase percentage of female local leaders contesting and winning elections.

Women's Reservation Bill

Two decades and still pending

20 years after it was first introduced on Sept 12, 1996, the constitutional amendment bill to reserve 33% seats for women in Lok Sabha and state legislatures is still a work in progress

A look at the major milestones of Women's Reservation Bill

- Introduced in the Lok Sabha by the Deve Gowda government on Sept 12, 1996
- Referred to a Joint Parliamentary Committee chaired by Geeta Mukherjee, which presented its report to the Lok Sabha on Dec 9, 1996. The bill got lapsed with the term of the 11th Lok Sabha
- Atal Bihari Vajpayee-led NDA government re-introduced the bill in the 13th Lok Sabha in 1999. It moved the Bill second time amid pandemonium in 2002, but failed and Bill lapsed with the tenure of the House
- In 2004, the new UPA government included the passing of the Bill as part of its Common Minimum Programme, the touchstone of the UPA coalition working with the outside support of the Left parties
- On May 6, 2008, a resolute Manmohan Singh-led UPA government introduced the legislation in the Rajya Sabha
- Rajya Sabha passed the Bill on Mar 9, 2010 and sent to Lok Sabha for ratification
- 15th Lok Sabha could not take up the Bill and it got lapsed again
- For the Bill to become a law, it will now have to be again introduced and passed by both Houses and then have to be passed by half of India's state legislatures and signed by the President



KBK Infographics

The Countries With The Most Women In National Parliament

Share of women in the lower house of parliament as of January 2021*



* Based on the most recent election.
Source: Inter-Parliamentary Union



Forbes statista

What are arguments against the bill?

- It is likely that reservation would only help women of elitist group to gain political power thereby further aggravating misery of poor and lesser privileged.
- The reservation would inadvertently perpetuate the unequal status of women as they would not be elected on merit.
- It will promote a “proxy culture” where elected women will actually not have real power and will act on behalf of male decision maker.
- Rotation of reserved constituencies may reduce the incentive for an MP to work.
- It diverts attention from the larger issues of electoral reform such as criminalisation of politics and inner party democracy.
- Restricts choice of voters to women candidates.

Is there any other option to truly empower women?

- An alternative to women’s reservation is the idea of **ensuring reservation within political parties**. Countries like Canada, the United Kingdom, France, Sweden, and Norway etc., reserve seats for women within the political parties, but do not have quotas for women in Parliament.
- Similarly, another alternative is introducing dual-member constituencies, which means constituencies, instead of reserving seats for women, will nominate two members, one being a woman.

Way Forward

- Until consensus is reached on the Women’s Reservation Bill alternate methods such as reservation in political parties, and increasing women voters’ turnout should be focused.

World Happiness Report

News: It was recently released by United Nations Sustainable Development Solutions Network (SDSN).

Key Findings:

- According to the World Happiness Report 2023, few people on the planet are as happy as the Scandinavians as Finland (ranked 1st) followed by Denmark at number two and Iceland in the third spot.
- The ranking uses six key factors to measure happiness — social support, income, health, freedom, generosity, and absence of corruption.
- It assigns a happiness score based on an average of data over a three-year period.
- India is ranked low at 125 out of 136 nations.

Why are the rankings debated?

- The happiest countries in the world are also among the highest consumers of antidepressants.
- As per the data released by the **Organization for Economic Cooperation and Development**, the **use of antidepressants increased nearly two and half times** across Europe between 2000 and 2020, with **Iceland in the top spot**, followed **immediately by Sweden and Norway**, with Finland and Denmark coming in at number eight and nine.
- This paradox has of late become the focal point of the criticism directed at studies of happiness, with people from around the world, including Finns themselves.

SC’s move on the Death penalty

News: The Supreme Court asked the Centre to provide data that may point to a more dignified, less painful and socially acceptable method of executing prisoners other than death by hanging.

Background:

- The court clarified that it was not questioning the constitutionality of the death penalty but rather the method of execution.
- The court was hearing a petition challenging the constitutionality of death by hanging as a mode of execution.

What is Death penalty?

- The death penalty, also known as capital punishment, is a legal sentence in some countries where a person is put to death by the state as a punishment for a crime they have committed.
- **Section 354 (5) of the Code of Criminal Procedure** mandates that a person sentenced to death shall “be hanged by the neck till he is dead”.
- Certain offences under Indian Penal Code, for which the offenders can be sentenced to punishment of death are:
 - Murder (Section 302)
 - Dacoity with murder (Section 396)
 - Criminal Conspiracy (Section 120B)
 - Waging war against the Government of India or attempting to do so (Section 121)
 - Abetment of mutiny (Section 132)

Pros and cons of Death Penalty:

Pros	Cons
Acts as a Deterrent to crime	No effect on crime rate
Provides justice to family, friends and society	There is possibility of executing innocent people
Reduces prison occupancy and overcrowding	Discriminatory against marginalized community
Vengeance for family	Potential of wrongful conviction and bias
Supported by majority of public	Inhumane
Serves justice	Ethical acceptance
	Irreversible action, process can be expensive and time consuming

What are Judgements related to Death sentence?

- There are two important judgements on the issue — **Bachan Singh vs the State of Punjab** (1980), which **upheld the death penalty**, but limited it to the ‘**rarest of rare cases**’, and
- **Deena Dayal vs Union of India and Others** (1983), upheld the method by ruling that hanging is “**as painless as possible**” and “causes no greater pain than any other known method”.
- The 35th Report of the Law Commission (1967) noted that electrocution, the use of a gas chamber and lethal injection were considered by some to be less painful.

What is government’s opinion?

- The government had said the mode of execution is a “matter of legislative policy,” and the death penalty is awarded only in the rarest of rare cases.
- The Centre had filed an affidavit in 2018 **supporting death by hanging** and had not found the method of execution “barbaric, inhuman, and cruel” compared to firing squads and lethal injections.

Where does Death penalty exist in world?

- According to Amnesty International, the death penalty continues to be quite widespread Asia, with China, India, Thailand, Singapore and Indonesia, among others
- The death penalty is rare in Europe and the Americas – with the notable exceptions of Belarus, Guyana, Cuba and the United States.
- 110 countries and territories around the world have abolished the death penalty, most recently Sierra Leone, Papua New Guinea and Equatorial Guinea.



International Relations

India-Germany Relations

News: Recently, German Chancellor Olaf Scholz came to India on a bilateral visit.

Background:

- India- Germany cooperation aims at benefiting humanity and is firmly guided by their shared democratic values and respect.

What are various dimensions in India-Germany relations?

Economic

- The total bilateral trade between the two countries stood at over US\$24 billion (2021)
- Germany has a Bilateral Trade and Investment Agreement (BTIA) with India via the EU

Political

- Cooperation in political and diplomatic matters.
- The G4 nations (Brazil, Germany, India, and Japan) support each other's bids for permanent seats on the United Nations Security Council.

Cultural

- India and Germany signed a Comprehensive Partnership on Migration and Mobility meant to ease travel for research, study and work for people in both countries.

Defence

- Co-operation seen in maritime, peacekeeping operations and defence technology.
- The first ever Franco-Indian-German military exercise is expected to take place in 2024.
- Germany's 2020 Indo-Pacific guidelines have identified India as one of its most important partners in the region.
- Germany has come on board with the Indo-Pacific Oceans Initiative (IPOI)

Environment

- German companies are one of the most advanced when it comes to adoption and innovation in clean energy technologies.
- Green and Sustainable Development Partnership (GSDP) - Germany to provide Euro 10 billion to India till 2030 to support Green growth.
- Indo-German Green Hydrogen Task Force was constituted in 2022.
- Germany cooperates with India to the tune of 1.3 billion Euros a year in development projects (90% of which serves the purpose of fighting climate change).
- India-Germany Solar Partnership.

Science, technology and innovation

- Max Planck-India Mobility Grants
- Indo-German Science & Technology Centre
- Triangular Development Cooperation - It represents development projects in third countries by India and Germany.

UN High Seas Treaty

News: Post a decade of negotiations, the UN members have agreed (in New York, US) on the first-ever treaty – the UN High Seas Treaty, to protect the world's oceans outside national boundaries.

What is High Seas Treaty?

- "Treaty of the High Seas", is an international agreement on the **conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction** within the framework of the UNCLOS.
- It places **30%** of the world's international waters into protected areas (MPAs) by 2030, and puts more money into marine conservation and new rules for mining at sea.

- It provides for arrangements for sharing marine genetic resources, such as biological material from plants and animals in the ocean and requirements for environmental assessments for deep sea activities like mining.
- The treaty can have benefits for society (pharmaceuticals and food) and will help reverse biodiversity losses and ensure sustainable development.

Need:

- 2/3rd of the world's oceans are currently considered international waters/high seas but until now only about 1% of these waters have been protected.
- Nearly 10% of marine species on the high seas were found to be at risk of extinction mainly due to overfishing and pollution.
- 41% of the threatened species are also affected by climate change (more CO2 absorption, more acidic, increased marine heat waves), and deep sea mining.
- For example, Dugongs used to be common marine animals but now less than 1000 remain in the wild.

Concerns:

- There were debates, particularly around what a marine protected area (MPA) is – sustainable use/fully protected from fishing, shipping and exploration activities like deep-sea mining.
- Developing nations were disappointed by the limited funding options included in the text of the treaty.
- If the MPAs are not properly connected, it might not have the desired impact as many species are migratory.

Way Forward

- The treaty must be formally adopted and will enter “into force” once enough countries (~ 40) have signed and legally passed it in their own countries.

India-Australia relationship

News: The two countries are important partners in the Indo-Pacific and cooperate closely in a wide range of sectors. With Australian PM Anthony Albanese's visit to India, here are some key aspects of the bilateral relationship.

How have Historical perspectives evolved?

- The India-Australia bilateral relationship has been underpinned by the shared values of pluralistic, Westminster-style democracies, Commonwealth traditions, expanding economic engagement, and increasing high-level interaction.
- Secular, and multicultural democracies, a free press, an independent judicial system, and English language, serve as the foundation for closer co-operation between 2 nations.

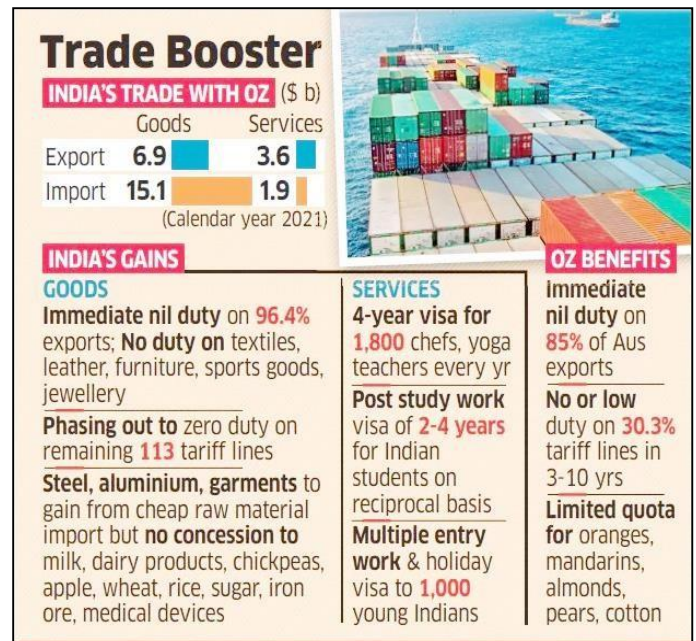
What about strategic ties?

- In June 2020, bilateral relationship elevated from strategic partnership to **comprehensive strategic partnership**.
- At the 2nd India-Australia Virtual Summit in March 2022, several key announcements were made, including on a **Letter of Intent on**

Migration and Mobility Partnership Arrangement to foster the exchange of skills,

and a **Letter of Arrangement for Educational Qualifications Recognition** to facilitate the mobility of students and professionals.

What are other areas of co-operation?



Details of ECTA signed in March 2022 (For revision purpose)

Economic co-operation

- The **Economic Cooperation Trade Agreement (ECTA)** — the **first free trade agreement signed by India with a developed country in a decade** — entered into force in December 2022, and has resulted in an **immediate reduction of duty to zero** on 96% of Indian exports to Australia in value (that is 98% of the tariff lines) and zero duty on 85% of Australia's exports (in value) to India.
- Bilateral trade was US\$ 27.5 billion in 2021; with ECTA, there is potential for it to reach around US\$ 50 billion in five years.

Defence co-operation

- The **Mutual Logistics Support Agreement (MLSA)** was concluded during the Virtual Summit in June 2020.
- Australia will host military operations with India, Japan, and the US in the **"Malabar"** exercises off the coast of Perth in August, and has invited India to join the **Talisman Sabre exercises** later this year.

Education

- The **Mechanism for Mutual Recognition of Educational Qualifications (MREQ)** was signed on March 2 this year. This will facilitate mobility of students between India and Australia.
- Deakin University and University of Wollongong are planning to open campuses in India. (Link this with Government's vision of opening Foreign Higher Education Institutions in India)

Clean Energy

- The countries signed a **Letter of Intent on New and Renewable Energy** in February 2022 which provides for cooperation towards bringing down the cost of renewable energy technologies, especially ultra-low-cost solar and clean hydrogen.
- India also announced matching funds of AUD 10 million for Pacific Island Countries under Infrastructure for Resilient Island States (IRIS) and of AUD 10 million for Pacific Island Countries under International Solar Alliance (ISA).

India-Guyana Relations

News: In the coming days, Guyana and India will sign a Memorandum of Understanding (MoU) to boost economic ties and cooperation between both nations.

Why Guyana is important?

- Guyana's population is mere 8,00,000 of whom 40% are of Indian descent.
- India's **energy security** can be assured by **Guyana's large oil reserves**. By the end of the decade, Guyana will be producing more than **one million barrels of oil per day**, making it a significant supplier to India.
- Guyana is looking to India for assistance to develop its oil sector. The Latin American nation is hoping for Indian investment in the region.
- Guyana is working on modernising its military and is looking to India for defense assistance to aid in this effort. Specifically, it is looking to purchase **fast patrol boats** to protect its maritime resources through its Coast Guard.
- Additionally, Guyana is considering **India's Dornier aircraft** in order to improve domestic connectivity.
- Indian-origin politicians such as President Irfaan Ali and Vice President Bharrat Jagdeo are pushing for closer relations with India.

What should we learn from Prelims perspective?

- Located between **Venezuela, Brazil, and Suriname**, Guyana is often overshadowed by its more powerful neighbours.
- It is bordered by Atlantic Ocean to the North.
- Guyana is the **only South American nation** in which **English** is the official language. However, the majority of the population speak Guyanese Creole, an English-based creole language, as a first language.



- Capital – Georgetown
- Currency – Guyanese Dollar

India-Sri Lanka relations

News: Recently, The President of Sri Lanka announced that the country had cleared the last hurdles to be approved for a \$2.9 billion bailout from the IMF.

Background:

- The island nation has been reeling under Economic, Foreign exchange and Humanitarian crisis for over a year now. In this context, New Delhi’s role in helping Colombo is crucial.

How IMF bailout will help Sri Lanka?

- It will establish confidence in Lankan economy and bring credit worthiness to its financial system.
- A lot of other agencies like the World Bank, AIIB, and ADB, have lined up funds to come in.
- Debt will become sustainable as access to capital will be easier which will eventually help stabilize economy in the long run.

How has India helped Sri Lanka?

- India’s support to the island nation has been unconditional and in alignment with its goal of Neighborhood first.
- Till date, lines of credit worth over USD 4 billion have been extended to Sri Lanka in diverse sectors including supply of essential items, petroleum, fertilisers, development of railways, infrastructure, defence sector and renewable energy.
- India announced a 1 billion USD line of credit to Sri Lanka last year as part of its financial assistance to help the country deal with its economic crisis.
- India as a creditor nation has also vouched for Sri Lanka to receive bailout package from the IMF.
- Sri Lanka has used over USD 10 million from India's assistance of USD 1 billion to print nearly half of the textbooks for its four million young students. (Quote such examples in your answers)
- Alternatively, India has called for increasing support to Sri Lanka at G20 meetings and BIMSTEC.



How has Sri Lanka responded?

- “India had really come to our rescue, India had provided us with a lifeline which allowed us to stay afloat during a very difficult time,” Minister of Foreign Affairs of Sri Lanka.
- In a speech on Women’s day, Sri Lankan President thanked 3 women – Nirmala Sitharaman, Janet Yellen, and Kristalina Georgieva for helping Sri Lanka.
- Sri Lanka is looking for more investments from India in IT, pharmaceuticals, the energy sector, education, etc.

Way Forward

- Sri Lankan crisis and reversal is a good example for the region – it is about being more sensitive to a neighbor’s needs rather than outspending rivals.

India-USA relations

News: Recently, India and the US have launched Joint Statement on their 5th Ministerial level Commercial Dialogue, discussing supply chain issues and agreeing on a semiconductor partnership initiative.

Key Highlights:

- Both discussed **India-US strategic partnership**, as well as economic and commercial engagement between the two countries, including through **the Initiative on Critical and Emerging Technology (iCET)** and the **Indo-Pacific Economic Framework (IPEF)**.
- Both countries signed a **Memorandum of Understanding (MoU)** on **semiconductor supply chain** and innovation partnership to promote cooperation in the segment.
- Acknowledgement of **small businesses** and **entrepreneurs** and their contribution to growth of both economies. Mutual understanding on need **to facilitate collaboration** between the SMEs of the two countries. In this context, both sides announced the launch of a **new Working Group** on Talent, Innovation and Inclusive Growth under the Commercial Dialogue.
- Both countries also launched the Standards and Conformance Cooperation Program that will be carried out in partnership between US's American National Standard Institute (ANSI) and India's Bureau of Indian Standards (BIS) towards standards cooperation.
- The US will send a senior government official-led Clean Energy and Environmental Technology Business Development Mission to India in 2024 which will be an opportunity to further foster US-Indian business partnerships in grid modernization and smart grid solutions, renewable energy, energy storage, hydrogen, liquefied natural gas, and environmental technology solutions.
- Agreed to work together in the **Global Biofuels Alliance** and in the development and deployment of **hydrogen technologies**.
- The two sides made an announcement regarding US-India Energy Industry Network (EIN) as a broad platform for facilitating US industry involvement in the Clean EDGE Asia initiative, the US government's signature initiative to grow sustainable and secure clean energy markets throughout the Indo-Pacific region.

Saudi Arabia-Iran hold Bilateral Talks

News: Recently, Saudi and Iranian officials held bilateral talks that concluded with an agreement to restore diplomatic ties which have been severed since 2016. The major diplomatic breakthrough negotiated by China in Beijing.

Key outcomes:

- The two countries plan to **reopen their respective embassies** in Tehran and Riyadh.
- They also vowed to **respect countries' sovereignty** and **not interfere in internal affairs**.
- They also agreed to activate a **2001 security cooperation agreement**, as well as a general economy, trade and investment agreement signed in 1998.

Why were both nations in conflict?

- Saudi Arabia has long portrayed itself as the world's leading Sunni nation while Iran views itself as the protector of the Islam's Shiite minority.
- Since US's withdrawal from Iran's Nuclear deal, **Iran was blamed for a series of attacks** including one targeting the heart of Saudi Arabia's oil industry in 2019. Western nations and experts have blamed the attack on Iran though the latter has denied launching the attack.
- Saudi Arabia and Iran - two powerful neighbours - are locked in a **fierce struggle for regional dominance**. Uprisings across the Arab world (after the Arab Spring in 2011) caused political instability throughout the region.
- Iran and Saudi Arabia exploited these upheavals to **expand their influence**, notably in **Syria, Bahrain and Yemen**, further heightening mutual suspicions. Moreover, external powers like the US and Israel have a major role in exacerbating conflict between Saudi Arabia and Iran.
- Iran and Saudi Arabia are not directly fighting but they are engaged in a variety of **proxy wars** (conflicts where they support rival sides and militias) around the region.
- For Example, **Houthi rebels in Yemen**. These groups can acquire greater capabilities which can cause further instability in the region. Saudi Arabia accuses Iran of supporting them.
- Historically, Saudi Arabia, a monarchy and home to the birthplace of Islam, saw itself as the leader of the Muslim world. However, this was challenged in 1979 by the Islamic revolution in Iran which created a new type of state in the region.

What are global implications?

- The deal may have implications for a US-led effort to isolate Iran economically through sanctions as the deal may facilitate possible Saudi investment inside Iran.
- In Yemen, the Saudis have been backing the internationally recognised government in an eight-year civil war against Iranian-backed Houthi rebels but have been looking for a way to end the war by conducting private talks in Oman with the Houthis.
- Saudi Arabia will hope that Iran will halt Houthi drone and missile strikes on the kingdom, and that Iran will help with Saudi talks with the Houthis.
- The deal will cause concern among many Israeli politicians who have sought global isolation for its arch-enemy Iran. Israel described the pact as a “serious and dangerous” development.

Does it complicate things for India?

- Apart from China mediating for talks and expanding its influence in the region which is a worry for India the general belief is that friendly relations between arch rivals will ease supply of oil and promote peace and stability in a tense region. This is likely to help India as it is dependent on oil and energy security from the middle east.
- It is also likely to bolster trade and commerce as both nations are important trading partners for India.

International Criminal Court

News: Recently, The International Criminal Court (ICC) issued an arrest warrant for war crimes for President Vladimir Putin.

Background:

- ICC issued an arrest warrant against Russian President Vladimir Putin for the alleged war crime of **unlawfully deporting** and **transferring children** from occupied areas of Ukraine to the Russian Federation

What is ICC?

- On 17 July, 1998 **Rome Statute** was adopted by 120 States in direction of creating a more just world. On 1 July, 2002 Rome Statute took effect upon ratification by 60 states, officially establishing the ICC. Since it has no retroactive jurisdiction, the ICC deals with crimes committed on or after this date.
- The Rome Statute, grants the ICC jurisdiction over four main crimes - The crime of Genocide, Crimes against Humanity, War crimes and Crime of Aggression.
- The Court is participating in a global fight to end lawlessness, and through international criminal justice, the Court aims to hold those responsible accountable for their crimes and to help prevent these crimes from happening again.
- The ICC is the **world's first permanent** international criminal court.
- Currently, 123 countries are party to the Rome Statute, **India is not a party** to Rome Statute **along with US and China**.
- The ICC was established to prosecute the most heinous offenses only when a country's own legal machinery fails to act. Unlike the International Court of Justice (ICJ), which deals with countries and inter-state disputes, the **ICC prosecutes individuals**.

Does ICC have power to prosecute Russia?

- As of March 2023, Russia is not a party to the Rome Statute, and therefore, the ICC has no jurisdiction over crimes committed on its territory. However, the ICC can investigate and prosecute crimes committed by individuals from other countries who committed the alleged crimes on the territory of a state party to the Rome Statute.
- Ukraine is also not a State Party to the Rome Statute”, but it has twice exercised its options to accept ICC's jurisdiction over alleged crimes under the Rome Statute, occurring on its territory, under Article 12(3) of the Statute.
- Article 12(3) states that if the acceptance of a state that is not a party to the statute, the state may accept the jurisdiction of the court for a crime concerned, by making a declaration to the Registrar and cooperating without any delay or exception.

General Studies – 3

Economic Development

1. Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.
2. Inclusive growth and issues arising from it.
3. Government Budgeting.
4. Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.
5. Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.
6. Food processing and related industries in India- scope' and significance, location, upstream and downstream requirements, supply chain management.
7. Land reforms in India.
8. Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
9. Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
10. Investment models.

Technology

11. Science and Technology- developments and their applications and effects in everyday life.
12. Achievements of Indians in science & technology; indigenization of technology and developing new technology.
13. Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

Environment & Bio-diversity

14. Conservation, environmental pollution and degradation, environmental impact assessment.

Disaster Management & Security

15. Disaster and disaster management.
16. Linkages between development and spread of extremism.
17. Role of external state and non-state actors in creating challenges to internal security.
18. Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention.
19. Security challenges and their management in border areas - linkages of organized crime with terrorism.
20. Various Security forces and agencies and their mandate.

Economic Development

QR Code based Coin Vending Machine

News: RBI is about to launch a pilot project to assess the functioning of a QR-code Based Coin Vending Machine (QCVM).

Background:

- The pilot is initially planned to be rolled out at 19 locations in 12 cities across the country. With particular focus on ease and accessibility, the machines are intended to be installed at public places such as railway stations, shopping malls and marketplaces.

About QCVM:

- QCVM is a cashless coin dispensation machine which would dispense coins against a debit to the customer's bank account using UPI (Unified Payment Interface).
- Customers would be endowed the option of withdrawing coins in required quantities and denominations.
- It will ease the accessibility to coins.
- Unlike a cash-based traditional Coin Vending Machine, the QCVM would eliminate the need for physical tendering of banknotes and their authentication.



Need:

- There were problems with the earlier machines wherein some fake currencies used to be fed to fetch coins.
- The supply of coins is very high, but it is not getting properly distributed and at the same time there is demand in pockets.
- As per the latest RBI bulletin, the total value of circulation of rupee coins stood at Rs 28,857 crore as of December 30, 2022, an increase of 7.2% from the year-ago period.
- For perspective, coins in India are issued in denominations of 50 paise, one rupee, two rupees, five rupees, ten rupees and twenty rupees. Coins of up to 50 paise are called small coins while those of one rupee and above are called rupee coins.
- So, by making coins available in places where there is demand, supply can be absorbed.
- Currently, to obtain coins a person needs to visit a bank branch and offer currency notes in exchange for coins. But in the case of QCVM, coins can be withdrawn using a UPI QR code and the amount will be debited from the bank account of the person who withdraws.

Social stock exchange

News: NSE received final approval from SEBI to set up the Social Stock Exchange (SSE).

What is SSE?

- 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.

What are eligibility criteria?

- Any non-profit organisation (NPO) or for-profit social enterprise (FPSEs) that establishes the primacy of social intent would be recognised as a SE, which will make it eligible to be registered or listed on the SSE.

- 17 plausible criteria under SEBI's ICDR Regulations, 2018 include serving to eradicate hunger, poverty, malnutrition, promoting education, employability, equality, and environmental sustainability etc.
- Corporate foundations, political or religious organisations, professional or trade associations, infrastructure and housing companies (except affordable housing) would not be identified as SE
- NPOs would be deemed ineligible if dependent on corporates for more than 50% of its funding.

How will NPO's raise money?

- NPOs can raise money either through issuance of Zero Coupon Zero Principal (ZCZP) Instruments from private placement or public issue, or donations from mutual funds.
- Development Impact Bonds are available upon completion of a project and delivered on pre-agreed social metrics at pre-agreed costs/rates.

How can FPSE's raise funds?

- FPEs need not register with SSE before raising funds through SSE.
- It can raise money through issue of equity shares or issuing equity shares to an Alternative Investment Fund including Social Impact Fund or issue of debt instruments.

Flagship programmes for Fisheries

News: Union Minister of Fisheries, Animal Husbandry and Dairying, launched three national flagship programmes at Indian Council of Agricultural Research-CIBA Campus, Chennai.

What are the flagship programmes?

- **Genetic Improvement Programme of Indian White Shrimp**
 - The farmed shrimp sector contributes about 70% of India's seafood exports worth Rs. 42000 crores, but it mostly depends on one exotic Specific Pathogen-Free stock of Pacific white shrimp species (*Penaeus vannamei*).
 - To break this dependence on one species and to promote indigenous species, ICAR-CIBA has taken up the genetic improvement program of Indian white shrimp, *P. indicus*, as a national priority under the Make in India flagship program.
- **Shrimp Crop Insurance**
 - ICAR-CIBA developed a Shrimp Crop Insurance product where the product charges differential premium based on location and requirements of the individual farmer from 3.7 to 7.7 % of input costs and farmer 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.
- **National Surveillance Programme for Aquatic Animal Diseases**
 - The programme is implemented since 2013 with a major emphasis on strengthening farmer-based disease surveillance system.
 - The results of the first phase proved the reduction in revenue losses due to diseases, increased farmers' income and exports.
 - Under Phase II, the NSPAAD will be implemented across India.

MSME Competitive (LEAN) Scheme

News: Recently, Ministry of MSMEs launched the MSME Competitive (LEAN) Scheme to provide a roadmap to global competitiveness for the MSMEs of India.

What is Lean Manufacturing?

- Lean Manufacturing or Lean Production, known simply as LEAN, is a production practice that considers the expenditure of resources for any goal, other than the creation of value for the end customer, to be wasteful and hence should be eliminated.
- Principles of Lean manufacturing are I) Define Value II) Map Value Stream III) Create Flow IV) Establish Pull and V) Pursuit Perfection
- Lean manufacturing includes a set of principles that lean thinkers use to achieve improvements in productivity, quality, and lead-time by eliminating waste through kaizen.

Kaizen is a Japanese word that essentially means "change for the better" or "good change." The goal is to provide the customer with a defect free product or service when it is needed and, in quantity, it is needed.

About Scheme:

- **Objective** - Through the LEAN journey, MSMEs can reduce wastage substantially, increase productivity, improve quality, work safely, expand their markets, and finally become competitive and profitable.
- **Tools** - Under the scheme, MSMEs will implement LEAN manufacturing tools like 5S, Kaizen, KANBAN, Visual workplace, Poka Yoka etc under the able guidance of trained and competent LEAN Consultants to attain LEAN levels like Basic, Intermediate and Advanced.
- The government will contribute 90% of implementation cost for handholding and consultancy fees. There will be an additional contribution of 5% for the MSMEs which are part of SFURTI clusters, owned by Women/SC/ST and located in Northeast region.
- There will be an additional contribution of 5% for MSMEs which are registering through Industry Associations/ Overall Equipment Manufacturing (OEM) organizations after completing all levels. This is a unique feature to encourage Industry Associations and OEMs for motivating their supply chain vendors to participate in this scheme.

What steps have been taken to support MSME's in India?

- **PM Employment Generation Programme** - The scheme, implemented by the KVIC, aims to generate employment opportunities in rural and urban areas by setting up new self-employment ventures/projects/micro enterprises.
- **Credit Linked Capital Subsidy Scheme** - Its objective is to facilitate technology upgrade among MSEs (Micro and Small) by providing capital subsidy.
- **Credit Guarantee Trust Fund for Micro and Small Enterprises (CGTMSE)** - It provides **collateral-free credit** to the micro and small enterprise sector.
- **Raising and Accelerating MSME Performance (RAMP)** - The scheme aims at strengthening institutions and governance at the Centre and State, improving Centre-State linkages and partnerships and improving access of MSMEs to market and credit, technology upgradation and addressing issues of delayed payments and greening of MSMEs.
- **Mudra Loan Scheme**
- **Special Credit Linked Capital Subsidy Scheme (SCLCSS)** - It will help enterprises in the services sector meet various technology requirements. It also has a provision to grant 25% capital subsidy for procurement of plant & machinery and service equipment's through institutional credit to MSMEs owned by SC/ST entrepreneurs without any sector specific restrictions on technology upgradation.
- **A Scheme for Promotion of Innovation, Rural Industry & Entrepreneurship (ASPIRE)** - The objectives of this scheme are to create new jobs, promote entrepreneurship culture in the country, promote innovation in the MSME sector.
- **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)** - The objectives are to organise traditional industries and artisans into clusters to make them competitive and provide support for their long-term sustainability, enhance marketability of products of such clusters, build innovative products, improve technologies.
- Financial support to MSME's in **Zero Defect and Zero Effect (ZED)** certification. It encourages MSME's to upgrade their quality standards.
- Government initiatives such as the **Digital Saksham** and the **interlinking** of the **Udyam, e-Shram, National Career Service (NCS)**, and **Atmanirbhar Skilled Employee-Employer Mapping (ASEEM)** portals show the promise of targeted digitalisation schemes.

Implications of bringing crypto under PMLA

News: Recently, The Union Ministry of Finance, through a gazette notification, has brought Virtual Digital Assets (VDA) or the Crypto Currency under the Prevention of Money Laundering Act (PMLA).

Which transactions will be covered under PMLA?

- Exchange between virtual digital assets (VDA) and Fiat Currencies.

- Exchange between one or more forms of VDAs
- Transfer of VDAs
- Safekeeping or administration of VDAs or instruments enabling control over VDAs.
- Participation in and provision of financial services related to an issuer's offer and sale of a VDA.

What is the legal status of Crypto in India?

- In the Union Budget 2022-23, even though the government brought in a tax for cryptocurrencies, it did not proceed with framing regulations.
- Earlier, the Reserve Bank (RBI) of India had proposed a ban that was set aside by Supreme Court order.
- In July 2022, flagging the RBI's concerns, the finance minister told Parliament that "international collaboration" would be needed for any effective regulation or ban on cryptocurrency.
- From April 2022, India introduced a 30% income tax on gains made from cryptocurrencies.
- In July 2022, rules regarding 1% tax deducted at source on cryptocurrency came into effect.

How is the notification viewed by industry?

- There are concerns raised that the notification does not offer entities time to adhere to the fresh norms.
- The industry is also worried that in absence of a central regulator, crypto entities could end up dealing directly with enforcement agencies like the ED.
- However, a few entities have welcomed the move stating that crypto entities will now be required by law to conduct due diligence and enhanced due diligence under the PMLA.

Why SVB failed?

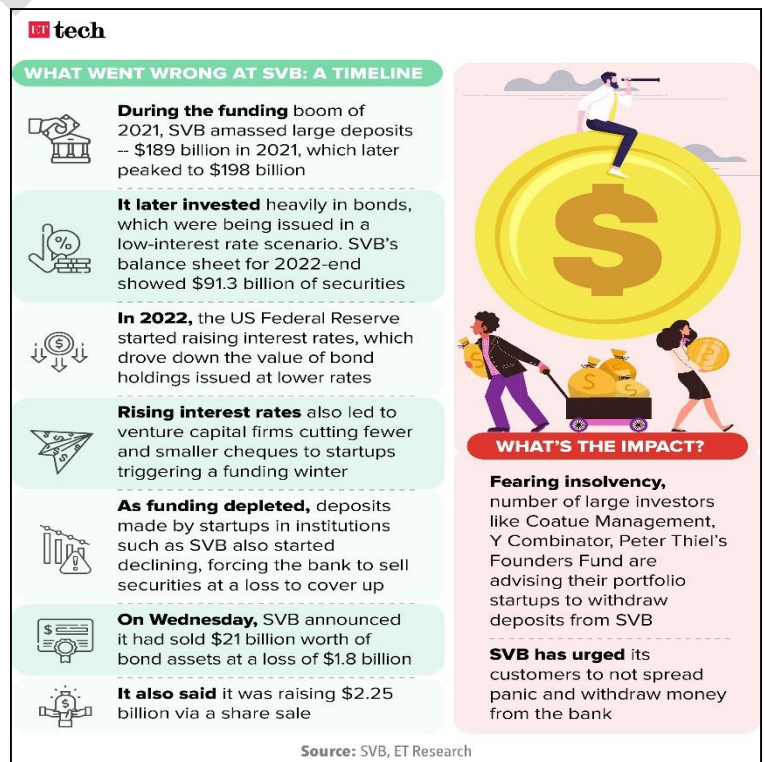
News: The downfall of the US-based Silicon Valley Bank (SVB) is the largest failure of a financial institution since the global financial crisis of 2008.

Background:

- The financial institution best known for its relationships with high-flying world technology startups and venture capital experienced a bank run.
- A bank run, which is typically the result of panic (customers withdraw their deposits simultaneously) rather than true insolvency, pushes a bank into actual insolvency.
- Bank runs have occurred throughout history including during the Great Depression and the 2008-09 financial crisis.

Why SVB failed?

- Silicon Valley Bank was hit hard by the **downturn in technology stocks** over the past year as well as the Federal Reserve's **aggressive plan to increase interest rates** to combat inflation.
- The bank bought billions of dollars' worth of bonds over the past couple of years, using customers' deposits as a typical bank would normally operate. These investments are typically safe, but the **value of those investments fell** because they **paid lower interest rates** than what a comparable bond would pay if issued in today's higher interest rate environment.
- SVB's customers were largely startups and other tech-centric companies that started becoming more needy for cash over the past year. Venture capital funding was drying up, companies were not able to get additional rounds of funding for



unprofitable businesses, and therefore had to tap their existing funds — often deposited with Silicon Valley Bank, which sat in the center of the tech startup universe.

- So Silicon Valley customers started withdrawing their deposits. Initially that wasn't a huge issue, but the withdrawals started requiring the bank to start selling its own assets to meet customer withdrawal requests.
- Bank's failure to raise additional capital and exceeding losses potentially resulted in insolvency and assets of SVB were seized to protect deposits still remaining with bank.

What are its implications?

- The SVB's large deposits (startups and wealthy tech workers) are unsafe.
- The **Federal government insures deposits** up to **\$250,000** and anything above it is considered uninsured and likely to be released in an orderly process.
- However, several businesses want to access funds to meet payroll and office expenses, failure of access to funds could lead to furloughs/layoffs.
- There is no potential buyer of SVB as things stand.

Will it lead to repeat of 2008 financial crisis?

- SVB was large but had a unique existence by servicing nearly exclusively the technology world and VC-backed companies.
- Other banks are far more diversified across multiple industries, customer bases and geographies and could survive a deep recession and a significant rise in unemployment.
- The most recent round of "stress tests" by the Federal Reserve of the largest banks and financial institutions showed that all of them would survive a deep recession and a significant rise in unemployment.
- However, there might be economic ripple effects in the Bay Area and in the technology start-up world if the remaining money can't be released quickly.

'Least Developed Country' status

News: Bhutan will become the seventh nation to graduate from the United Nations (UN) list of Least Developed Countries (LDC).

What is a Least Developed Country?

- According to the UN, an LDC is defined as "a country that exhibits the lowest indicators of socioeconomic development, with low levels of income, human capital and economic diversification, high levels of economic vulnerability, and a population that is disproportionately reliant on agriculture, natural resources, and primary commodities."

What are the criteria identified by UN for a country to be classified as an LDC?

- It must have a gross national income (GNI) per capita below the threshold of USD 1,230 over a three-year average.
- It must perform poorly on a composite human assets index based on indicators including nutrition, health and education.
- The country must demonstrate economic vulnerability such as being prone to natural disasters and possessing structural economic constraints.

What does it take for a country to get off the LDC list?

- A nation must have a GNI per capita of at least USD 1,242 for two consecutive triennial reviews in order to meet the income requirement.
- With the help of measures such as education, health, and nutrition, a nation must show that it has improved its human capital in order to achieve the human assets requirement.
- A nation also must show that it has improved its ability to withstand external economic shocks like natural catastrophes or shifts in commodity prices in order to pass the economic vulnerability test.

What are the benefits of having LDC status?

- It helps in certain economic benefits to the listed country.
- LDCs also enjoy duty-free and quota-free (DFQF) access to the markets of developed countries.

- LDCs are also eligible for loans with special terms for development, which include loans with a lower interest rate and a longer repayment time than those given to other nations.

What is Doha Political Declaration?

- The Fifth United Nations Conference on the Least Developed Countries (LDC5) concluded with the adoption of the '**Doha Political Declaration**' by world leaders.
- The declaration focuses on implementing the **Doha Programme of Action (DPoA)** — the 10-year plan to put the **world's 46 most vulnerable countries** back on track to achieving the **UN-mandated Sustainable Development Goals (SDG)**.
- DPoA (2022-2031) consisted of **six key focus areas** including **eradicating poverty, leveraging the potential of science and technology** to fight against multidimensional vulnerabilities and to **achieve the SDGs, addressing climate change**, and environmental degradation, **recovering from the COVID-19 pandemic** and **building resilience** against future shocks for risk-informed sustainable development.

India's petroleum product exports to EU

News: India's petroleum product exports to the EU have increased considerably over the past months as the region reduces imports of refined products from Russia, due to the war in Ukraine.

Key Findings:

- India's petroleum product exports to the EU **rose 20.4% year on year** in April-January to 6 million tonnes, with the region climbing to the top 20 regions importing refined products from India.
- According to the Directorate General of Commercial Intelligence and Statistics (DGCIS) data, Indian refiners (particularly private) are rushing to partly fill the supply gap for the region.
- From the global oil markets perspective, suppliers like India are helping maintain a **demand-supply balance**, while **preventing extreme price shocks**.

What are benefits for India?

- India is a **major refiner** with an annual refining capacity of about **250 million tonnes**. While it is also one of the top consumers of crude oil, **India's refining capacity is higher than its domestic demand**, making the country a **net exporter** of petroleum products.
- Indian refiners, particularly export-oriented private sector players like Reliance Industries and Nayara Energy.
- This is because it allows Indian refiners to purchase Russian oil at a discount while earning robust margins on product supplies to Europe.
- India now finds itself playing an increasingly prominent role in the global crude oil and refined products supply map.

How does West look at recent developments?

- While the West was irked at India's rising purchases of Russian oil, countries like the US are comfortable with the rising supply of Indian refined products to the EU.
- They see it as critical for the success of the price caps on Russian oil and refined products (imposed by G7 countries) without causing a global supply shock.

Domestic systematically important banks (D-SIBs)

News: The failure of Silicon Valley Bank and Signature Bank in the US raises questions on the safety of depositors' wealth everywhere. Such failures are unlikely in the Indian system. Also, RBI has classified **SBI, ICICI Bank, and HDFC Bank** as D-SIBs — these banks have to earmark **additional capital** and **provisions** to safeguard their operations.

What is the basis for the confidence in the resilience of Indian banks?

- A reason why an SVB-like failure is unlikely in India is that domestic banks have a **different balance sheet structure**. For example, we don't have a system where deposits are withdrawn in such bulk quantities.

- **Household savings** constitute a major part of bank deposits in India — this is different from the US, where a large portion of bank deposits are from corporates.

Which banks are classified as D-SIBS?

- RBI has classified SBI, ICICI Bank, and HDFC Bank as D-SIBs. They need to maintain additional common equity tier 1 (CET1).
- The additional CET1 requirement was in addition to the capital conservation buffer. It means that these banks have to earmark additional capital and provisions to safeguard their operations.
- The Basel, Switzerland-based **Financial Stability Board (FSB)**, an initiative of **G20 nations**, has identified, in consultation with the **Basel Committee on Banking Supervision (BCBS)** and **Swiss national authorities**, a list of global systemically important banks (G-SIBs). There are **30 G-SIBs** currently, including JP Morgan, Citibank, HSBC, Bank of America, Bank of China, Barclays, BNP Paribas, Deutsche Bank, and Goldman Sachs. **No Indian bank** is on the list.

How does RBI select D-SIBs?

- First, a sample of banks to be assessed for their systemic importance is decided.
- Banks are selected for computation of systemic importance based on an analysis of their size (based on Basel-III Leverage Ratio Exposure Measure) as a percentage of GDP.
- Banks having a **size beyond 2% of GDP** will be selected in the sample.

Why was it felt important to create SIBs?

- During the 2008 crisis, problems faced by certain large and **highly interconnected financial institutions** hampered the orderly functioning of the global financial system.
- **Government intervention** was considered **necessary** to ensure financial stability in many jurisdictions.
- SIBs are perceived as banks that are **'Too Big To Fail (TBTF)'**, due to which these banks enjoy certain advantages in the funding markets.
- While the **Basel-III Norms** prescribe a **capital adequacy ratio (CAR)** — the bank's ratio of capital to risk — **of 8 per cent**, the **RBI** has been **more cautious** and mandated a **CAR of 9 per cent for scheduled commercial banks** and **12 per cent for public sector banks**.

What is the need to take these precautions?

- The impairment or failure of one bank could potentially increase the probability of impairment or failure of other banks if there is a high degree of interconnectedness (contractual obligations) between them.

Kirit Parikh Committee

News: The Petroleum and Natural Gas Ministry has accepted the main recommendations of the Kirit Parikh committee on natural gas pricing.

What is the Kirit Parikh committee?

- It was constituted to **review the existing pricing formula** for domestically produced natural gas in the country.
- At present, the government fixes the prices of gas produced from the old fields of state-run ONGC and OIL which account for about 80% of the annual gas output of about 91 billion cubic metres.

What are the major recommendations?

- Move to a purely **market-determined** natural gas pricing system **by 2027**. Till then, institute a ceiling price of \$6.5 MMBtu (metric million British thermal units) and a float price of \$4 per MMBtu for domestic natural gas prices.
- Domestic gas prices should be linked to 10% of the cost of crude oil imported into India.
- Prices of gas produced by state-owned firms should be linked to imported crude prices instead of benchmarking them to gas rates in international hubs.
- No change in the pricing mechanism for gas produced from new and difficult fields. New and difficult fields enjoy pricing freedom to compensate for the greater risk and cost involved in these projects, but they have a pricing cap. The report suggests that the upper cap should be removed from January 1, 2026.

- Lastly, City Gas Distribution (CGD) and fertilizer sectors will continue to get priority in gas allocation. Currently, CGD firms get about 90 percent of the gas allotted to priority sectors (CNG + PNG domestic).

Importance of new mechanism:

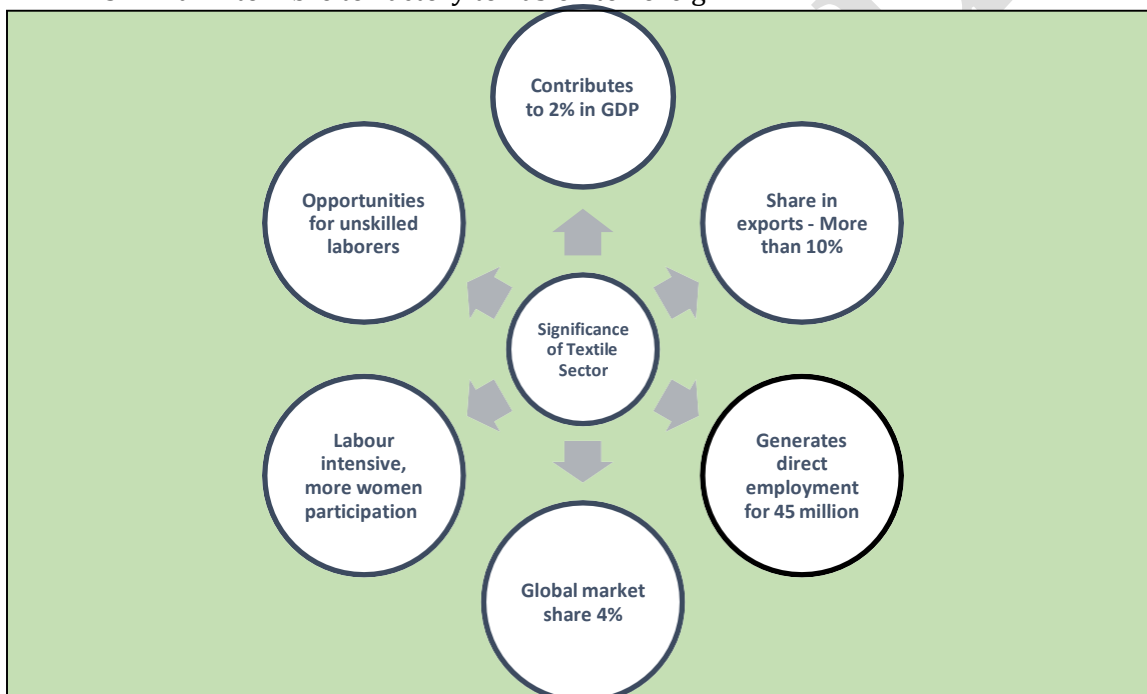
- The new pricing mechanism is expected to benefit domestic producers of natural gas in India, as they will now be able to receive a higher price for their products. This is expected to incentivize domestic production and lead to an increase in domestic supply.
- It is also expected to make the pricing of natural gas more transparent and efficient, which will benefit consumers. As a result, the government would get a chance to raise the share of gas in India's energy mix to 15% by 2030 from around 6.4% at present.

Textile Sector and PM Mitra Scheme

News: The Centre has selected sites in Tamil Nadu, Telangana, Karnataka, Maharashtra, Gujarat, Madhya Pradesh and Uttar Pradesh to set up new textile parks under the PM Mega Integrated Textile Regions and Apparel (PM MITRA) scheme.

About PM Mitra:

- PM MITRA Park will be developed by a Special Purpose Vehicle which will be owned by the Central and State Government and in a Public Private Partnership (PPP) Mode.
- The scheme seeks to develop textile parks with integrated value chain from spinning, weaving, processing, dyeing and printing to garment manufacturing.
- 5F – Farm to Fibre to Factory to Fashion to Foreign



How will the scheme be implemented?

- **Total outlay** – Rs. 4,445 crores, completion by 2026-27.
- State govt to provide 1000 acres of land, also provide power and water facilities.
- An SPV owned by the Centre and State Government will be set up for each park which will oversee the implementation of the project.
- The Ministry of Textiles will provide financial support in the form of Development Capital Support upto Rs 500 crore per park to the park SPV.
- Competitive Incentive Support (CIS) shall also be provided to incentivise speedy implementation.
- Convergence with other Government of India schemes shall also be facilitated in order to ensure additional incentives to the Master Developer and investor units.

What are the challenges faced by Textile sector?

- **Stagnant domestic production** – IIP – Textiles is yet to reach pre-Covid level. The textile sector's gross value addition has seen a contraction for three consecutive quarters.
- **Rise in imports** - In the period from April to November 2022, imports of textiles were valued at Rs 433 billion, same as last year they were valued at Rs. 313 billion. India allowed duty-free import of readymade garments from Bangladesh under the South Asian Free Trade Agreement (SAFTA) in 2006, resulting in an increase in imports of apparels made with Chinese fabrics and yarns.
- **Exports suffer due to Limited market access** – For example, LDC's Bangladesh, Vietnam, African countries get duty free access to other countries which makes Indian exports less competitive.

How will PM-MITRA scheme help?

- It will provide state of the art infrastructure and attract cutting edge technology.
- It will boost FDI and local investment
- The cluster-based approach will reduce the increased wastage and logistical costs of the sector, and thus will improve the competitiveness of the country's textile sector.
- Government estimates suggest that investment of Rs 70,000 crore into these parks can generate employment for about 20 lakh people.
- It will promote economy of scale and efficiency.

What are other initiatives taken?

- Amended Technology Upgradation Fund Scheme
- SAMARTH Scheme
- Power-Tex India
- Silk Samagra Scheme.
- Jute ICARE.
- National Technical Textile Mission
- Scheme for integrated textiles parks

Way Forward

- India can make the sector organised by setting up mega apparel parks and common infrastructure for the textile industry. The focus should be on the modernisation of obsolete machinery and technology.
- Increased investments and focused approach will underline the government's vision for Make in India and Make for World.

Basic Animal Husbandry Statistics 2022

News: Recently, the Ministry of Fisheries, Animal Husbandry & Dairying has released the 'Basic Animal Husbandry Statistics 2022, showing an increase in the milk, eggs and meat productions in India. The contribution of livestock in the agriculture sector has been showing steady improvement that signifies its growing importance for the country's economy.

What is Animal Husbandry?

- It refers to **livestock raising** and **selective breeding**. It is the management and care of animals in which the genetic qualities and behavior of animals are further developed for profit.

- India is the **highest livestock owner** of the world. As per the **20th Livestock Census**, the total Livestock population is **535.78 million** in the country showing an increase of **4.6%** over Livestock Census-2012.
- Some of government initiatives – Rashtriya Gokul Mission, National Livestock mission, Animal Husbandry Infrastructure Development Fund.

Key Findings:

- Total milk production in India was **221.06 million tonnes** in 2021-2022, keeping It the largest milk producing country in the world.
- Top five major milk producing States are Rajasthan (15.05%), Uttar Pradesh (14.93%), Madhya Pradesh (8.06%), Gujarat (7.56%) and Andhra Pradesh (6.97%).
- In 2021-22, the total egg production in the country is **129.60 billion nos** which has increased by 6.19% as compared to previous year.
- Total five major egg producing States are Andhra Pradesh (20.41%), Tamil Nadu (16.08%), Telangana (12.86%), West Bengal (8.84%) and Karnataka (6.38%).
- The total meat production in the country is **9.29 million tonnes** for the year 2021-22 with an annual growth rate of 5.62%.
- The total five major meat producing States are Maharashtra (12.25%), Uttar Pradesh (12.14%), West Bengal (11.63%), Andhra Pradesh (11.04%), and Telangana (10.82%).
- The total wool production in the country during 2021-22 is **33.13 thousand tonnes** which has decline by 10.30% as compared to previous year.
- The top five major wool producing States are Rajasthan (45.91%), Jammu and Kashmir (23.19%), Gujarat (6.12%), Maharashtra (4.78%) and Himachal Pradesh (4.33%).

India's sugar exports

News: By pivoting to raw sugar exports, India has gone from being a marginal player five years ago to No. 2 in the world currently, behind only Brazil. Specific advantages of Indian raw sugar have helped Indian exports.

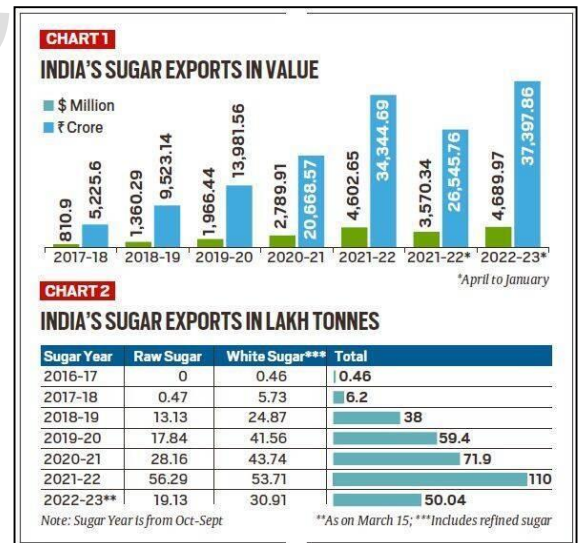
Important Data:

- Between 2017-18 and 2021-22, sugar exports have soared from \$810.9 million to \$4.6 billion, and could cross \$5.5 billion — or Rs 45,000 crore — in the fiscal year ending March 31.
- Raw sugar is rough and brownish in colour, with an ICUMSA value of 600-1,200 or higher. ICUMSA, short for the International Commission for Uniform Methods of Sugar Analysis, is a measure of the purity of sugar based on colour. **The lower the value, the more the whiteness.**
- Refined White sugar - Raw sugar after being processed in refineries for the removal of impurities and de-colourisation.
- Till 2017-18, India hardly exported any raw sugar. It mainly shipped plantation white sugar with 100-150 ICUMSA value. This was referred to as low-quality whites or LQW in international markets.

Advantages of Indian Raw Sugar:

- **India's crushing season** is from October to April, whereas Brazilian mills operate from April to November. Hence, importers are utilising Indian raw sugar during Brazil's off-season.
- India is much closer to its major sugar importers (compared to Brazil) and therefore **less freight cost**.
- Indian sugar is **free of dextran**. Dextran is a bacterial compound formed when sugarcane stays in the sun for too long after harvesting.
- India's sugar has high percentage of Sucrose content.

What are government policies for Sugar?



- **Fair and remunerative price (FRP)** - The FRP is the minimum price that sugar mills have to pay to sugarcane farmers for the procurement of sugarcane.
- Although the Central government decides the FRP the state governments can also set a **State Advised price** that a sugar mill has to pay to the farmers.
- Encouraging Ethanol Production to be used in Ethanol Blending with Petrol (EBP) Programme.
- Scheme for Extending Financial Assistance to Sugar Undertakings.

What is end result of Sugar exports?

- Out of India's total 110 lt sugar exports in 2021-22, raws alone accounted for 56.29 lt.
- The biggest importers of Indian raw sugar were Indonesia (16.73 lt), Bangladesh (12.10 lt), Saudi Arabia (6.83 lt), Iraq (4.78 lt) and Malaysia (4.15 lt).
- From being a marginal exporter until five years ago, India has become the world's No. 2, with its shipments of 110.58 lt in 2021-22 (according to the International Sugar Organization) next only to Brazil (255.40 lt).

IMF Bailouts

News: Recently, The International Monetary Fund (IMF) confirmed a USD 3 billion bailout plan (under **Extended Fund Facility (EFF)**) for Sri Lanka's struggling economy.

What are IMF bailouts?

- Bailout is a general term for extending financial support to a company/country facing a potential bankruptcy threat. It can take the form of loans, cash, bonds, or stock purchases. A bailout may (not) require reimbursement but is often accompanied by greater oversight and regulations.
- Countries seek such assistance from the IMF to meet their external debt and other obligations, to purchase essential imports, and to prop up the exchange value of their currencies.

What is the procedure of IMF Bailout?

- The IMF lends money to the troubled economies often in the form of Special Drawing Rights (SDRs).
- SDRs simply represent a basket of five currencies, namely the U.S. dollar, the euro, the Chinese yuan, the Japanese yen, and the British pound.
- This lending is carried out by a number of lending programs such as **extended credit facility, flexible credit line, stand-by agreements**, etc.
- Countries receiving the bailout can use the SDRs for various purposes depending on their individual circumstances.

What about conditions?

- A country may have to agree to implement certain structural reforms as a condition to receive IMF loans.
- The conditions are often criticized believing it to be too harsh on public and often being accused of influenced by international politics.
- However, the conditions are essential for successful lending; it may not make sense for IMF to throw money at a country if its faulty policies that caused the crisis remain untouched.
- Countries with poor institutional functioning and high corruption are most likely to misspend the bailout money.

What are impacts of IMF bailouts?

Advantages	Disadvantages
Ensure survival of country and help sort Balance of Payment issues	It adds to the burden on the people especially poor who are already at receiving end of economic collapse
A complete collapse of financial system can be avoided	IMF's direction can result in reduced government spending and increased taxes
IMF also provides technical and subject matter expertise of how a country can come out of crisis and start afresh	Creates a sense of dependency on external funding
	Other consequences such as political instability, can harm country's reputation in eyes of Foreign and

PM Formalization of Micro Food Processing Enterprises Scheme

News: The Ministry of Food Processing Industries (MoFPI) is implementing a centrally sponsored PM Formalisation of Micro Food Processing Enterprises Scheme (PMFME) Scheme for providing financial, technical, and business support to micro food processing enterprises in India.

About PMFME:

- The PMFME scheme aims to enhance the competitiveness of new and existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector.
- The PMFME scheme is operational for a period of **five years** from 2020-21 to 2024-25 with an outlay of Rs. 10,000 Crore.
- The scheme adopts the **One District One Product (ODOP)** approach to reap the benefit of scale in terms of procurement of inputs, availing common services and marketing of products.
- It also focusses on waste to wealth products, minor forest products and Aspirational Districts.

What kind of assistance is available under PMFME scheme? (Please note you are not advised to remember every figure in detail but understand how and who are the beneficiaries of such schemes)

- **Credit-linked capital subsidy** of 35% of the eligible project cost, with a maximum ceiling of Rs.10 lakh per unit.
- **Seed capital** up to Rs. 40,000/- **per member of SHG** engaged in food processing for working capital and purchase of small tools, subject to a maximum of Rs. 4 lakh per SHG.
- Credit-linked capital subsidy of 35%, with a maximum of Rs. 3 crore, to support FPOs, SHGs, Cooperatives, and any Government agency for setting up of common infrastructure.
- The scheme envisages training for **Entrepreneurship Development Skilling (EDP+)**, a program modified to meet the requirements of the food processing industry and product specific skilling.
- **District Resource Persons (DRPs)** have been appointed to provide handholding support to micro food processing enterprises for the compliance of FSSAI and other statutory requirements.

What are various initiatives taken by government to improve the FPIs?

- A favourable policy environment is said to have played a major role in the rapid expansion of this sector.
- The government has allowed **100% foreign direct investment** under the automatic route for manufacturing and retail trading, including e-commerce, of food products made in India.
- Besides, it has extended the **Production-Linked Incentive** Scheme to this industry to impart further impetus to its growth.
- **Pradhan Mantri Kisan SAMPADA Yojana** – It seeks to create modern infrastructure for Food processing mega food parks/clusters and individual units. Creates effective backward and forward linkages linking farmers, processors, markets.

Why should small and micro food processing enterprises be promoted?

- They are economically viable as compared to larger enterprises due to reasons such as perishable and seasonal nature of farm produce, shortage of commodity-specific warehousing and transportation facilities and issues related to product quality, especially in terms of its suitability for processing.

Way forward

- **Value-enhancing** treatment needs to be stepped up substantially and facilitate year round availability of seasonal agricultural products.
- **Promote small-scale and village-level agro-processing** units even while continuing to support the organised sector food-processing industry.
- Farmers should be **encouraged** to set up **mini or micro agro-processing** centres, individually or collectively, through **cooperatives or farmers' producer organisations**.

Science & Technology

Neutrinos

News: Recently, physicists working with the Kamioka Liquid Scintillator Antineutrino Detector (KamLAND) in Japan reported that after analysing two years' data, they could not find signs that neutrinos could be their own anti-particles.

What are Neutrinos?

- Neutrinos are the second most abundant particles in the Universe after photons (light particles), produced in copious amounts in the cores of stars.
- A neutrino is a fundamental elementary particle, and atmospheric neutrinos can be studied when solar radiation hits the earth's atmosphere. They are very hard to detect as they hardly interact with other forms of matter due to their lack of electrical charge. However, they seem to play an important role in the universe of elementary physics, which physicists have been trying to understand for a few decades now.
- They are produced in high-energy processes such as within stars and in supernovae. On earth, they are produced by particle accelerators and nuclear power plants.
- Because they are so ubiquitous, their properties are windows into the microscopic structure of the universe. For example, one open question about neutrinos is whether they are their own antiparticles. If they were, physicists will have a way to explain why the universe has more matter than antimatter.
- Probing of oscillations of neutrinos and their relations with mass are crucial in studying the origin of the universe.
- Neutrinos are created by various radioactive decays; during a supernova, by cosmic rays striking atoms etc.

What are anti-particles?

- Every elementary particle has an antiparticle. If the two meet, they will destroy each other in a flash of energy.
- The electron's antiparticle is the positron. Similarly, neutrinos have anti-neutrinos.
- However, an electron is distinguishable from a positron because they have opposite charges.
- Neither neutrinos nor anti-neutrinos have electric charge, nor any other properties to really differentiate between them.
- One way to classify subatomic particles is as matter particles and force-carrying particles. Neutrinos are matter particles, or fermions. Fermions can be further split as Dirac fermions or Majorana fermions. Dirac fermions are not their own anti-particles, whereas Majorana fermions are.

Imaging X-ray Polarimetry Explorer (IXPE)

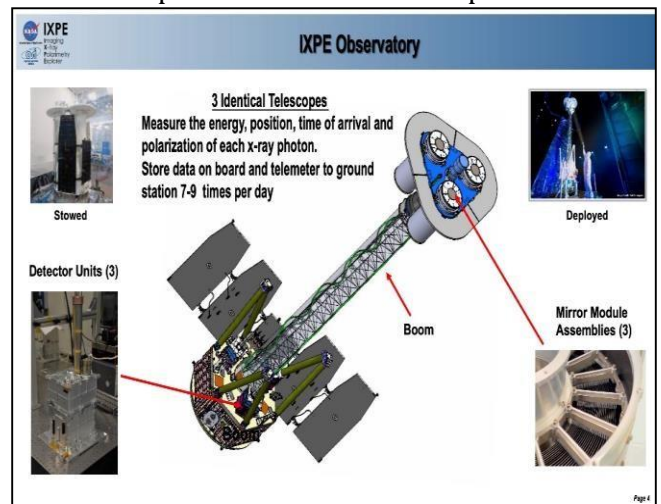
News: Recently, a team of researchers has unveiled new light on the explosion of a star in a supernova which occurred more than 450 years ago by using Imaging X-ray Polarimetry Explorer.

Background:

- The explosion of a supernova which was named **Tycho** was visible to people on Earth in 1572, and the shock wave from the blast is still propagating through the cosmos.

About IXPE:

- IXPE is an international collaboration between **NASA** and the **Italian Space Agency**.
- It studies the most extreme and mysterious objects in the universe – supernova remnants, supermassive black holes, and dozens of other high-energy objects.
- It is the first satellite dedicated to measuring



polarized X-rays from objects, such as neutron stars and supermassive black holes, to reveal previously hidden details of the universe.

About Tycho:

- The Tycho supernova is classified as a Type Ia supernova, which occurs when a white dwarf star in a binary system shreds its companion star, capturing some of its mass and triggering an explosion.
- Tycho released as much energy as the Sun would emit over ten billion years and blasted particles out into space near the speed of light.
- Researchers used IXPE to reveal the magnetic field geometry close to Tycho's shock wave to investigate further how particles are accelerated there.

Organoid Intelligence

News: Recently, Scientists have outlined a plan for a potentially revolutionary new area of research called "organoid intelligence", which aims to create "bio computers", where 3D brain cultures grown in the lab are coupled to real-world sensors and input/output devices.

About:

- Scientists expect the technology to harness the processing power of the brain and understand the biological basis of human cognition, learning, and various neurological disorders.
- These "mini-brains" (with a size of up to 4 mm) are built using **human stem cells** and capture many structural and functional features of a **developing human brain**. It is used to study human brain development and test drugs to see how they respond.
- However, Brain organoids developed in the lab are not advanced enough as they lack the required sensory inputs and blood circulation that are necessary for the development of a complex organ like the human brain.
- Moreover, Scientists transplanted human brain organoid cultures into rat brains and observed that they formed connections with the rat brain and showed functional activity. This system could provide a way to study brain diseases in a human context.
- However, the organoids are still in the rat-brain microenvironment, which may not be representative of the human brain.

What are new age Biocomputers?

- Researchers plan to combine brain organoids with modern computing methods using machine learning to create "bio-computers".
- They will grow organoids inside structures with multiple electrodes that can record the firing patterns of neurons and mimic sensory stimuli.
- Machine-learning techniques will then be used to analyse the effect of neuron response patterns on human behavior or biology.
- Scientists have already grown human neurons on a microelectrode array and trained them to generate electrical activity similar to what electrons would generate while playing table tennis.

What are applications of Bio Computers?

- Brain organoids developed using stem cells from individuals with diseases like Parkinson's disease and microcephaly can aid drug development for these conditions.
- These organoids can provide insights into the biological basis of human cognition, learning, and memory by comparing the data on brain structure, connections, and signaling between healthy and patient-derived organoids.
- While human brains are slower than computers at simple arithmetic, they outshine machines at processing complex information.

Way Forward

- Currently, brain organoids have a diameter of less than 1 mm, roughly three-millionth the size of an actual human brain. So, scaling up the brain organoid is key to improving its computing capacity.
- Neural recordings from each neuron and connection will be needed to store and analyse using 'Big Data' infrastructure.

- Researchers will also have to develop microfluidic systems to transport oxygen and nutrients, and remove waste products.
- There is also a need to identify, discuss, and analyse ethical issues as they arise in the course of this work.

Case Study

- While biological computers aren't as prolific as personal computers, there are several companies working to advance this very young field.
- Microsoft's foray into biological computing is called Station B. The company partnered with Princeton University and two UK companies, Oxford BioMedica and Synthace, on the new research system that can analyze volumes of biomedical data with a set of integrated computer programs. This analysis is then used to guide scientists on the best way to proceed with research, such as editing DNA in a certain way. The hope is that this system will ultimately lower the cost of gene-therapy products to bring them to many more patients.

H3N2 Influenza Virus

News: India has reportedly recorded two deaths due to the H3N2 influenza virus in Haryana and Karnataka.

What is the H3N2 virus?

- According to the Centre for Disease Control and Prevention (CDC), H3N2v is a **non-human influenza virus** that normally circulates in pigs and that has infected humans - known as 'swine influenza viruses'.
- When these viruses infect humans, they are termed 'variant' viruses. The specific H3N2 variant virus was detected in 2011 in humans with genes from avian, swine, and human viruses and the 2009 H1N1 pandemic virus M gene.

What are the symptoms?

- The symptoms include fever, respiratory issues like cough and runny nose, as well as other symptoms including body aches, nausea, vomiting, or diarrhea. These symptoms usually may last for about a week, however, some people may endure them for a longer period of time too.

Treatment and prevention:

- Medications to be taken as per prescriptions. The currently recommended drugs - oseltamivir, zanamivir, peramivir, and baloxavir - are available by prescription from the doctor.
- Some of the precautions include annual flu vaccinations, and regular hand washing.
- In case of flu, people are advised to stay at home for 24 hours after the fever has subsided.


We recommend you to watch Discussion of the same topic in depth by clicking on following link https://youtu.be/DQ_DmaD3shU

Types of Artificial Intelligence

News: AI can traditionally be divided into Artificial General Intelligence (AGI) and Artificial Narrow Intelligence (ANI).

Flu alert

Many patients hospitalised with severe acute respiratory infections have tested positive for Influenza A H3N2 virus



Symptoms: Fever, cough, runny nose, body ache, nausea, vomiting and diarrhoea

■ Dos: Washing hands, using mask, avoiding crowds, not touching nose and eyes, taking paracetamol for fever, body ache

■ Don'ts: Taking antibiotics without consulting doctor, shaking hands

Time to mask up: The national capital is witnessing a surge in outpatients with respiratory problems. SUSHIL KUMAR VERMA

Source: ICMR

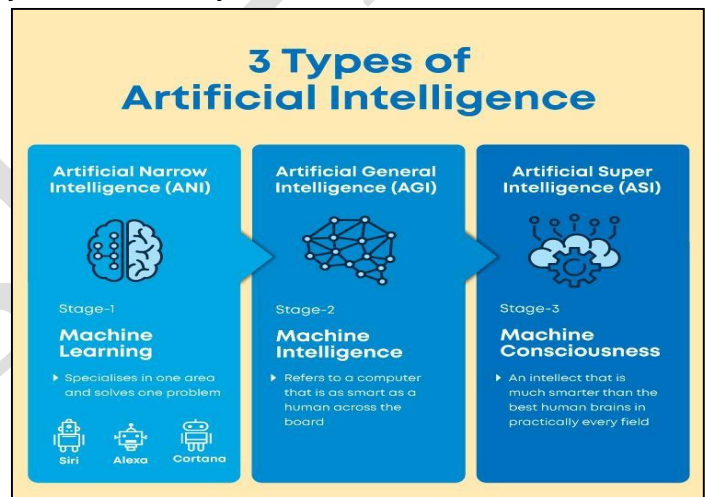
Narrow AI	General AI
○ Application specific/ task limited	○ Perform general (human) intelligent action
○ Fixed domain models provided by programmers	○ Self-learns and reasons with its operating environment
○ Learns from thousands of labeled examples	○ Learns from few examples and/or from unstructured data
○ Reflexive tasks with no understanding	○ Full range of human cognitive abilities
○ Knowledge does not transfer to other domains or tasks	○ Leverages knowledge transfer to new domains and tasks
○ Today's AI	○ Future AI?

What is AGI?

- Artificial general intelligence (AGI) is the representation of generalized human cognitive abilities in software so that, faced with an unfamiliar task, the AGI system could find a solution. The intention of an AGI system is to perform any task that a human being is capable of.
- AGI in computer science is an intelligent system with comprehensive or complete knowledge and cognitive computing capabilities. As of right now, no true AGI systems exist; they remain the stuff of science fiction.
- The performance of these systems is indistinguishable from that of a human, at least in those terms. However, the broad intellectual capacities of AGI would exceed human capacities because of its ability to access and process huge data sets at incredible speeds.

What is ANI?

- Narrow artificial intelligence (narrow AI) is a specific type of artificial intelligence in which a learning algorithm is designed to perform a single task, and any knowledge gained from performing that task will not automatically be applied to other tasks.
- Unlike general artificial intelligence, which seeks to mimic complex thought processes, narrow AI is designed to successfully complete a single task without human assistance. Popular applications for narrow AI include language translation and image recognition.
- Most AI applications in use today can be categorized as being narrow AI. Narrow AI may also be referred to as weak AI.



Gene-editing in Embryos

News: A new study published in the journal Nature Communications has warned of the potential consequences of gene editing technology, which is still not fully understood.

What is Gene-editing?

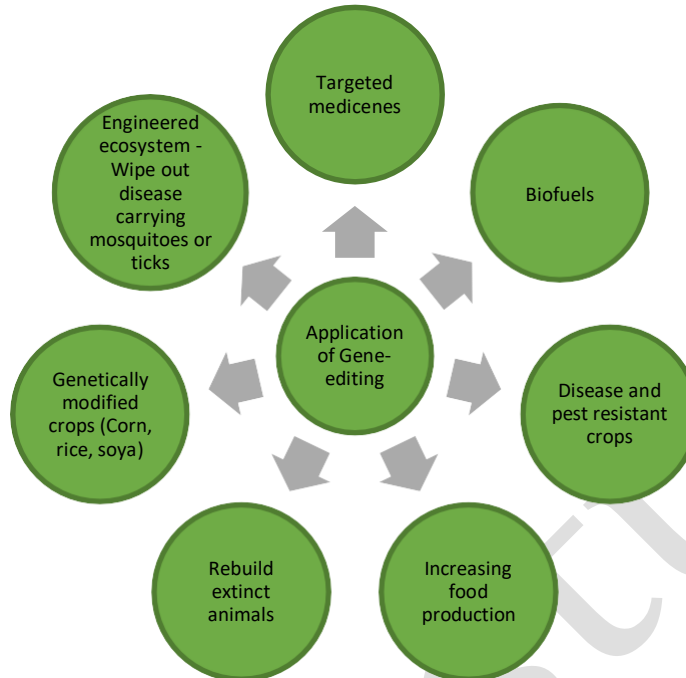
- Genome editing (also called gene editing) is a group of technologies that allow genetic material to be added, removed, or altered at particular locations in the genome.
- Three technology mostly used for gene-editing are CRISPR-associated protein 9 (Cas9), transcription activator-like effector nucleases (TALENs), and zinc-finger nucleases (ZFNs).

Key Findings:

- Using Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) to delete harmful disease-causing mutations could create more problems.
- CRISPR may lead to extensive gene copying from one parent to another, potentially increasing the risk of diseases.

- The extent of the DNA damage induced by CRISPR and how cells respond to it is still not fully known.
- The technology used to test gene-edited embryos could reduce the accuracy of genetic testing, leading to the misdiagnosis of embryos.
- The researchers concluded that such limitations must be addressed before gene editing technology can be used.

Earlier, a Chinese scientist who announced the birth of gene-edited twins in 2018, had used CRISPR to make the embryos resistant to the human immunodeficiency virus (HIV).



Green and Self-Powered Desalination Plant

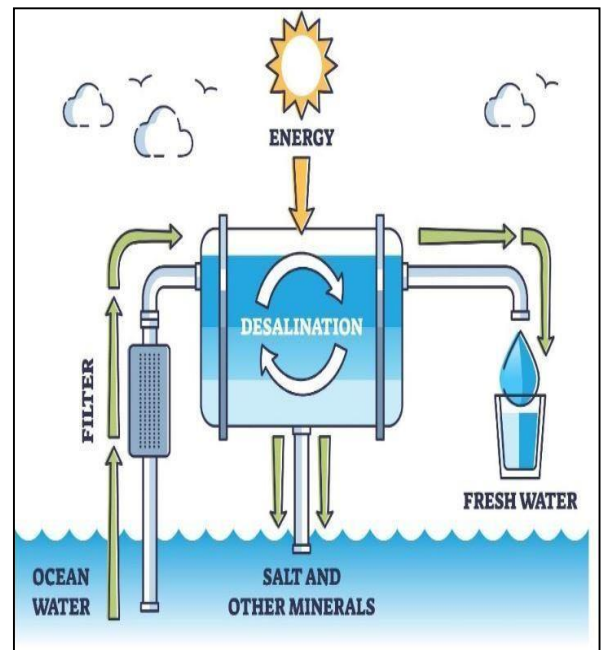
News: Recently, the National Institute of Ocean Technology (NIOT), an autonomous institute under the Union Ministry of Earth Sciences (MoES) is establishing a Green and Self-Powered Desalination Plant in Lakshadweep.

Background:

- The NIOT is working on an initiative to provide potable water in six islands of Lakshadweep using **Low Temperature Thermal Desalination (LTTD)** technology. The NIOT is now trying to make this process emission-free.
- Currently, the desalination plants, each of which provides at least 100,000 litres of potable water every day, are powered by diesel generator sets.

About:

- The proposed desalination plant will use a combination of renewable energy sources like solar, wind, and wave energy to power the plant. The plant will be equipped with reverse osmosis (RO) technology to desalinate seawater and produce potable water. The NIOT plans to set up the plant in one of the islands, where there is a high potential for renewable energy generation.
- The plant is the first of its kind in the world as it will generate drinking water from sea water using indigenous technology, green energy and environmentally friendly processes and it is self-powered.



- The process of LTTD is not fossil-fuel free and also consumes diesel and works by diesel generator sets, a precious commodity in the islands that has to be shipped from the mainland critical for powering the electric grid.

What is LTTD technology?

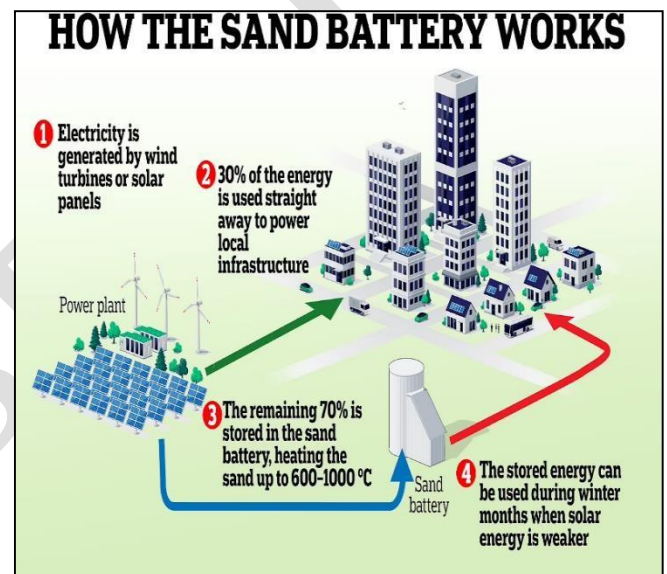
- LTTD is a desalination technique that turns **seawater into drinkable water**.
- This method is based on the idea that ocean water 1,000 to 2,000 feet below the surface is 4–8°C colder than surface water. Therefore, a tank is used to collect and apply high pressure to salty surface water (via an external power source).
- The vaporized water under pressure is contained in tubes or a chamber. Cold ocean water is drawn up via these tubes, where the vapour condenses to create fresh water and the salt that results is diverted away and the condensed fresh water can be used for drinking.

Sand Battery

News: Finland has installed the world's first sand battery that can store heat from renewable energy sources for months.

About:

- The battery, made of sand collected from construction sites, can solve the problem of round-the-year energy supply, a known limitation of renewable energy sources that can be harnessed intermittently.
- Sand can be heated up to 600 degrees Celsius (°C), whereas water starts to boil at 100°C. It also has low heat conductivity, which reduces energy loss.
- The storage system has three main components: the sand silo, an electrical air heater and an air-to-water heat exchanger. For charging the sand silo, the air is heated to 600°C in the electric air heater.
- The hot air is then circulated inside the silo using a heat-exchange pipe and blowers to raise the temperature of the sand at the silo's core to 600°C.
- When the storage enters the discharging stage, the blowers are used to pump air into the pipe inside the sand silo.
- Once the air reaches 200°C, it is transferred to the air-to-water heat exchanger, where it is used to boil water. It is then sent to the heating network.
- The storage system requires electricity at all times.
- It is needed to charge the battery, monitor the temperature during standby and run the blowers when the battery is used.
- 1,000 times more power is discharged as heat than is used as electricity.



You may click on following link to see how Sand Battery works <https://youtu.be/Azaf9tKJNoA>

Ethical Guidelines for AI in Healthcare and Biomedical Research

News: The Indian Council of Medical Research (ICMR) has released Ethical Guidelines for AI in Healthcare and Biomedical Research to guide the effective, safe development/deployment/adoption of AI-based technologies.

Need:

- Artificial Intelligence (AI) has made inroads into every sector and healthcare is no exception.
- Diagnosis and screening, therapeutics, preventive treatments, clinical decision-making, public health surveillance, etc., are among the recognised applications of AI in healthcare. Since AI cannot be held

accountable for the decisions it makes, an ethically sound policy framework is essential to guide AI technology development.

Key Highlights of Guidelines:

- It outlined 10 key patient-centric ethical principles for AI application in the health sector for all stakeholders involved.
- These are accountability and liability, autonomy, data privacy, collaboration, risk minimization and safety, accessibility and equity, optimization of data quality, non-discrimination and fairness, validity and trustworthiness.
- The ethical review process came under the domain of the ethics committee which assesses a host of factors including data source, quality, safety, anonymization, etc.

Importance of guidelines:

- The autonomy principle ensures human oversight of the functioning and performance of the AI system. It is also critical to attain informed consent from the patient on the physical, psychological and social risks involved.
- It aims to prevent unintended or deliberate misuse and cyber-attacks and mandates a benefit-risk assessment by an ethical committee.
- It underlines the importance of regular internal and external audits to ensure the optimum functioning of AI systems.
- It acknowledges the widespread availability of appropriate infrastructure and thus aims to bridge the digital divide.

Way Forward

- Standard practices to make the AI-based solutions technically sound, ethically justified and applicable to a large number of individuals with equity and fairness.
- All the stakeholders should adhere to these guiding principles to make the technology more useful and acceptable to the users and beneficiaries of the technology.

Starberry Sense

News: Researchers at the Indian Institute of Astrophysics (IIA) have developed a low-cost star sensor for astronomy and small CubeSat class satellite missions.

What is Star Sensor?

- Star sensor is one of the precise attitude determination sensors. It is an electro-optical system that takes an image from a set of stars and by comparing it with the star catalogue determines angle deviation of the satellite and modifies its attitude. Star sensor is composed of baffle, optical system, detector, and electronic and image processing system.

Why Starberry-Sense is Better than Other Star Sensor?

- This star sensor is less expensive than those on the market by less than 10% based on the commercial/off-the-shelf components which are readily available.
- The system is developed by using Raspberry Pi Zero which is available at low cost. The Raspberry Pi Zero is a compact size (smaller than a credit card) computer with low power consumption, and ability to run custom software make it a suitable platform for a star sensor application.

About IIA:

- The IIA is a premier research institute in India dedicated to the study of astronomy, astrophysics, and related fields. Wholly financed by the Department of Science and Technology, Government of India.
- It has several observational facilities, including the Vainu Bappu Observatory in Kavalur, Tamil Nadu, the Gauribidanur Radio Observatory in Karnataka, and the Hanle Observatory in Ladakh, Jammu, and Kashmir.

Technology and Innovation Report 2023

News: The Technology and Innovation Report 2023 was recently released by UNCTAD. It highlights the opportunities that green innovation – goods and services with smaller carbon footprints offer developing countries to spur economic growth and enhance technological capacities.

Key Findings:

- The report analyses the market size of 17 green and frontier technologies, such as artificial intelligence, the Internet of Things, and electric vehicles, and their potential to create jobs.
- While countries in the EU reach a Research & Development expenditure of 3% of GDP, only a few developing countries reach 1% of GDP expenditure.
- Most countries have increased their climate-change-related, green official development assistance (ODA).
- Within the UN system, Global Environmental Facility (GEF) is the largest public sector funding source for transferring Environmentally Sound Technologies (ESTs).
- India remains the greatest overperformer ranking at 67 positions better than expected, followed by the Philippines (54 positions better) and Viet Nam (44 better).
- UNCTAD calls on their governments and business communities to invest in more complex and greener sectors, boost technical skills and scale up investments in the technology infrastructure needed to grow green industries.

Candida Auris

News: The drug-resistant fungus *Candida auris* (*C. auris*) was only discovered some 15 years ago but is already one of the world's most feared hospital microbes.

About:

- *Candida auris* (*C. auris*) is a **yeast**, a **family of fungus** which contains species pretty helpful to humans in activities such as bread-making and beer-brewing, but which also features species that cause infections in humans.
- Most of the time, *Candida* yeasts live on our skin without causing problems, but they can cause infections if we are unwell or they get into the wrong place, like the bloodstream or the lungs.

What illness does it cause?

- *C. auris* most frequently causes bloodstream infections, but it can also affect the respiratory system, the central nervous system and internal organs, as well as the skin.

How does it spread?

- Transmission is mainly through contaminated surfaces in hospitals.

How is Climate change attributing to rise in cases?

- According to recent study, *C. auris* infections have become so common may be because this species has been forced to live at higher temperatures because of climate change.
- Most fungi prefer the cooler temperatures found in soil. But, as global temperatures have risen, *C. auris* has been forced to adapt to higher temperatures.

36 OneWeb satellites

News: The Indian Space Research Organization (ISRO)'s GSLV-Mk3/LVM3 has successfully launched the second batch of 36 OneWeb satellites into Low Earth Orbit.

About:

- OneWeb is a global communication network powered from space, enabling **connectivity for governments and businesses**.
- **Bharti Enterprises** is a major investor in OneWeb group, which is engaged in the implementation of the constellation of low earth satellites.

- OneWeb Group has **signed an agreement** with ISRO's commercial arm **NewSpace India Ltd (NSIL)** to launch **72 satellites into Low-Earth orbits(LEO)**.
- The first set of 36 satellites for OneWeb was launched in 2022. This was the eighteenth launch of OneWeb satellites bringing the constellation's total number of satellites to 618.
- OneWeb intends to use 588 active satellites in its first-generation constellation to provide global connectivity at high speed and low latency.
- This was the sixth launch for **India's heaviest rocket LVM-3** – which includes the launch of Chandrayaan-2 in 2019 – and the second one where it demonstrated the capability of launching multiple satellites in low earth orbit (LEO).



Commercial significance of opening up India's space sector:

- At the moment, inspite of India's achievements in space sector, our share in global commercial market stands at meagre 2%.
- India plans to increase its share in commercial space market to 10% by 2030 with help of space startups in private sectors such as Agnikul cosmos, Skyroot, Digantara and in co-ordination with ISRO.
- ISRO has also developed Small satellite launch vehicles which will help scale our launch missions at low cost, cater to operations on demand at short notice etc.
- Till date, ISRO has launched 384 foreign satellites from at least 36 countries, with at least 10 dedicated commercial missions and several other Indian missions where they were carried as co-passenger satellites. The highest number of these commercial launches have been by companies from the United States.
- The participation of private sector in space will improve competitiveness and promote innovations which will significantly boost the prestige of India's space industry.

Rabies

News: Recently, the Ministry of Health and Family Welfare has launched the National Rabies Control Programme (NRCP) for prevention and control of Rabies.

Objectives of NRCP:

- Provision of rabies vaccine & rabies immunoglobulin through national free drug initiatives;
- Training on appropriate animal bite management, prevention and control of rabies, surveillance and intersectoral coordination;
- Strengthening surveillance of animal bites and rabies deaths reporting;
- Creating awareness about rabies prevention.

About Rabies:

- Rabies is a **vaccine-preventable, zoonotic, viral disease**.
- It is caused by a **Ribonucleic Acid (RNA)** virus that is present in the **saliva** of a rabid animal (dog, cat, monkey, etc).
- It is invariably transmitted following a bite of an infected animal that leads to deposition of the saliva and the virus in the wound.
- Once clinical symptoms appear, rabies is virtually 100% fatal. The death invariably occurs in four days to two weeks due to cardio-respiratory failure.
- In up to 99% of cases, **domestic dogs** are responsible for rabies virus transmission to humans. The incubation period varies from 2–3 months but may vary from 1 week to 1 year, or rarely even more.

Treatment and symptoms:



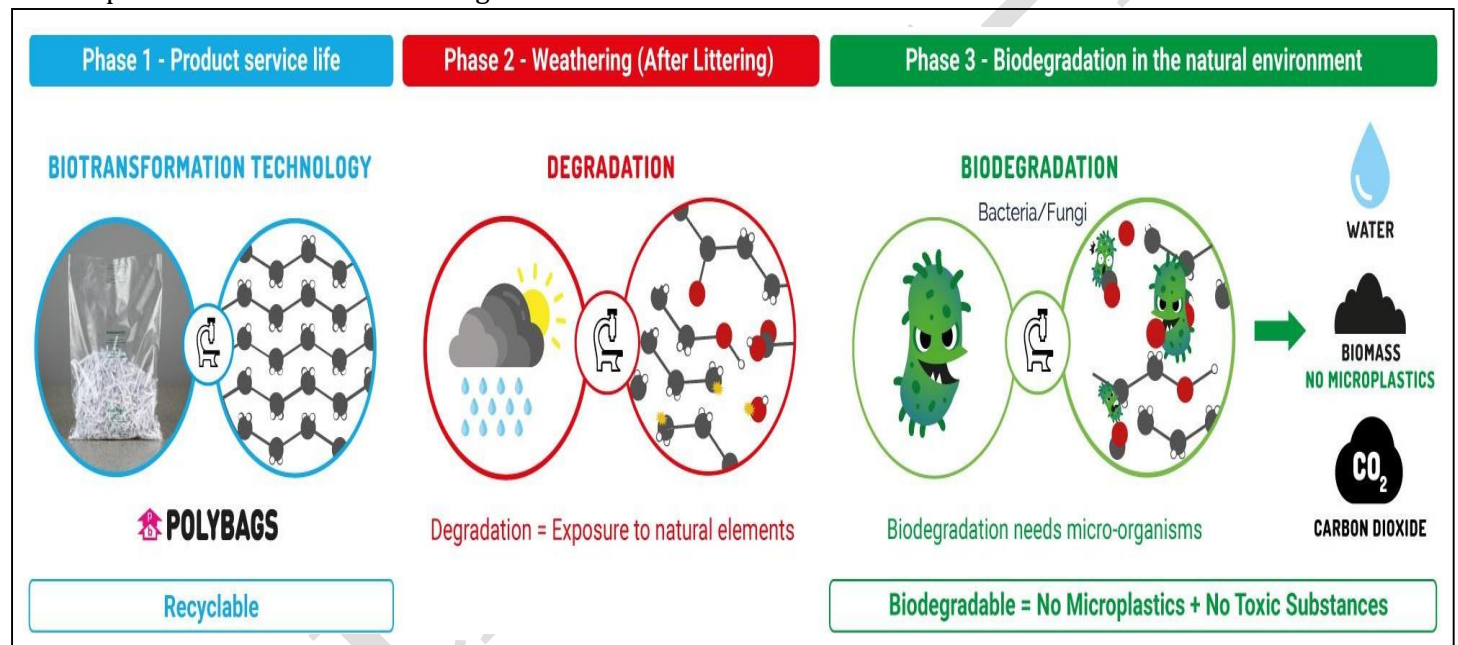
- Rabies can be prevented by vaccinating pets, staying away from wildlife, and seeking medical care after potential exposures before symptoms start.
- Rabies deaths in human are 100% preventable through prompt and appropriate medical care. Vaccinating dogs is the most cost-effective strategy for preventing rabies in people.
- The first symptoms of rabies may be similar to flu and may last for a few days, which includes - Fever, Headache, Nausea, Vomiting, Anxiety, Confusion, Hyperactivity, Difficulty swallowing, Excessive salivation, Hallucinations, Insomnia.

Statistics in India:

- India is endemic for rabies, and accounts for **36% of the world's rabies deaths**. True burden of rabies in India is not fully known; although as per available information, it causes **18,000-20,000 deaths every year**.
- About 30-60% of reported rabies cases and deaths in India occur in children under the age of 15 years as bites that occur in children often go unrecognized and unreported.

Biotransformation Technology

News: A UK-based startup has claimed to have developed a Biotransformation Technology that could alter the state of plastics and make them biodegradable.



About:

- Biotransformation technology is a novel approach to ensure plastics that escape refuse streams are **processed efficiently** and **broken down**.
- 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, CO₂, and biomass.
- This biotransformation technology is the world's first that ensures polyolefins fully biodegrade in an open environment causing no microplastics.

Need and Utility:

- India is generating 3.5 billion kgs of plastic waste annually and that the per capita plastic waste generation has also doubled in the past five years. Of this, a third comes from packaging waste.

- In 2019, plastic packaging waste from e-commerce firms was estimated at over a billion kilograms worldwide, according to Statista. Seeing such a burden of plastic waste, which could potentially harm biodiversity, it is needed to devise technology in order to tackle the Plastic Menace.
- Food packaging and health care industries are the two prime sectors that could use this technology to reduce waste.

Advantages of Biotransformation (Bio-T) packaging:

- Similar properties to regular polythene during product service life
- Will biodegrade in the open environment in the event of littering
- Leaves no microplastics behind
- Passes ecotoxicity tests - not harmful to the environment
- Cheaper and stronger than compostable (starch-based) packaging
- Food-safe
- Reusable and recyclable in existing waste streams (alongside regular polythene packaging)

Disadvantages:

- Produced using non-renewable fossil fuels
- Takes longer to degrade than compostable (starch-based) packaging
- Not suitable for industrial composting (does not meet EU compostable standard EN13432)
- Not suitable for home composting

Alternatives to reducing Plastics:

- Jute or paper based packaging, wooden packaging.
- National expo and conference on startups organized by Tamil Nadu government showcased several alternatives to plastics such as using coir, bagasse, rice and wheat bran, plant and agricultural residue, banana leaves etc.

Environment & Bio-diversity

Methane Global Tracker Report 2023

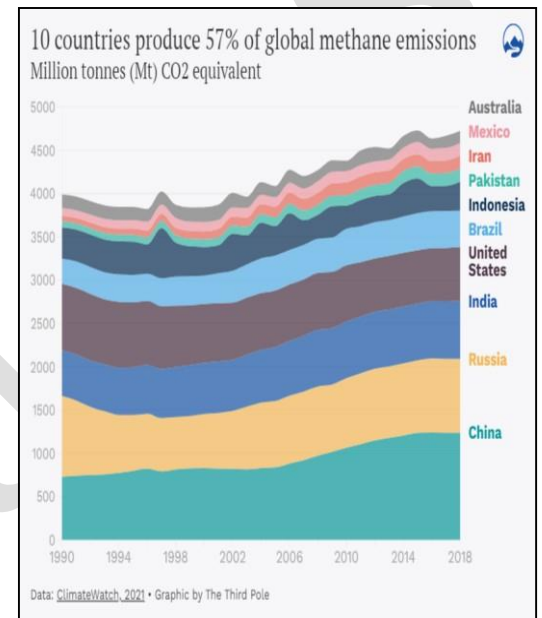
News: The International Energy Agency (IEA) released the annual Methane Global Tracker report in 2023.

Key Findings:

- The energy sector accounts for around 40% of the total average methane emissions from human activity.
- Oil and natural gas companies are known to release methane into the atmosphere when natural gas is flared or vented.
- It is also released through leaks from valves and other equipment during the drilling, extraction and transportation process.
- Fossil fuel companies emitted 120 million metric tonnes of methane into the atmosphere in 2022 and have done nothing to find and fix leaking infrastructure.

Key Recommendations:

- Methane cuts (by 75%) from the energy sector are among the cheapest options to limit near-term global warming (lower global temperature rise by nearly 0.1 degree Celsius by mid-century).
- Reducing wastage by measures such as leak detection, repair and upgrading leaky equipment would cost less than 3% of the net income received by the oil and gas industry in 2022.
- Methane emissions can be reduced with the help of the right policies and implementation and cheap and readily available technology.



Why is it important to cut methane emissions?

- A greenhouse gas (GHG) responsible for 30% of the warming since preindustrial times, second only to carbon dioxide (CO₂).
- Unlike carbon dioxide, which can survive in the atmosphere for centuries, methane lingers for only around 12 years, but its heat-trapping potential is about 80 times higher than that of carbon dioxide over a 20-year timespan. Methane can also further break down into carbon dioxide when it combines with other atmospheric gases such as oxygen.
- IPCC says that the world must cut methane emissions by at least 30% by 2030.

What efforts have been made globally to contain methane emissions?

- Global Methane Pledge
- Methane Alert and Response System (MARS) was launched at the COP27 to the UNFCCC in Sharm El-Sheikh, Egypt.
- UNEP's International Methane Emissions Observatory (IMEO) strategy – To get policy-relevant data into the right hands for emissions mitigation.

You may read the following article to get more insights about Methane emissions in India and issues around it <https://scroll.in/article/1012023/india-is-neglecting-its-methane-problem-despite-being-the-third-largest-emitter-of-the-potent-gas>

The case for Open, verifiable forest cover data

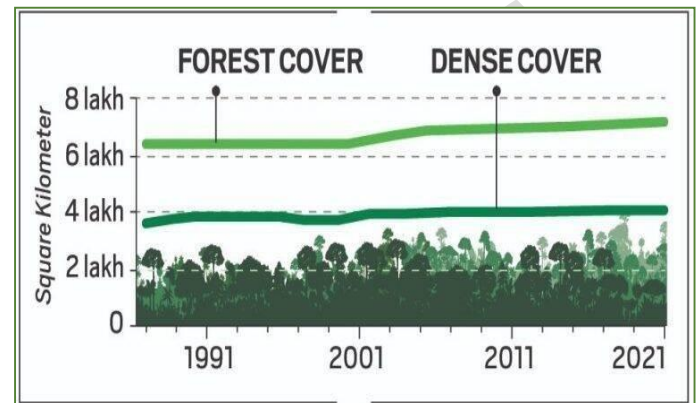
News: This article explains how India mapped its forest cover over four decades and why making the data freely available will improve the quality of this vital policy input.

Background:

- India is one of the few countries to have a scientific system of periodic forest cover assessment that provides “valuable inputs for planning, policy formulation and evidence-based decision-making”.
- Since 19.53% in the early 1980s, India’s forest cover has increased to 21.71% in 2021. Adding to this a notional 2.91% tree cover estimated in 2021, the country’s total green cover now stands at **24.62%**, on paper.
- The forest maps are based on the images purchased from the National Remote Sensing Agency (NRSA), another arm of the government (Dept of Space).

How were these figures calculated?

- All plots of 1 hectare or more, with at least 10% tree canopy density, are counted within forest cover (irrespective of land use/ownership).
- All land areas with tree canopy density of 70% or more are considered very dense forests, 40% and more – dense forests and those between 10-40% – open forests.
- Isolated or small patches of trees (less than 1 hectare) and not counted as forest are assessed for determining tree cover.



What are issues pertaining to Green Cover data in India?

- Green cover data in India disregards the UN benchmark that does not include areas predominantly under agricultural and urban land use in forests.
- Recorded forest area vs green cover - In India, land recorded as forest in revenue records or proclaimed as forest under a forest law is described as a Recorded Forest Area. It is further divided into Reserved, Protected and Unclassed forests, Recorded Forest Areas account for 58% of India.
- Loss of natural forests remains invisible due to inclusion of plantations, orchards, urban housings as dense forests. The SFR 2021, for example, reports 12.37% dense forest by including random green patches.
- The steady replacement of natural forests with plantations is worrisome, as natural forests support a lot more biodiversity and stock a lot more carbon.
- The outcome of the refinement of satellite images was that the forest cover fell within the forest area while it increased outside.
- Lack of manpower limits the FSI’s scope for verifying the quality of remotely sensed data in the field.
- The FSI never made its data freely available for public scrutiny and bars the media from accessing its geo-referenced maps.
- Since the Forest Conservation Act was enacted in 1980, at least 10,000 sq km of forests have been lost to diversion for development projects.
- Recent, Forest (Conservation) rules, 2022 seek to limit the scope of application of the Act, exempt certain activities from requiring permission for clearing forests and allow raising and harvesting private plantations on forest land etc.
- As per some independent Investigations, the bungalows of ministers and senior officers, even the Reserve Bank of India (RBI) building on Sansad Marg, Parts of the campuses of the Indian Institute of Technology (IIT) and All India Institute of Medical Sciences (AIIMS), and residential neighborhoods across Delhi are “forest” in the official forest cover map.

Way Forward

- It is important that maps are made available in public domain for scrutiny. We can take a lessons from Brazil, which makes their forest data available on open web (TerraBrasilis)
- Making the field data freely available to the public can enable them to volunteer to verify the country’s forest data on the ground.

Forest Certification

What is Forest Certification?

- It is a mechanism for forest monitoring, tracing and labelling timber, wood and pulp products and non-timber forest products.
- It is a process through which quality of management from environmental, social and economic perspectives is judged against a series of agreed standards.
- There are two major international standards for sustainable management of forests and forest-based products, one has been developed by **Forest Stewardship Council (FSC)** and the other by **Programme for Endorsement of Forest Certifications (PEFC)**.

What are types of Forest certification?

- There are 2 types of Forest certification. I) **Forest management (FM)** and II) **Chain of Custody (CoC)**.
- CoC certification is meant to guarantee the traceability of a forest product like timber throughout the supply chain from origin to market.

What about Forest Certification in India?

- The forest certification industry has been operating in India for the last 15 years.
- Currently, forests in only Uttar Pradesh are certified.
- Forty-one divisions of the UP-Forest Corporation (UPFC) are PEFC-certified, meaning they are being managed according to standards endorsed by PEFC.
- Some other states too obtained certifications, but subsequently dropped out.
- Many agroforestry projects, such as those run by ITC, and several paper mills too have forest management certification. The forests here are meant for captive use of the industry.
- Forest certification in India is still at an early stage and therefore the nation has not been able to make use of the benefits of forest certification.

What are India specific standards?

- India allows the export of only processed wood, not timber.
- India's forests contribute just about five million cubic metres of wood every year. Almost 85 per cent of the demand for wood and wood products is met by **trees outside forests (ToF)**.
- Since ToF are so important, new certification standards are being developed for their sustainable management. PEFC already has certification for TOF and last year, FSC came up with India-specific standards that included certification for ToF.

Seahorse

News: Recently, a study indicated that extensive fishing off the Coromandel coast could be forcing the great seahorse to migrate towards Odisha.

About:

- The oddly shaped and upright-swimming seahorse seems an unlikely fish. Yet more than 45 species live in coastal waters around the globe.
- Its head may resemble a horse's, but each seahorse has a look all its own.
- Colors vary and can change with the twitch of a muscle to offer camouflage or to signal a foe or potential mate.
- Seahorses are ambush predators: They hold still and wait for krill, copepods, fish larvae, and other tiny edibles to float by and then nab them with remarkable speed.
- Scientific name - **Hippocampus**

Habitat and environment:



- Preferring calm, shallow waters, seahorses thrive in seagrass beds, mangroves, estuaries, and coral reefs in temperate and tropical waters around the world.

How do they reproduce?

- In a reproductive role reversal unique to seahorses and others in the family Syngnathidae (which also includes pipefish and sea dragons), **males experience pregnancy**. During mating a female uses a tube called an “**ovipositor**” to place her eggs into the male’s frontal “**brood pouch**.”

Threats:

- Pollution and coastal development harm seahorses, but the top threat is rampant overfishing. Commercial fishermen scoop up millions of seahorses a year as bycatch.
- There is also targeted fishing of seahorses to supply tourist demand for dried trinkets and an unregulated traditional-medicine market in Asia.

The Problems with CAMPA in India

News: Compensatory afforestation forms a significant component of various reforestation programmes being implemented in India.

Background:

- India has promised to increase its forest and tree cover to absorb an additional **2.5 – 3 billion tonnes of CO2** equivalent by 2030. However, the forestry target is difficult to achieve due to the need for rapid industrial, infrastructure development, and urbanisation.
- In the last 10 years, more than 1,611 square km of forest land (a third of this in the last three years) has been cleared. But government data shows that total forest cover had increased by 1,540 square km in the two years between 2019 and 2021.

What is Compensatory afforestation?


- The compensatory afforestation programme ensures that forest lands getting ‘diverted’ for non-forest purposes is mandatorily accompanied by afforestation on an equal area of land. It was made a **legal requirement** through the **Compensatory Afforestation Fund (CAF) Act 2016**.
- Though the law came in 2016, the concept has existed since the 1980s, as an offshoot of the Forest Conservation Act 1980.

Key Features:

- Newer parcels of land are earmarked for development as forests.
- Project developers (public/private) are required to fund the entire afforestation activity on these new lands.
- Project developers are also asked to pay for the Net Present Value (NPV) of the forests being cleared, as the new lands cannot be compared with the fully grown forests getting diverted.
- According to recent calculations, companies have to pay NPV between INR 9.5 lakh and INR 16 lakh per hectare, depending on the quality of forests getting diverted.
- All this money is meant for increasing/improving the quality of forest cover in the country.

ABOUT CAMPA FUND

- The Campa fund is a national-level corpus fund where the compensation amount collected from user agencies like industries when forestland is diverted for non-forest purposes is deposited
- Fund is to be utilized for compensatory afforestation activities, protection of forests, forest-related infrastructure development, assisted natural regeneration of forests, etc.



What are issues faced?

- Money collected before 2016 had remained largely unutilised. For example, much of the INR 55,000 crore in the state funds remains locked. There are allegations of underutilization and misappropriation of funds.
- Lack of availability of suitable land and unavailability of land in a contiguous stretch remains the biggest concern.
- Land made available for afforestation cannot be used for any other purpose and is unsuitable for growing plantations.
- Often the plantations are monocultures, which is against the core concept of biodiversity.

- Biotic pressures the plantations face due to increased human habitations and cattle.

Way Forward

- Clearing of Forests cannot be stopped as Industrial and livelihood needs of people matter but afforestation programme under CAMPA need to be streamlined in the best way possible.
- While we may understand that a proper Forest ecosystem sacrificed cannot be replicated in entirety but CAMPA does provide an alternative mechanism that will help make up for losses.

Committee to oversee transfer and import of captive wild animals in India

News: The Supreme Court has increased the jurisdiction and powers of a high-powered committee led by its former judge, Justice Deepak Verma, to conduct necessary checks and undertake fact-finding exercises concerning the import, transfer, procurement, rescue and rehabilitation of wild animals, including those in captivity, across India.

Background:

- The ambit of the committee was earlier restricted to Tripura and Gujarat.

What has changed?

- **State Chief Wildlife Wardens** will also be part of the committee, and it will handle all present and future complaints regarding the issue.
- The committee can also consider requests for approval, dispute, or grievance regarding the welfare of wild animals by rescue centres or zoos across India.
- The Supreme court ordered Central and State authorities to report the seizure of wild animals or abandonment of captive wild animals to the committee.

What are major concerns related to Captive Wild Animals in India?

- Many zoos and rescue centres in India are not equipped with the necessary facilities and resources to provide proper care for captive animals.
- There is a thriving illegal trade in wild animals in India, with many animals being captured and sold for their fur, skin, or for use in traditional medicine.
- For example, Pangolins and Indian star tortoises are illegally traded in India for their meat, skin, or as pets.
- In addition to food poisoning, zoo animals also suffer due to human-animal conflict and lack of veterinary care for diseases like tick fever, hepatitis etc.
- Halfhearted efforts in rehabilitation of rescued animals before being released back into the wild.

Way Forward

- Strengthen Wildlife Protection act, 1972
- Safeguarding natural habitats of wild animals is important to ensure their survival.
- Increased cooperation and collaboration amongst government agencies, NGOs, and other stakeholders is crucial for improving the welfare of captive wild animals in India.

World Air Quality Report

News: According to the World Air Quality Report prepared by **IQAir**, Delhi ranked 4th out of 50 of the world's most polluted cities in terms of **PM2.5 levels** in 2022.

Key Findings:

- IQAir, a Swiss air quality technology company, prepares the annual world air quality reports based on data from monitoring stations operated by governments and other institutions and organisations across the world.
- The 2022 report is based on PM2.5 data from 7,323 cities and 131 countries.
- Out of 131 countries, India ranked **eighth** with a population weighted average PM2.5 level of 53.3 µg/m³ in 2022. India is behind Chad, Iraq, Pakistan, Bahrain, Bangladesh, Burkina Faso and Kuwait on this list.
- Delhi had an average PM2.5 level of 92.6 µg/m³ in 2022, a little below the average of 96.4 µg/m³ in 2021.

- The report makes a distinction between New Delhi and Delhi, with New Delhi having an annual average PM2.5 level of 89.1 µg/m³.
- The WHO guideline for annual PM2.5 levels is 5 µg/m³.
- **Lahore** was the most polluted city in the world, followed by **Hotan** in China, and **Bhiwadi** in Rajasthan.
- New Delhi is the second most polluted capital city in the world, with N'Djamena in Chad topping the list.
- A total of 39 Indian cities (including 'Delhi' and 'New Delhi') are on the list of 50 of the world's most polluted cities based on annual average PM2.5 levels in 2022.

Landfill Fires

News: The Kochi landfill site around Brahmapuram that caught fire was a stark reminder that Indian cities need to be prepared for more such incidents as summer approaches.

What are landfills?

- Landfills are sites where waste materials are deposited, compacted, and covered with soil for long-term storage.
- These sites are designed to prevent contamination of the surrounding environment by isolating the waste from groundwater, surface water, and air.

What causes landfill fires?

- The landfill sites in India are not scientifically planned. The efficiency of waste processing is only 30-40%, while India's municipalities are collecting over 95% of the waste generated in cities.
- The wastes are not segregated due to which the landfill sites receive mixed wastes which include organic waste/ignitable material/plastics. Higher temperature + flammable material = a chance for the landfill to catch fire.
- The anaerobic decomposition (breakdown of organic waste in the absence of oxygen) generates methane gas and heat.
- As soon as the methane gas comes in contact with oxygen, the combustible materials at the dumping site catch fire easily.

What are consequences of landfill fires?

- When a landfill fire burns, it releases harmful gases and particles into the air, including carbon monoxide, sulfur dioxide, nitrogen oxides, and volatile organic compounds (VOCs). These pollutants can cause respiratory problems, exacerbate asthma and other lung conditions, and contribute to smog and acid rain.
- Landfill fires can release toxic chemicals and heavy metals into the groundwater, which can contaminate nearby water sources and potentially harm aquatic ecosystems.
- Landfill fires can also release harmful chemicals and heavy metals into the soil, which can harm plant growth and contaminate crops.
- They result in significant cleanup costs for local governments, as well as economic losses for nearby businesses and property owners.

Is there any permanent solution?

- Closing landfills in a scientific manner (SoPs including managing the methane emissions). This solution is unsuitable in the Indian context as the land can't be used again for other purposes.
- Clear the piles of waste through bioremediation, i.e., excavate old waste and use automated sieving machines to segregate the flammable refuse-derived fuel (RDF) from biodegradable material. The recovered RDF (plastics, rags, and clothing) can be used as fuel in cement kilns, and the biosoil can be given to farmers to improve their soil.
- There will be a need to landfill the harmless portion.

What is immediate solution?

- The first immediate action is to divide a site into blocks depending on the nature of the waste.
- At each site, blocks with fresh waste should be separated from blocks with flammable material. Blocks that have been capped using soil are less likely to catch fire, so portions like these should also be separated out,

The different blocks should ideally be separated using a drain or soil bund and a layer of soil should cap each block. This reduces the chance of fires spreading across blocks within the same landfill.

- Next, the most vulnerable part of the landfill, the portion with lots of plastics and cloth, should be capped with soil. The fresh waste block shouldn't be capped but enough moisture should be provided by sprinkling water which will help cool the waste heap.
- Once a site has been divided into blocks, the landfill operator should classify incoming waste on arrival to the site and dispose of it in designated blocks rather than dumping mixed fractions.
- Already segregated non-recyclable and non-biodegradable waste should be sent to cement kilns instead of being allowed to accumulate. Dry grass material and dry trees from the site should also be cleared immediately.

Way Forward

- The Solid Waste Management Rules 2016 state that only non-recyclable, non-biodegradable and non-combustible waste should go to a sanitary landfill.
- The problem needs to be addressed at two levels – at the level of public policy (domain of the government), and of the public itself (reducing waste generation/disposal, segregating waste).

Survey of Vultures

News: There are 246 vultures spread across Tamil Nadu, Karnataka and Kerala, according to the **first-ever synchronised census** on the bird carried out in February 2023.

Key Findings:

- The survey was carried out in the Mudumalai Tiger Reserve (MTR) and the adjoining landscape consisting of Sathyamangalam Tiger Reserve (STR) in Tamil Nadu, Wayanad Wildlife Sanctuary (WWS) in Kerala, Bandipur Tiger Reserve (BTR) and Nagerhole Tiger Reserve (NTR) in Karnataka.
- Volunteers sighted White-rumped vultures (183), Long-billed vultures (30), Red-headed vultures (28), Egyptian vultures (3), Himalayan Griffon (1), and Cinereous vultures (1).
- Vultures are witnessing a catastrophic decline from the 2000s as these species are being **exposed to diclofenac drug** which is mainly used as a **painkiller for cattle** and experts believe that increasing wild carcass availability was one of the major steps needed to help vultures thrive.

What are Vultures?

- It is one of the 22 species of large carrion-eating birds that live predominantly in the tropics and subtropics. They act an important function as nature's garbage collectors and help to keep the environment clean of waste.
- India is home to **9 species of Vulture** namely the Oriental white-backed, Long-billed, Slender-billed, Himalayan, Red-headed, Egyptian, Bearded, Cinereous and the Eurasian Griffon. Most of them face dangers of extinction.
- Bearded, Long-billed, Slender-billed, Oriental white-backed are protected in the Schedule-1 of the Wildlife Protection Act 1972. Rest are protected under 'Schedule IV'.

Please click on following link to know about IUCN status of different Vulture species in India

<https://www.natureinfocus.in/animals/a-complete-guide-to-the-vultures-of-india>

What are the threats it faces and conservations efforts ongoing?

- Poisoning is the most significant threat impacting vultures today. In most cases, vultures ingest poison baits, which are targeted at terrestrial predators such as foxes to protect livestock and game animals.
- When flying or landing on dangerous pylons, vultures often touch wires and die from an electric shock, contributing to declines in populations.
- A form of unintentional poisoning occurs when vultures feed on the remains of livestock treated with certain veterinary products such as the Non-Steroidal Anti Inflammatory Drug (NSAID) diclofenac. This drug has caused about a 95% decline of three Gyps species in India within less than a decade.

Conservation efforts

- Recently, the Ministry for Environment, Forests and Climate Change launched a **Vulture Action Plan 2020-25** for the conservation of vultures in the country. It will ensure minimum use of Diclofenac and prevent the poisoning of the principal food of vultures, the cattle carcasses.
- To study the cause of deaths of vultures in India, a Vulture Care Centre (VCC) was set up at Pinjore, Haryana in 2001. Later in 2004, the VCC was upgraded to being the **first Vulture Conservation and Breeding Centre (VCBC)** in India.

IPCC AR6 Synthesis Report

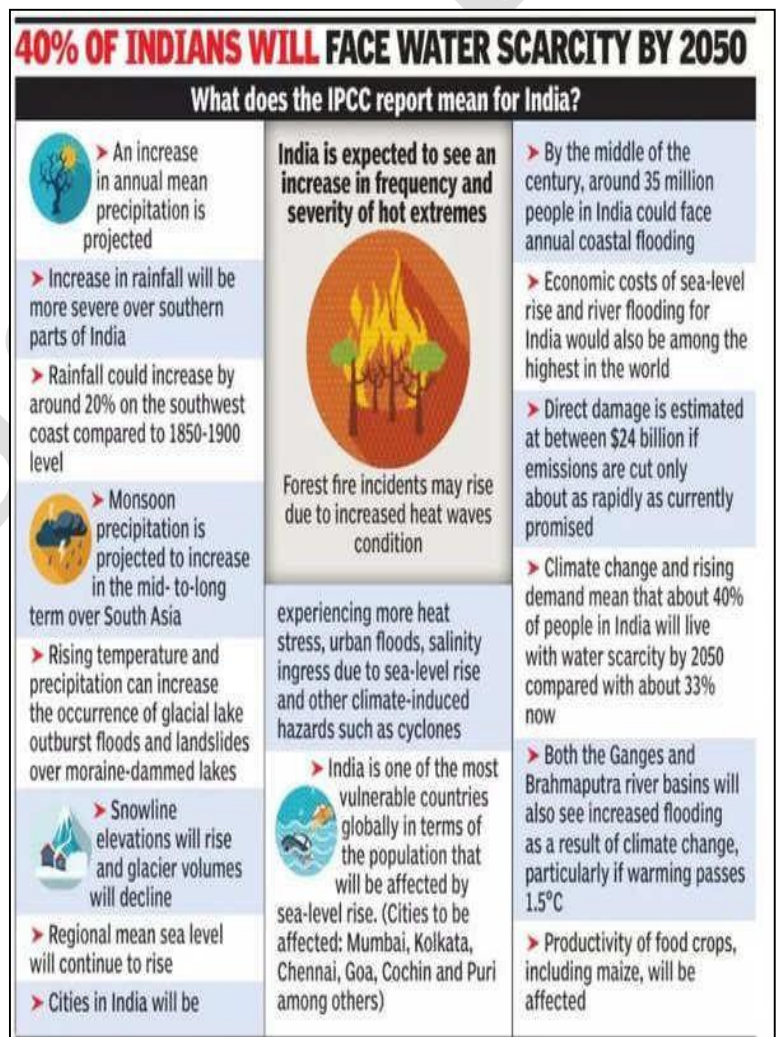
News: According to the 4th and final installment Intergovernmental Panel on Climate Change (IPCC) under the Sixth Assessment Report (AR6), there is increased evidence of maladaptation in various sectors and regions.

About IPCC:

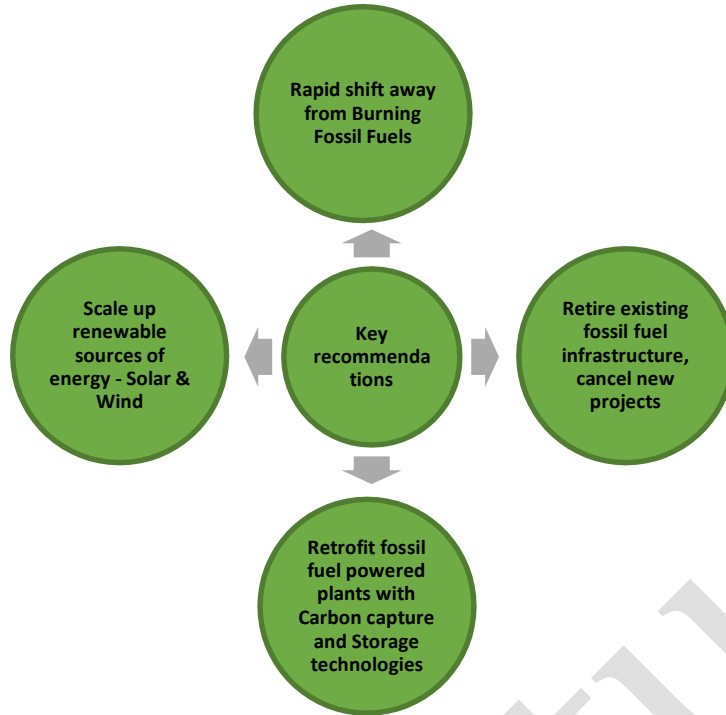
- The IPCC is the UN body for assessing the science related to climate change.
- It was set up in 1988 by the **World Meteorological Organization** and **United Nations Environment Programme** to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

Key Findings:

- **Human-induced global warming** of 1.1 degrees Celsius has spurred changes to the Earth's climate that are unprecedented in recent human history.
- **Climate impacts** on people and ecosystems are **more widespread** and **severe** than expected, and future risks will escalate rapidly with every fraction of a degree of warming.
- **Adaptation measures** can effectively build resilience, but more finance is needed to scale solutions. Climate policies in at least 170 countries now consider adaptation, but in many nations, these efforts have yet to progress from planning to implementation. Measures to build resilience are still largely small-scale, reactive and incremental, with most focusing on immediate impacts or near-term risks.
- It is likely that there is **more than 50% chance** that global temperature rise will reach or surpass 1.5 degrees Celsius between 2021 and 2040 across studied scenarios, and under a high-emissions pathway, specifically, the world may hit this threshold even sooner — between 2018 and 2037.
- India has many such examples of **maladaptation**, resulting in vulnerable communities becoming more helpless to the impacts of climate change rather than being able to adapt to them.
- **Maladaptation** is defined as the **changes in natural or human systems that inadvertently increase vulnerability to climate stimuli**. It is an adaptation measure that does not succeed in reducing vulnerability but **increases it instead**.



- Odisha has one of the most dynamic coasts in the country, with sea levels rising at a rate more than the average for the rest of the country. It is also the most cyclone-prone state in India.



Way Forward

- Certain future changes are unavoidable but could be limited by deep, rapid and sustained global GHG emissions reduction based on the principle of climate justice. Therefore, mainstreaming effective and equitable climate action will not only reduce losses and damages, but will also provide wider benefits.

Human-Wildlife Conflict

News: Union Ministry for Environment, Forest and Climate Change released 14 guidelines to address Human-Wildlife Conflict (HWC).

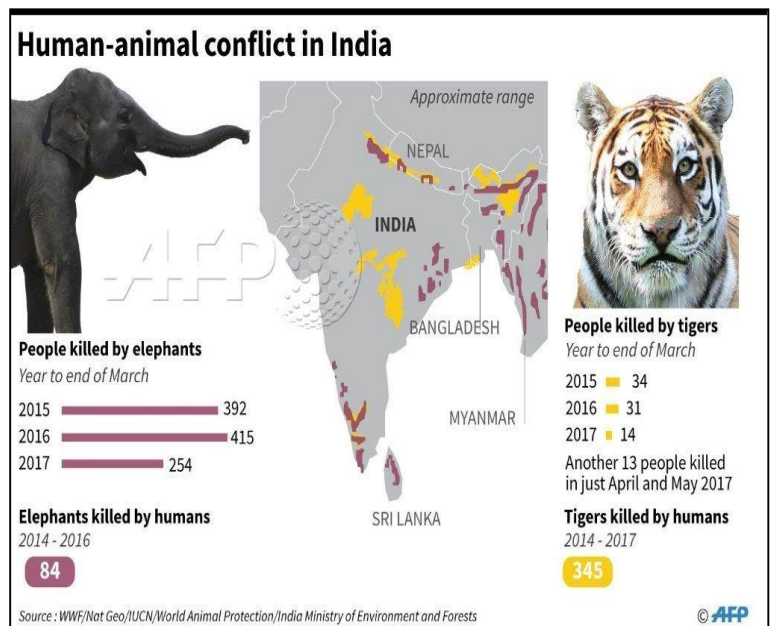
What is HWC?

- HWC refers to struggles arising due to direct, recurring threats to human interests or needs posed by wildlife.

Causes of HWC:

- Habitat Loss and habitat degradation
- Change in cropping patterns
- Growth of animal population
- Movement of animals to human dominated landscapes
- Movement of human beings to forests for illegal collection of forest produce.
- Expansion of road/rail networks to forests
- Increasing human settlement near periphery of protected areas
- Lack of protected area – In India, 35% tiger ranges currently lie outside protected areas.
- Wildlife borne infections

Impacts of HWC:



- HWC can have permanent impacts on ecosystems and biodiversity. People might kill animals in self-defence, or as pre-emptive or retaliatory killings, which can drive species involved in conflict to extinction.
- The most evident and direct negative impacts to people from wildlife are injuries and the loss of lives and of livestock, crops, or other property.
- The economic and psychological costs of living with wildlife disproportionately fall to those who live near that wildlife, while the benefits of a species' survival are distributed to other communities as well.
- 222 elephants killed by electrocution between 2018-19 and 2020-21; 29 tigers killed by poaching between 2019 and 2021; 1,579 humans killed by elephants between 2019-20 and 2021-22

About Guidelines:

- The guidelines are developed under the **Indo-German** cooperation project on HWC Mitigation. The guidelines are advisory in nature. A review of these guidelines is planned to take place every five years from 2023 onwards.
- 10 species-specific Guidelines - Guidelines for Mitigating Human-Elephant, -Gaur, -Leopard, -Snake, -Crocodile, -Rhesus Macaque, -Wild Pig, -Bear, -Blue Bull and -Blackbuck Conflict; and
- 4 guidelines on cross-cutting issues-
- Guidelines for Cooperation between the Forest and Media sector in India - Towards effective communication on Human-Wildlife Conflict Mitigation
- Occupational Health and Safety in the Context of Human-Wildlife Conflict Mitigation
- Crowd Management in Human-Wildlife Conflict-Related Situations
- Addressing Health Emergencies and Potential Health Risks Arising Out of Human—Wildlife Conflict Situations - Taking a One Health Approach.

What initiatives have been taken to prevent HWC in India?

- The **Standing Committee of National Board of Wildlife (SC-NBWL)** has issued advisory for management of HWC in India.
- The committee suggested for empowering gram panchayats, involve local communities in conservation, providing insurance cover against crop damaged due to HWC conflict, augmenting fodder and provide instant relief.

Way Forward

- The need of the hour is to move from conflict to co-existence. For example, Cultural Model of Conservation followed by **Maldhari Tribe** in Junagadh (Gujarat) where success of lion conservation in the Gir forest area is due to the peaceful coexistence of tribes with lions.
- Holistic HWC management approaches allow species to survive in areas where they otherwise would have declined or become extinct.

UN World Water Development Report 2023

News: Recently, 'United Nations World Water Development Report 2023: partnerships and cooperation for water', was released.

Background:

- The WWDR is published by UNESCO on behalf of UN-Water and its production is coordinated by the UNESCO World Water Assessment Programme. It is an annual report released on Launched on World Water Day (22nd March) every year.

Key Findings:

- Globally, **two billion** people **do not have safe drinking water** and 3.6 billion lack access to safely managed sanitation.
- The global urban population facing water scarcity is projected to increase from one-third (2016) to nearly half of the global urban population in 2050, with India projected to be the most severely affected.
- 80% of people living under water stress lived in Asia; in particular, northeast China, as well as India and Pakistan.

Key recommendations:

- Smart management and conservation of the world's water resources should bring together governments, businesses, scientists, civil society and communities – including indigenous communities – to design and deliver concrete solutions.
- Water-energy-food nexus is critical in a transboundary context For example, transboundary water cooperation arrangement established by the Mahakali Treaty (Pancheshwar Multipurpose Project) between India and Nepal, which aims to achieve water and energy security for both parties.
- Partnerships that focus on knowledge co-creation instead of knowledge transfer aim to embrace the diversity of expertise and experience within a knowledge system.
- Water resources management practices should **incorporate traditional elements**: For example, **paar systems** in western Rajasthan, India, and **amunas** in Peru
- Use of technology - Google began a flood forecasting initiative in 2018, with the goal of preventing catastrophic damage.

About Paar systems:

- Paar is a common water harvesting practice in the western Rajasthan region. It is a common place where the rainwater flows from the agar (catchment) and in the process percolates into the sandy soil. In order to access the rajani pani (percolated water) kuis or beris are dug in the agor (storage area). Kuis or beris are normally 5 metres (m) to 12 m deep.
- To read more about other traditional rainwater harvesting systems in India click on the following link <https://www.cseindia.org/traditional-water-harvesting-systems-683>

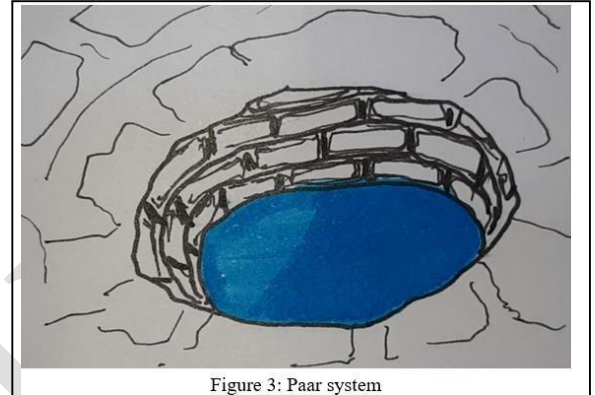


Figure 3: Paar system

India's Jal Jeevan Mission and some case studies:

- Started in 2019, The Jal Jeevan Mission aims to deliver safe and enough drinking water to all rural Indian households by 2024 through individual household tap connections.
- It is the Ministry of Jal Shakti's main programme
- It focusses on Community-based approach to water, with comprehensive information, education, and communication as a fundamental component of the goal.
- Over successful implementation of water conservation under JJM, the role of **Village water and sanitation committees (VWSC)** has been important.



Water Scarcity in Junagadh, Gujarat

- Main issue - Dependence on streams and open wells; semi-arid climate.
- Solution - Combining surface water and groundwater sources for the conjunctive system; constructing borewells near water channels to recharge groundwater; block-level water treatment plant supplying treated water.
- Implementing agencies – Water and sanitation management organisation (WASMO) and Gujarat Water and sewage supply board (GWSSB) since 2002 while VWSCs overseeing operation and maintenance of supply system; district-level laboratory monitoring water quality.

Groundwater depletion in Dharwad, Karnataka

- Main issue - **Water scarcity** due to overexploitation, population pressure, and discharge of effluents and agricultural chemicals; erratic rainfall and absence of perennial surface-water source.
- Solution - Reviving natural ponds for rainwater harvesting and subsurface recharge; formation of VWSCs.
- Implementation - Revival of natural ponds identified in villages for JJM implementation in 2020; VWSCs looking after distribution network; periodic monitoring of supplied water quality in district laboratory.

Aravalli Green Wall Project

News: Recently, The Union Minister for Environment, Forest and Climate Change launched the Aravalli Green Wall Project.

About:

- The Aravalli Green Wall Project is part of the Union Environment Ministry's vision to create **green corridors** across the country to **combat land degradation and desertification**.
- The project covers the states of **Haryana, Rajasthan, Gujarat and Delhi** – where the Aravalli hills landscape span over 6 million hectares of land.
- The project seeks to **improve ecological health** of the Aravalli range and to **prevent the eastward expansion of the Thar Desert** and to **reduce land degradation** by creating green barriers that will prevent soil erosion, desertification and dust storms.



- Forest belt likely to run roughly **from Porbandar to Panipat**, covering entire Aravalli range and beyond
- 'Green wall' will act as barrier for dust from west and check eastward march of Thar desert
- It will check desertification by **restoring degraded land through massive afforestation**
- Project yet to get formal nod, details to be worked out

Key Features:

- The project will involve **planting native species** of trees and shrubs on scrubland, wasteland and degraded forest land, along with **rejuvenating and restoring surface water bodies** such as ponds, lakes and streams.
- The project will also focus on **agroforestry and pasture development** to enhance the livelihoods of local communities.

Importance of Project:

- The project will help in **promoting sustainable development and livelihood opportunities** by involving local communities in afforestation, agro-forestry and water conservation activities that will generate income, employment, food security and social benefits.
- Contributing to India's commitments under various international conventions such as UNCCD (United Nations Convention to Combat Desertification), CBD (Convention on Biological Diversity) and UNFCCC (United Nations Framework Convention on Climate Change).

State of India's Environment Report 2023

News: Centre for Science and Environment (CSE) and Down to Earth (DTE) magazine has released State of India's Environment report 2023.

Background:

- The report is an **annual publication** focusing on climate change, migration, health and food systems. It also covers biodiversity, forest and wildlife, energy, industry, habitat, pollution, waste, agriculture and rural development.

Key Findings:

Air Pollution

- **4 years and 11 months** is the average duration of **life lost** to air pollution in India.
- Rural India is losing more years due to air pollution-related health issues than the urban belt.

Encroachment of water bodies

- Over 30,000 water bodies have been encroached on in the country and India is generating 150,000 tonnes of Municipal Solid Waste (MSW) every day — more than half of which is either dumped in landfills or remains unattended.

Extreme weather events

- Between January and October 2022, India witnessed extreme weather events for 271 days. These extreme weather events claimed over 2,900 lives.

Forest Cover

- The report analyzed the India State of Forest Report, released by the Forest Survey of India in 2022 and found that forest cover had increased by 0.5% between 2017 and 2021. But the bulk of the increase has taken place in the open forest category, which includes commercial plantations. This has happened at the cost of moderately dense forest, which is normally the area closest to human habitations.
- Very dense forests, which absorb maximum carbon dioxide from the atmosphere, occupy just 3% of total forest cover.

Sustainable Development Goals

- Over the past five years, India's overall global rank in meeting the United Nations-mandated SDGs has slipped by nine places (121st rank in 2022)
- India ranks below four south Asian countries — Bangladesh, Bhutan, Sri Lanka and Nepal.
- India is facing challenges in 11 of the 17 SDGs, including SDG 2 (zero hunger), SDG 3 (good health and wellbeing), SDG 5 (gender equality) and SDG 11 (Sustainable cities).

Plastic Waste

- While the magnitude of the problem related to Plastic Waste remains gargantuan, a plethora of policies and urgency are on the right path.
- Cities are becoming waste-wise, learning to segregate at source, minimise plastics and reuse reprocess waste into wealth.

Environmental Crimes

- Environmental crimes continue unabated — courts need to decide on 245 cases every day to clear the backlog.

Security & Disaster Management

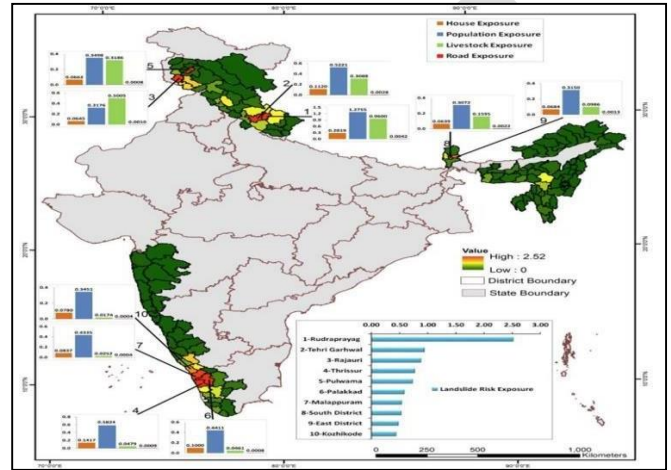
Landslide Atlas of India

News: Recently, **National Remote Sensing Centre (NRSC)** under the Indian Space Research Organisation (ISRO) has released the Landslide Atlas of India, a detailed guide identifying Landslide Hotspots in the country.

- NRSC has the mandate for remote sensing satellite data acquisition, processing, archiving, and dissemination to various users.

How was the Atlas prepared?

- For the first time, scientists did a **risk assessment** on the basis of 80,000 landslides recorded between 1998 and 2022 in 147 districts in 17 states and two Union Territories to build a "Landslide Atlas" of the country.
- The atlas used satellite data of ISRO to map all seasonal and event-based landslides like the Kedarnath disaster in 2013 and landslides triggered due to the Sikkim earthquake in 2011.
- The Pan-India landslide database classifies landslides into – seasonal (2014, 2017 monsoon seasons), event-based and route-based (2000 – 2017).



Key Findings:

- Uttarakhand, Kerala, Jammu and Kashmir, Mizoram, Tripura, Nagaland and Arunachal Pradesh reported the highest number of landslides during 1998 – 2022.
- **Mizoram** topped the list, recording 12,385 landslide events in the past 25 years, of which 8,926 were recorded in 2017 alone. Mizoram is followed by Uttarakhand (11,219) and Kerala.
- The number of districts with the maximum landslide exposure are in Arunachal Pradesh (16), Kerala (14), Uttarakhand and Jammu and Kashmir (13 each), Himachal Pradesh, Assam and Maharashtra (11 each), Mizoram (8) and Nagaland (7).
- **Rudraprayag** and **Tehri Garhwal** districts of Uttarakhand have the **highest landslide density and landslide risk exposure** in the country.

How vulnerable is India to Landslides?

- India is considered among the **top five** landslide-prone countries globally, where at least one death per 100 sq km is reported in a year due to a landslide event.
- **Rainfall variability pattern** is the **single biggest cause** for landslides in the country, with the Himalayas and the Western Ghats remaining highly vulnerable.
- Excluding snow covered areas, approximately **12.6 %** of the country's geographical land area is prone to landslides. As many as 66.5 % of the landslides are reported from the North-western Himalayas, about 18.8 % from the North-eastern Himalayas, and about 14.7 % from the Western Ghats.
- In the Western Ghats, despite fewer events, landslides were found to be making inhabitants significantly vulnerable to fatalities, especially in Kerala.

Trends in International Arms Transfers 2022 Report

News: According to Stockholm International Peace Research Institute's (SIPRI) Trends in International Arms Transfers 2022 report, India remained the **world's largest arms importer from 2018 to 2022** followed by Saudi Arabia and Ukraine.

About SIPRI:

- It is an **independent international institute** dedicated to research into conflict, armaments, arms control and disarmament.

- It was established in 1966 in Stockholm (Sweden).
- It provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.

Key Findings:

- While the global level of international arms transfers decreased by 5.1%, imports of major arms by European states increased by 47% between 2013–17 and 2018–22 in the backdrop of the war in Ukraine.
- The U.S. share of global arms exports increased from 33% to 40% while Russia's fell from 22% to 16%.
- Arms imports by Pakistan increased by 14% between 2013–17 and 2018–22 and accounted for 3.7% of the global total with China supplying 77% of Pakistan's arms imports in 2018–22.
- With an **11% share of total global arms imports**, India was the world's biggest importer of major arms in 2018–22, a position it has held for the period 1993–2022.
- India remained the top importer despite an 11% drop in its arms import between 2013-17 and 2018-22.

Who supplies arms to India?

- **Russia** was India's largest arms supplier in the periods between 2013-17 and 2018-22, but its share of arms imports to India fell from 64% to 45% while **France** emerged as the second-largest arms supplier to India between 2018-22 at 29%, followed by the **US** at 11%.
- India also imported arms during this five-year period from Israel, South Korea, and South Africa which are among the top arms exporters globally.
- India's tensions with Pakistan and China largely drive its demand for arms imports.
- India was the third-largest arms supplier to Myanmar during this period after Russia and China and comprised 14% of its imports.
- 77% of Pakistan's arms supply in 2018-22 came from China.

Suspension of Operations (SoO) Agreement and Manipur Govt

News: The state government of Manipur decided to withdraw from the Suspension of Operations (SoO) agreement with two hill-based tribal militant groups.

Background:

- Two hill-based tribal militant groups – Kuki National Army (KNA) and Zomi Revolutionary Army (ZRA) were allegedly influencing agitation among forest encroachers.

What is the SoO agreement?

- There are nearly 30 Kuki insurgent groups in Manipur, of which 25 are under tripartite Suspension of Operations (SoO) with the Government of India and the state.
- The SoO pact was signed on August 22, 2008, with the primary objective of **initiating political dialogue**.
- The important terms under the pact are that security forces, including state and central forces, are not to launch any operations, nor can the underground groups.
- The signatories (like UPF, and KNO) shall abide by the Constitution of India, the laws of the land and the territorial integrity of Manipur.
- They are prohibited from committing all kinds of atrocities, extortion, etc.

What is the impact of SoO agreement?

- The Kuki outfits who were initially demanding a separate Kuki state have come down to a 'Kukiland territorial council', which would have financial and administrative powers independent of the Manipur Assembly and government.
- As a rehabilitation package, the UG cadres living in the designated camps are given a monthly stipend of Rs 5000. Financial assistance is also being provided to maintain the designated camps.

Who are the Kuki people?

- They are an ethnic group native to the Mizo Hills (formerly Lushai) – a mountainous region in the southeastern part of Mizoram and Manipur in India.
- In Northeast India, they are present in all states except Arunachal Pradesh and some 50 tribes of Kuki peoples are recognised as STs.

- The Chin people of Myanmar and the Mizo people of Mizoram are related to the Kukis and are collectively termed the Zo

What are causes of Kuki insurgency?

- The Kuki insurgency gained momentum after ethnic clashes with the Nagas of Manipur in the early 1990s.
- While the two tribes have shared a hostile relationship since colonial times, clashes took place in the 1990s when claims of “kuki homeland” in the Manipur hills overlapped with the imagined Naga homeland of Greater Nagaland/Nagalim.
- While the Naga movement is the country’s longest-running insurgency, underground Kuki groups too have fought the Indian government for an ‘independent Kuki homeland’ since then.

What are consequences of revocation of agreement?

- It raises question about government’s intent to resolve issue and there are chances that the outfit could once again start insurgency activities threatening the internal security of a very important strategic location.

Inter-Services Organizations Bill, 2023

News: Recently, the Inter-Services Organisations (Command, Control and Discipline) Bill, 2023, was introduced in Lok Sabha to empower designated military commanders to take charge of soldiers and enforce discipline, regardless of the service they belong to.

Background:

- The bill came ahead of the impending move to establish integrated or joint commands, where all the manpower and assets will be under the operational control of a single three-star general of the Indian Army, Navy and IAF (Indian Air Force).

Key Provisions:

- The system is likely to include five joint services commands - western, eastern, northern, maritime, and air defense.
- The central government may constitute an **Inter-services Organisation**, which may include a Joint Services Command.
- It will **empower** the **Commander-in-Chief/the Officer-in Command of Inter-Services Organisations** to maintain discipline and ensure proper discharge of duties of all the personnel from the army, navy and IAF serving under his command.
- The Commander-in-Chief or the Officer-in-Command of an Inter-services Organisation shall be the head of such Inter-services Organisation.
- The bill will pave way for various **tangible benefits** such as **expeditious disposal of cases, saving time** and **public money** by avoiding multiple proceedings and greater integration and joint Manship amongst Armed Forces personnel.

What is current setup?

- At present, soldiers from their respective services are governed by different Acts of Parliament which are Navy Act of 1957, the Air Force Act of 1950, and the Army Act of 1950.
- In a current joint services setup, an army soldier commanded by a navy officer would have to be sent back to his parent unit for any disciplinary proceedings. The navy officer does not have administrative powers over the said soldier.
- There is **one joint command** in **Andaman and Nicobar Islands** which is **the first Tri-Service** theatre command of the Indian Armed Forces, based at Port Blair in Andaman and Nicobar Islands of India.
- The other tri-service command, the **Strategic Forces Command (SFC)**, looks after the delivery and operational control of the **country’s nuclear assets**.

Global Terrorism Index

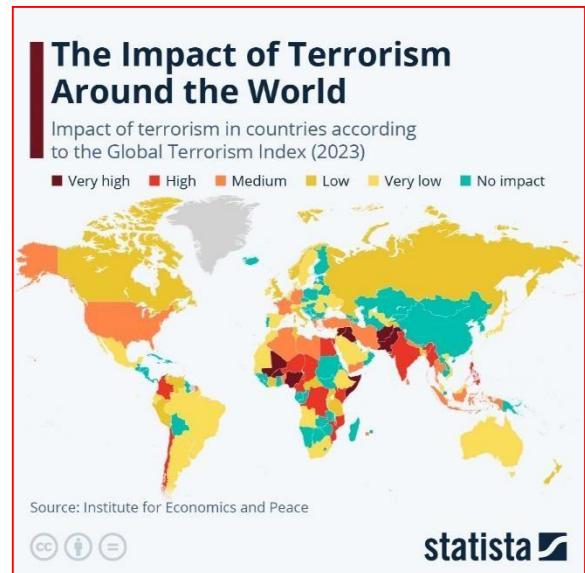
News: India ranks **13th** on The Global Terrorism Index (GTI). The report shows that Afghanistan continues to be the country most affected by terrorism for the 4th year in a row, even though attacks and deaths decreased.

Background:

- The GTI report is produced by the **Institute for Economics & Peace** (IEP), a think tank, using data from Terrorism Tracker and other sources.

Key Findings:

- Globally, deaths from terrorism fell by 9% to 6,701 deaths, marking a 38% decrease from its peak in 2015.
- Pakistan recorded the second largest surge in terror-related deaths worldwide in 2022, the toll increasing significantly to 643.
- South Asia remains the region with the worst average GTI score. South Asia recorded 1,354 deaths from terrorism in 2022.
- Islamic State (IS) and its affiliates were the deadliest terror group globally for the eighth consecutive year, recording the most attacks and deaths of any group in 2022.



Challenges:

- The members of the United Nations Security Council (P5) have exercised the veto power to varying degrees when it comes to identifying terrorists.
- Absence of universally accepted definitions for what constitutes terrorism provides terrorists with an edge and allows some countries to remain silent and veto any action at global institutions.
- According to the International Monetary Fund (IMF) and World Bank, criminals are estimated to launder up to four trillion dollars a year. Fund movements by terrorists have also been concealed through charities and alternative remittance methods.
- Innovations in computing and telecommunications like widespread internet access, end-to-end encryption, and virtual private network (VPN) have made new types of operations possible for a higher number of radicalized individuals across the globe, contributing to the threat.

Way Forward

- A universal definition of terrorism is needed so that all members of the United Nations General Assembly (UNGA) can incorporate it into their own criminal laws and take time bound and strict actions.
- In 1986, India proposed a draft document on the **Comprehensive Convention on International Terrorism** (CCIT) at the UN. However, it is yet to be adopted by the UNGA.

General Studies – 4

Ethics, Integrity & Aptitude

1. Ethics and Human Interface: Essence, determinants and consequences of Ethics in-human actions; dimensions of ethics; ethics - in private and public relationships. Human Values - lessons from the lives and teachings of great leaders, reformers and administrators; role of family society and educational institutions in inculcating values.
2. Attitude: content, structure, function; its influence and relation with thought and behaviour; moral and political attitudes; social influence and persuasion.
3. Aptitude and foundational values for Civil Service, integrity, impartiality and non-partisanship, objectivity, dedication to public service, empathy, tolerance and compassion towards the weaker-sections.
4. Emotional intelligence-concepts, and their utilities and application in administration and governance.
5. Contributions of moral thinkers and philosophers from India and world.
6. Public/Civil service values and Ethics in Public administration: Status and problems; ethical concerns and dilemmas in government and private institutions; laws, rules, regulations and conscience as sources of ethical guidance; accountability and ethical governance; strengthening of ethical and moral values in governance; ethical issues in international relations and funding; corporate governance.
7. Probity in Governance: Concept of public service; Philosophical basis of governance and probity; Information sharing and transparency in government, Right to Information, Codes of Ethics, Codes of Conduct, Citizen's Charters, Work culture, Quality of service delivery, Utilization of public funds, challenges of corruption.
8. Case Studies on above issues

Compassion Fatigue

Background:

- It's easy to turn away from another news article or social media post about war and violence. After all, we're constantly bombarded with images of traumatic events when we're online.
- We have been used to watching news about Ukraine war. The first time we might have seen a missile strike a city/building it would have disturbed us but the 2nd time our reaction would have been less extreme.

What is Compassion fatigue?

- Compassion fatigue is a state of emotional exhaustion and burnout that can result from continuously caring for and empathizing with others who are experiencing pain or suffering. It causes us to lose our capacity to react and help those in need.

What leads to Compassion fatigue?

- Experiments have been conducted illustrating how violence in digital media formats like video games and films can desensitize people's responses to suffering or violence in real life.
- The consequence of seeing violent images is that you become numb to it and you think violence is no big deal. The real-world consequences are that you're less likely to help someone who's a victim of violence

- Framing negative images and messages of refugees in the media opens the door for audiences to lose empathy for them or even have hatred for refugees.
- The psychological mechanism behind compassion fatigue is desensitization. Desensitization to violence and trauma can be an important adaptive strategy for people whose work involves frequent exposure to traumatic events, like soldiers, aid workers, and doctors.

How to reverse compassion fatigue?

- Use social media to create empathy and compassion among people, taking care of ourselves is essential to avoid burnout, practice mindfulness: Mindfulness meditation
- Seek supporting from professionals and taking time off can also help.

Attempt the Following questions

1. Ethics examines the criteria for judging human actions as right or wrong. What are various sources of ethical guidance for Civil servants?
2. What do you understand by Probity in Governance? Suggest measures for ensuring Probity.
3. One should be intent in action, not on the fruits of Action. Elaborate.
4. Objectivity helps an individual maintain a realistic perspective and keep personal biases to a minimum. Discuss.
5. What are the reasons that “force” the people with ethics to do unethical things? How can they be overcome?

Short News for Prelims

1300-year-old Buddhist Stupa discovered

News: Recently, the Archaeological Survey of India (ASI) discovered a 1,300-year-old stupa right in the middle of a mining site in Odisha's Jajpur district at a Khondalite mining site.

Key Findings:

- The stupa could be 4.5-metre tall and initial assessment showed it may belong to the 7th or 8th century.
- It was found at Parabhadi which is situated near Lalitagiri, a major Buddhist complex, having a large number of stupas and monasteries.
- **Lalitgiri Buddhist site** is believed to be the most sacred among the three sites (Lalitagiri, Ratnagiri and Udayagiri) as it unearthed a massive stupa where a relic of Buddha was discovered inside a stone casket.

What are Khondalite stones?

- Khondalite is a type of **metamorphic rock** that is found in the Eastern Ghats region of India, particularly in the state of Odisha. It is named after the Khondalite Group of rocks, which is believed to have formed around 1.6 billion years ago during the Proterozoic era.
- Khondalite is primarily composed of **feldspar, quartz, and mica**, and has a distinct **pinkish-grey coloration**. It is commonly used as a decorative stone in construction and is particularly prized for its durability and resistance to weathering.

INS Sindhukesari

News: An Indian submarine has, for the first time ever, docked in Indonesia, which is among the countries locked in a maritime dispute with China in the contentious South China Sea.

About:

- The 3,000-tonne diesel-electric submarine, INS Sindhukesari, reached Jakarta for the 'maiden operational turnaround' after transiting through the Sunda Strait.
- INS Sindhukesari is part of the Russian-made Sindhughosh-class submarines.
- The Kilo class submarines have a displacement of 2,300 tonnes, a maximum diving depth of 300 metres, top speed of 18 knots, and are able to operate solo for 45 days with a crew of 53.
- The Indian Navy has 16 conventional submarines in service, 7 Russian Kilo-class, 4 German-origin HDW submarines and 5 French Scorpené class submarines.

Indian States Energy Transition

News: Institute for Energy Economics and Financial Analysis(IEEFA) along with EMBER has released a report — 'Indian States Energy Transition'.

Background:

- The report has analyzed a total of 16 Indian states which account for 90% of the country's annual power consumption.
- It has measured performance of the states across four dimensions: 1) decarbonisation 2) performance of the power system 3) readiness of the power ecosystem and 4) policies and political commitments.
- These dimensions help in tracking how much a state is prepared to shift away from fossil-fuel based power plants, its capability to incentivise the green market and its government policy to push for power sector decarbonisation.

Key Findings:

- Karnataka is the only state among the 16 analysed that scored well across all four dimensions of clean electricity transition identified in this study. It also has conducive

policies and political commitments for a smoother transition, the study noted.

- Rajasthan is second only to Karnataka, with renewables supplying 29% of the state's power mix.
- Gujarat was a little behind Karnataka in terms of decarbonising its electricity sector. Haryana and Punjab have shown promising preparations and implementations for electricity transition, the report stated.
- Maharashtra, with the highest power demand in India, was found to be mid-table, mainly due to slow renewable energy uptake in the state and the inability to shut down older polluting coal power plants.

Adenovirus

News: West Bengal is in the grip of an unprecedented adenovirus outbreak.

About:

- Adenoviruses (members of the family Adenoviridae) are medium-sized, non-enveloped (without an outer lipid bilayer) viruses with an icosahedral nucleocapsid containing a double-stranded DNA genome. Their name derives from their initial isolation from human adenoids in 1953.
- Adenovirus is highly contagious. Infections are common in close-contact settings, such as childcare centres, schools, hospitals, and summer camps.

Symptoms:

- Common cold, cough, sore throat, pneumonia, conjunctivitis, acute bronchitis, acute gastroenteritis.
- There is no specific treatment for an adenovirus infection — the route is largely one of providing supportive care.

Anti-Defection Law

News: According to the Chief Justice of India – allowing an MP or an MLA who is facing disqualification under the anti-defection law to participate in a floor test caused by his own doings will defeat the very purpose of the Tenth Schedule.

About:

- The law was introduced through the **52nd Amendment Act of 1985** – inserted in the **Tenth Schedule** of the Indian Constitution.

- It lays down the process of disqualification on grounds of defection.
- The presiding officer has the authority to disqualify a member on proven grounds of defection.
- Main aim behind introducing the law was to prevent the legislators from changing their political affiliations during their tenure in office.

Sant Sevalal Maharaj



News: Recently, The Central government kick-started the year-long commemoration of the 284th birth anniversary of Sant Sevalal Maharaj, a spiritual and religious leader of the Banjaras community.

About:

- Sant Sevalal Maharaj was born on February 15, 1739, at Surgondankoppa in Karnataka's Shivamogga district.
- It's believed that while he was young, he miraculously prepared sheera (a sweet) out of the mud and wheat puri to offer to Goddess Jagadamba — making him a divine personality in the eyes of his followers.
- Sant Sevalal dedicated his life to serving tribal forest dwellers and nomadic tribes. He worked tirelessly to dispel and eradicate myths and superstitions prevalent in the tribal communities, including the Banjaras, and brought about reforms in their way of life. Sant Sevalal Maharaj is believed to have mastery in Ayurveda and Naturopathy.

World Wildlife Day

News: World Wildlife Day is celebrated every year on **March 3** to raise awareness about the importance of protecting the world's flora and fauna.

About:

- It is a United Nations International day to celebrate all the world's wild animals and

plants and the contribution that they make to our lives and the health of the planet.

- The date was chosen as it is the founding day of CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, signed in 1973.
- The theme of World Wildlife Day 2023 is 'Partnerships for Wildlife Conservation'.

Exercise Shinyuu Maitri

News: The Indian Air Force (IAF) is participating in Exercise Shinyuu Maitri with the Japan Air Self Defence Force (JASDF).

About:

- It is a bilateral military exercise between Indian Air Force (IAF) and Japan Air Self Defence Force (JASDF).
- The exercise is being organized on the sidelines of the Indo-Japan Joint Army Exercise, Dharma Guardian.
- The IAF contingent is participating in the exercise with one C-17 Globemaster III
- The first phase of the exercise consists of discussions on transport operations and tactical manoeuvring, followed by the second phase of flying drills by IAF's C-17 and JASDF C-2 transport aircraft.
- The exercise will enhance mutual understanding and interoperability between the two air forces.

SWAYATT initiative

News: Recently, a function was held to commemorate the success of "SWAYATT" initiative.

About:

- It is an initiative to promote Start-ups, Women and Youth Advantage Through eTransactions on Government eMarketplace (GeM).
- Aim - To promote the inclusion of various categories of sellers and service providers on the portal by taking proactive steps to facilitate their training and registration, develop women's entrepreneurship, and encourage the participation of the MSME sector and startups in public procurement.
- GeM is an Online Market platform that was set up in 2016 to facilitate the procurement of goods and services by government ministries,

departments, public sector undertakings (PSU) etc.

FRINJEX 23

News: The India-France joint exercise FRINJEX-23 is scheduled to be held at the Pangod military center in Thiruvananthapuram, Kerala.

About:

- It is the first joint military exercise between the Indian Army and French Army.
- This is the first time the two countries have engaged in a military exercise in a team format consisting of a company group.
- It aims to enhance interoperability, coordination, and cooperation between both forces at the tactical level.
- Theme based on "Humanitarian Assistance and Disaster Relief Operations in a Contested Environment".

Other military exercises with France – Exercise Shakti (Army), Garuda (Air Force) and Varuna (Navy)

Uperodon Montanus



News: Recently a group of zoologists rediscovered *Uperodon montanus*, a frog, which is endemic to the higher altitudes of the Western Ghats.

About:

- Also called as **Jerdon's narrow-mouthed frog** or **Malabar Hill frog**.
- It is endemic to the Western Ghats of India.
- The typical habitat in which this frog is found in tree holes in the rainy season is in the moist deciduous forest to evergreen forest.
- It is a montane species and is restricted to higher altitude ranges of 800-1,700 metres.

- IUCN – Near Threatened

News Broadcasting and Digital Standards Authority

News: NBDSA has asked News18 India, TimesNow and Zee News to remove videos of certain programmes after it found them to be in violation of the Code of Ethics and Broadcasting Standards and Specific Guidelines.

About:

- NBDSA is an independent body set up by News Broadcasters & Digital Association (NBDA).
- News Broadcasters & Digital Association (formed in 2007) formerly known as the News Broadcasters Association is a private association of different current affairs and news television broadcasters in India, which serves as their representative.
- It protects all its members from persons carrying unfair and/or unethical practices.

Raisina Security Dialogue

News: India recently held the **second edition** of the Raisina Security Dialogue.

About:

- It is a conference of intelligence and security chiefs and top officials from around the world and is modeled on the lines of the Munich Security Conference and Singapore's Shangri-La Dialogue.
- It is organized by the **Research and Analysis Wing (R&AW)** and the **National Security Council Secretariat (NSCS)**.
- It was held for the first time in April 2022.

Raisina Security Dialogue 2023:

- This is the second edition of the dialogue.
- It saw participation from over 26 countries, including intelligence chiefs from the U.K, Japan, France, and Bahrain.
- The focus of the discussions was largely on global security, which encompassed counterterrorism, radicalization, drug trafficking, and illegal arms smuggling, among others.

Cutlass Express 2023

News: INS Trikand is participating in the International Maritime Exercise/ Cutlass Express 2023 (IMX/CE-23) being held in the Gulf region.

About:

- It is one of the largest multinational maritime exercises in the world.
- The newest iteration of Cutlass Express will primarily be carried out in Djibouti, Kenya and Mauritius.
- It aims to bolster regional security and stability in the Western Indian Ocean.
- Participating nations will include the US, Canada, Djibouti, Madagascar, Mozambique, Mauritius, the UK, Japan, Tanzania, Seychelles, France, Kenya, Georgia, Comoros and Greece.

SWAMIH Fund

News: Since its inception in 2019, the SWAMIH Fund has completed over 20,557 homes.

About:

- The **Special Window for Affordable and Mid-Income Housing (SWAMIH)** Investment Fund I is India's largest **social impact fund** specifically formed for completing stressed and stalled residential projects.
- The Fund is sponsored by the **Ministry of Finance**, Government of India, and is managed by **SBICAP Ventures Ltd.**, a State Bank Group company.

About AIF:

- Alternative Investment Fund or AIF means any fund established or incorporated in India which is a **privately pooled investment vehicle** which collects funds from sophisticated investors, **whether Indian or foreign**, for investing it in accordance with a defined investment policy for the benefit of its investors.

RTIS project

News: The Indian Railways is collaborating with Indian Space Research Organization (ISRO) under the Real Time Train Information System (RTIS) project.

About:

- RTIS devices that use satellite imagery are being installed on the trains to automatically acquire its "movement timing at the stations,

including that of arrival and departure or run-through”.

- These timings get automatically plotted on the control chart of those trains in the Control Office Application (COA) system.
- The project is executed by the Centre for Railway Information Systems (CRIS).
- RTIS is developed in collaboration with ISRO. ISRO has launched GSAT satellites that have GAGAN payloads for tracking the movement of trains.

Application:

- RTIS gives mid-section updates with a periodicity of 30 seconds.
- The Train Control can now track the location and speed of RTIS-enabled locomotives/train more closely, without any manual intervention.
- It allows passengers to get the real-time location or train running status of a train on their smartphone.

Swachh Sujal Shakti Samman 2023

News: Recently, the President of India presented the Swachh Sujal Shakti Samman 2023 and graced the launch of Jal Shakti Abhiyan: Catch The Rain -2023 in New Delhi.

About:

- Swachh Sujal Shakti Samman' is to highlight and acknowledge the **leadership** and **contribution of women** at the **grass-root level** in the journey towards making a 'Swachh Sujal Bharat'.
- The women achievers who have contributed exceptionally to ODF Plus Model Villages, Har Ghar Jal Villages, Water Conservation, etc. under the National Flagship Missions were felicitated.
- This year's event was organized by the Union Ministry of Jal Shakti to honour the women champions of the rural water and sanitation sector.

What is Catch the rain?

- It is a Jan Andolan campaign to encourage all stakeholders to create rainwater harvesting structures (RWHS).
- Tag line - **Catch the rain, where it falls, when it falls.**
- The campaign is implemented by the National Water Mission (NWM), Ministry of Jal Shakti

and it takes place across the country, in both rural and urban areas.

Erythritol

News: According to recent research, Erythritol, a popular artificial sweetener, is associated with an increased risk of heart attack and stroke.

About:

- It is a type of sugar alcohol commonly used as a sugar substitute in foods and beverages. Unlike traditional sugars, it has no calories and does not raise blood sugar levels.
- It is also believed to have a lower GI than other sweeteners, meaning it may not impact insulin levels as strongly.
- Sugar-free products containing Erythritol are often recommended for people who have obesity, diabetes or metabolic syndrome and are looking for options to help manage their sugar or calorie intake.
- Erythritol activates platelets, the blood cells which cause clots when they clump together. Such aggregation of platelets blocks blood flow in blood vessels in different parts of the body. When that happens in blood vessels supplying blood to the heart or brain, fatal or non-fatal cardiovascular events occur.

HUID

News: Bureau of India Standards (BIS) has prohibited the sale of hallmarked gold jewellery or gold artefacts without a 6-digit alphanumeric Hallmark Unique Identification Number (HUID) after 31st March 2023.

About:

- Hallmarking is the **accurate determination** and **official recording** of the proportionate content of **precious metal** in precious metal articles.
- Hallmarking scheme for Jewelry was started by BIS in the year 2000. In India, at present two precious metals namely **gold** and **silver** have been brought under the purview of Hallmarking.
- However, Mandatory Hallmarking has been successfully implemented in 288 districts of the country with effect from 23 June 2021 by Hallmarking of Gold Jewellery and Gold Artefacts Order, 2022.

- After introduction of **6-digit HUID** in 2021, hallmark consisted of 3 marks viz, **BIS logo**, **purity of the article** and **six-digit alphanumeric HUID**. Each hallmarked article has unique HUID number which is traceable.

How does it work?

- A consumer can check and authenticate hallmarked gold jewelry items with HUID number using 'verify HUID' in BIS CARE app.



- It provides information of the jeweler who got the article hallmarked, their registration number, purity of the article, type of article as well as details of hallmarking centre which test and hallmark the article.
- Using this information, a common consumer can verify the article being purchased by matching it with article type as well as its purity.

Har Payment Digital Mission

News: RBI has launched the 'Har Payment Digital' mission during Digital Payments Awareness Week (DPAW) 2023.

About:

- Under the mission Payment System Operators (PSOs) will adopt 75 villages across the country and conduct camps in each of these villages with an aim to improve awareness and onboard merchants for digital payments (thus making them Digital payment enabled villages)
- PSOs are entities (Example - NPCI) authorized by RBI to set up and operate a payment system.

Attukal Pongala

News: The Attukal Pongala falls on the ninth day of the annual ten-day festival at the Attukal Bhagavathy Temple, Thiruvananthapuram. It is one of largest gathering of women in world.

About:

- Pongala is a ten-day-long festival of Attukal Bhagavathy Temple.
- The festival commences with the musical rendering of the story of the Goddess (Kannaki Charitam) during the "Kappu Kettu ceremony".
- The story invokes the presence of Kodungallur Bhagavathy and the slaying of the Pandyan King. This festival commemorates the victory of Good over Evil, by the slaying of the Pandyan King.

Group Captain Shaliza Dhama



News: In the first command appointment for a woman officer in the Indian Air Force (IAF), Group Captain Shaliza Dhama has been selected to take over the command of a frontline combat unit in the Western sector.

About:

- For the first time ever in the IAF's history, a woman officer has been given command of a frontline combat unit - in this case, a missile squadron in the Western sector.
- Group Captain Dhama was commissioned in 2003 as a Helicopter pilot and has over 2,800 hours of flying experience.
- The IAF's move comes just two months after **Captain Shiva Chauhan** of the Indian Army's Fire and Fury Corps became the first woman officer to be operationally deployed at the world's highest battlefield in Siachen.

Tropex 2023

News: Indian Navy's major Operational level exercise TROPEX for the year 2023, conducted across the expanse of IOR for four months from Nov 22 - Mar 23, culminated this week in the Arabian Sea.

About:

- Theatre Level Operational Readiness Exercise (TROPEX 2023) is an operational level

exercise 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 witnessed the participation of approximately 70 Indian Navy ships, six submarines and over 75 aircraft.
- As part of the exercise, all surface combatants of the Indian Navy including Destroyers, Frigates, and Corvettes as well as submarines and aircraft are put through complex maritime operational deployments.
- The overall exercise construct included the Coastal Defence exercise Sea Vigil and the Amphibious Exercise AMPHEX.

Kinzhal Missile

News: Russia recently fired hypersonic Kinzhal missiles as part of a massive wave of strikes on Ukraine.

What are Hypersonic Missiles?

- A hypersonic missile is a weapon system which flies at least at the speed of Mach 5 i.e. five times the speed of sound and is maneuverable.
- These missiles are extremely fast and far harder for surface-to-air missile defence systems to target.

About Kinzhal:

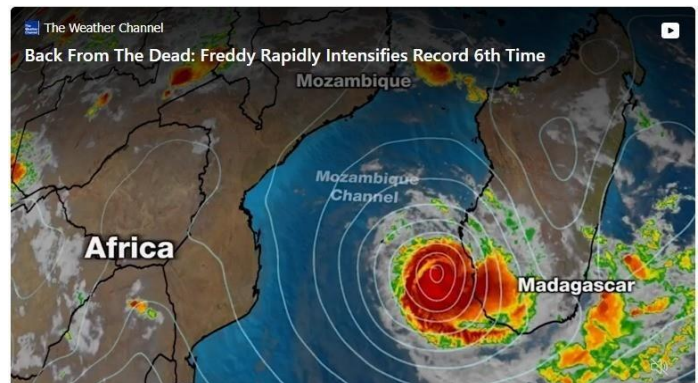
- The Kh-47M2, nicknamed "Kinzhal" (Dagger), is a nuclear-capable, Russian air-launched ballistic missile.
- The Kinzhal can reach speeds of up to Mach 10 (12,350 km/hr).
- It can carry both conventional and nuclear warheads with a payload of up to 480 kg and a thermonuclear option with a 10-50 kt warhead.
- Range - **1,500-2,000 km.**
- This missile maneuvers during all stages of its flight to overcome hostile air defense systems.

Tropical Cyclone Freddy

News: The World Meteorological Organization is setting up an expert committee to evaluate whether tropical cyclone Freddy has broken the record as the longest-lasting tropical cyclone on record.

Background:

- It has been a named tropical cyclone for 33 days, crossed the entire South Indian Ocean and travelled more than 8,000 kilometers.
- The accumulated cyclone energy (index used to measure the energy) is the equivalent of an average full North Atlantic hurricane season.



Impact

- Mozambique has received more than a year's worth of rainfall in the past month, and Madagascar got three times the monthly average in the space of a week.
- Freddy tracked across the entire Indian Ocean from east to west, affecting Mauritius and La Réunion on its long journey en route to Madagascar. This kind of super zonal track is very rare.
- According to NASA, Freddy has set the record for having the highest accumulated cyclone energy (ACE) of any southern hemisphere storm in history. ACE is an index used to measure the total amount of wind energy associated with a tropical cyclone over its lifetime.

ATL Sarthi

News: NITI Aayog recently launched ATL Sarthi, a comprehensive self-monitoring framework to strengthen the ever-growing ecosystem of Atal Tinkering Labs (ATL).

About:

- ATL Sarthi will enable the Atal Tinkering Labs to be efficient and effective.
- The initiative has four pillars ensuring the performance enhancement of ATLs through regular process improvements like
- MyATL Dashboard - It is a self-reporting dashboard.
- Compliance SOPs - For schools to ensure financial and non-financial compliance

- Cluster-based Approach - On-ground enablement of ATLS in collaboration with relevant local authorities.
- Performance-Enablement (PE) Matrix - It provides ownership to schools to analyze their performance

What are Atal Tinkering Labs?

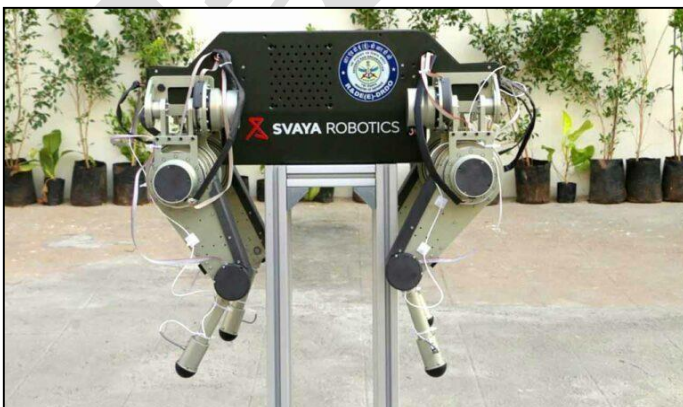
- It is an initiative to promote **creativity** and **innovation** in the minds of school children.
- Under this initiative Children as young as 12 years of age gain access to technological innovation.
- The concepts of Science, Technology, Engineering and Maths are taught through various tools and equipment of the like.
- Financial aid of **Rs. 20 lakh** is given to **each school**.
- This includes a **one-time establishment cost of Rs. 10 lakh** and the **operation cost of Rs. 10 lakh** over a period of **five years**.

Quadruped Robot and Exoskeleton

News: Hyderabad-based **Svaya Robotics** has developed India's first indigenous quadruped (four-legged) robot and exoskeleton for the defense sector as part of the Atmanirbhar Bharat initiative.

About:

- The indigenous robots and wearable exoskeletons were developed by Hyderabad-based Svaya Robotics in collaboration with the DRDO Labs, Research and Development Establishment (R&DE), Pune, and the Defence Bioengineering and Electromedical Laboratory (DEBEL), Bengaluru, as technology demonstrators with their design inputs.
- Both are dual-use robots and have multiple use cases in both Industry and healthcare.



About Quadruped Robots:

- They are four-legged robots that can walk or run on uneven and rough terrains.
- The robots can carry 25 kg in payload and walk along with the soldier.
- It is made for **navigating in unstructured terrains to provide remote reconnaissance and inspection**, which otherwise are not safe for humans to operate in.

About Exoskeletons:

- It is developed to suit Indian soldiers' anthropometry and augment soldier strength for walking long distances.
- These active exoskeletons, when worn by soldiers, **can carry heavy loads without expending much effort**.

Exercise Bold Kurukshetra

News: The **Singapore Army** and **Indian Army** participated in the 13th edition of Exercise Bold Kurukshetra, a bilateral armour exercise at Jodhpur Military Station, India.

About:

- For the first time in the exercise series, both armies participated in a command post Exercise, which involved Battalion and Brigade level planning elements and computer wargaming.
- Exercise Bold Kurukshetra is conducted under the ambit of the bilateral arrangement for the joint Army Training and exercises between the Singapore Army and the Indian Army. The exercise was first conducted in 2005.
- Other exercise between India and Singapore includes Joint Military Training (Air Force), Trilateral Maritime Exercise SIMTEX (With Thailand) and Exercise Agni Warrior (Army).

Active Volcano on Venus

News: A new analysis of radar images obtained earlier has yielded new evidence indicating Venus is currently volcanically active.

About:

- Researchers said radar images taken by **NASA's Magellan spacecraft** showed that a volcanic vent about 1.6 km wide on the Venusian surface expanded and changed shape over an eight-month span in 1991.

- The vent is situated on **Maat Mons**, which at about 9 km tall is the planet's highest volcano and second-highest mountain.

PM MITRA scheme

News: Seven mega textile parks under the ₹4,445-crore PM Mega Integrated Textile Regions and Apparel (PM MITRA) scheme will come up in Tamil Nadu, Telangana, Gujarat, Karnataka, Madhya Pradesh, Uttar Pradesh and Maharashtra.

About:

- The scheme aims to realize the vision of building an Aatmanirbhar Bharat by positioning India strongly on the Global textiles map.
- The PM MITRA parks will provide the best ecosystem for the textile industry to be collectively present in one location, with plug-and-play infrastructure, and improve the competitiveness of the textile value chain.
- It will also give a boost to the five F (farm, fibre, factory, fashion, foreign) vision of the Prime Minister.

Cyrtopodion Vindhya

News: Recently, a new species of naked-toed gecko (Cyrtopodion) has been discovered in Dahod and Panchmahals districts in Gujarat.

About:

- The newly discovered naked-toed gecko has been named 'Cyrtopodion Vindhya' and it is the fifth endemic species of reptile described in the last fifteen years from the state of Gujarat.
- The new species is named after the Vindhya hill ranges.
- The Palearctic naked-toed geckos of the genus Cyrtopodion are a group of gekkonid lizards distributed across the arid regions of north Africa, Arabia, and Central Asia to northwestern India.
- The taxonomic history of the genus Cyrtopodion has been unstable, and 23 species are currently recognized, with the diversity concentrated in Pakistan and Iran.
- The newly discovered reptile is a nocturnal species, associated with granite boulders.
- Mostly rupicolous (living among rocks) in its habits but can be found on the ground as well.



Megha Tropiques 1

News: Recently, the Indian Space Research Organization (ISRO) has successfully carried out the controlled Re-Entry experiment for the decommissioned Megha-Tropiques-1 (MT-1) Satellite.

About:

- It is an **Indo-French** Earth Observation Satellite, which was launched in October 2011 for carrying out tropical weather and climate studies
- The main objective of this mission is to understand the life cycle of convective systems that influence the tropical weather and climate and their role in the associated energy and moisture budget of the atmosphere in tropical regions.

What were its payloads?

- Microwave Analysis and Detection of Rain and Atmospheric Structures (MADRAS), an Imaging Radiometer developed jointly by CNES (Centre National d'études Spatiales), France and ISRO;
- Sounder for Probing Vertical Profiles of Humidity (SAPHIR), from CNES;
- Scanner for Radiation Budget (ScaRaB), from CNES;
- Radio Occultation Sensor for Vertical Profiling of Temperature and Humidity (ROSA), procured from Italy.

Raccoon Dogs

News: A report has suggested that the SARS-CoV-2 virus could have originated in raccoon dogs which were sold illegally at the Wuhan wet market.

About:

- Raccoon dogs are neither dogs nor raccoons. They belong to the canid family and are closely related to foxes. They are the only canids that hibernate during the winter.

- They are omnivores and relish food sources such as rodents and berries.
- Raccoon dogs are originally from East Asia and are commonly found in parts of China, Korea and Japan, where they are known as **Tanuki**.

How are they linked to coronavirus?

- A report has said that raccoon dogs and related mammals sold for food at a live animal market in China in 2003 were found to carry a coronavirus similar to the virus found in humans during a SARS coronavirus outbreak at the time.
- But this doesn't mean they are the natural reservoir for coronaviruses. Scientists believe there is a possibility the tested raccoon dogs, including those in the Wuhan market, might have picked up the virus from bats or another species.

Kappaphycus Alvarezii

News: It is in news due to dead corals observed near Kurusadai (Tamil Nadu), one of the 21 uninhabited islands forming the **Gulf of Mannar Marine National Park**. The primary reason behind this loss is **Kappaphycus alvarezii**, a **seaweed (Alga)** deliberately introduced for commercial cultivation some two decades ago.



About:

- Kappaphycus species are among the largest tropical red algae, with a high growth rate (can double in biomass in 15 to 30 days).
- The International Union for Conservation of Nature lists it as one of the world's 100 most invasive species.
- National research institutes and companies are for increased cultivation of Kappaphycus

to improve livelihoods, profits and to reduce India's import of kappa-carrageenan, a polysaccharide extracted from the alga that finds use in industrial gums and as a smoothening agent in ice cream, toothpaste, jellies, medicines and paint.

Impact of Kappaphycus Alvarezii:

- The Kappaphycus alvarezii seaweed species has invaded six of the 21 islands of the Gulf of Mannar Marine National Park in Tamil Nadu and has killed the corals near Kurusadai.
- It has also caused considerable damage to Coconut Island in Hawaii, Cubagua Island in Venezuela, Zanzibar in Tanzania, and Almirante and Cristobal in Panama and Costa Rica.
- The International Union for Conservation of Nature lists Kappaphycus alvarezii as one of the world's 100 most invasive species.

Srijan Portal

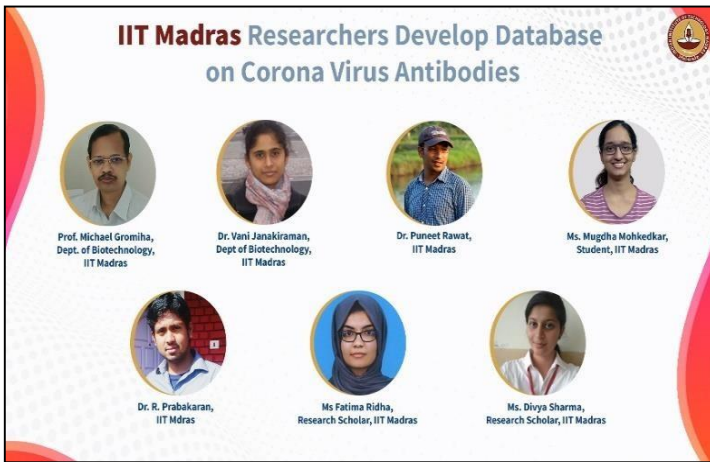
News: Minister of State for Defence said in the Rajya Sabha that 26 thousand defence items have been uploaded on SRIJAN Portal.

About:

- Pursuant to the Atmanirbhar Bharat announcement, the Department of Defence Production has developed an indigenization portal. It will give information on items that can be taken up for indigenization by the private sector.
- On this portal, DPSUs/OFB/SHQs can display the items which they have been importing or are going to import which the Indian Industry can design, develop and manufacture as per their capability or through a joint venture with OEMs.
- Nodal Ministry - Ministry of Defence.

Ab-CoV Database

News: Researchers at the **Indian Institute of Technology (IIT) Madras** recently developed an online open-source database, 'Ab-CoV' of coronaviruses neutralizing antibodies.



About:

- It is an online open-source database of coronaviruses' **neutralizing antibodies** encompassing crucial features such as **binding affinity** and **neutralization** profiles of antibodies.
- It is an exhaustive repository of antibodies, not just specific to SARS CoV-2 but also to other members of the coronavirus family, such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) viruses.
- It also contains the source of each antibody and the viral protein(s) and virus strains they recognize.
- Ab-CoV has a wide range of search and display options through which users can directly search and download the processed data based on the antibody's name, viral protein epitope, neutralized viral strain, antibody, and nanobody.
- Applications - antibody engineering, analyzing immune escape for known and future variants of SARS-CoV-2, computational studies on neutralizing antibodies and relating structural features with binding affinity.

Jharniyojan Portal

News: The Jharkhand government has launched a portal called 'Jharniyojan' to ensure 75% local quota in pvt sector.

About:

- The portal requires all private establishments in the state register themselves.
- Employers to adhere to the 'Jharkhand State Employment of Local Candidates in Private Sector Act, 2021' The act reserves 75% of jobs in private sectors with salaries up to Rs 40,000 for "locals" in the state.
- It applies to all establishments which are in the private sector and where 10 or more people are employed.

Concerns:

- Supreme Court in Dr Pradeep Jain case (1984) expressed an opinion that legislation for "sons of the soil" would be unconstitutional.
- Supreme Court in Sunanda Reddy case (1995) struck down a state government policy that gave 5% extra weightage to candidates who had studied with Telugu
- It violates fundamental right to freedom of business under **Article 19(1)(g)**

Vienna Convention on Diplomatic Relations

News: The Indian External Affairs Ministry reminded the UK Government about the Vienna Convention after Pro-Khalistan protestors took down the Indian flag at UK High commission in London.

About:

- Entered into force on April 24 1964, the Convention is **nearly universally ratified**, with **Palau** and **South Sudan** being the exceptions.
- It provides a complete framework for the establishment/maintenance/termination of diplomatic relations on a basis of consent between independent sovereign States.
- It codifies the longstanding custom of diplomatic immunity, in which diplomatic missions are granted privileges, enabling diplomats to function without fear of coercion or harassment by the host country.
- It affirms the concept of "inviolability" of a diplomatic mission, which has been one of the enduring cornerstones of international diplomacy.
- **Article 22** of the Convention deals with obligations with regard to the **premises of the Mission** - the receiving/host State is mandated to take all appropriate steps to

protect the premises of the mission against any intrusion or damage.

Hangul

News: In a recent census conducted at Kashmir's **Dachigam National Park**, it was found that the population of Hangul or Kashmiri Stag has **gradually increased** over time at the national park.

About:

- It is a subspecies of Central Asian red deer **endemic to Kashmir** and surrounding areas. It is found in dense riverine forests in the high valleys and mountains of Jammu and Kashmir and northern Himachal Pradesh.
- A small population has also been witnessed in **Overa-Aru Wildlife Sanctuary** in south Kashmir.
- IUCN status - **Critically Endangered**
- CITES - Appendix I

Terminator Zone

News: In a recent study, astronomers from the University of California explained the possibility of extra-terrestrial life on far-off exoplanets within a special region known as the "terminator zone"

About:

- A terminator or twilight zone is a moving line that divides the daylit side and the dark night side of a planetary body.
- So, one side is always facing its star and one side that is always dark. It could exist in a "just right" temperature zone between too hot and too cold. Terminator zone planet can retain liquid water.

MAIA mission

News: NASA and Italian Space Agency will build and launch the Multi-Angle Imager for Aerosols (MAIA) missions before 2024. The three-year mission will focus on 11 primary target areas including New Delhi from India.

About:

- MAIA is a satellite instrument that will collect data to **examine the health effects of different types of air pollution**. It will use measurements of sunlight reflecting off airborne particles to determine the abundance, size, chemical composition, and

optical properties of pollutants in the atmosphere.

- The data will be collected from sensors on the ground and atmospheric models. These results will then be related to respiratory and cardiovascular diseases, adverse reproductive outcomes, human birth, death and hospitalization records to understand impacts of contaminated air we breathe.

The observatory will consist of the **PLATiNO-2 satellite**; which Italian space agency will provide. The observatory's science instrument contains a pointable spectropolarimetric camera, which captures digital images at multiple angles in the ultraviolet, visible, near-infrared and shortwave infrared portions of the electromagnetic spectrum.

Patent Monopoly/Evergreening

News: India rejects Johnson & Johnson's attempt to extend monopoly on lifesaving TB drug - Bedaquiline.

What is Evergreening?

- It is a practice of **modifying drugs** (without improving efficacy) in order to extend their patent life and profitability.
- Evergreening establishes monopoly and it undermines competition.
- The Indian Patents Act, 1970 **prohibits** the mischievous practice of evergreening of patents making the drugs affordable and promoting domestic generic drug markers.

About Bedaquiline:

- Bedaquiline is a crucial drug in the treatment of multi-drug resistant TB patients for whom the first-line drug treatment (Isoniazid, Rifampicin, Pyrazinamide and Ethambutol) has stopped working.
- Over 55,000 patients benefited from access to Bedaquiline in India in 2019.
- When J&J filed for evergreening of its patent on fumarate salt (a formulation of Bedaquiline), its patent evergreening practice was challenged by two TB survivors in 2019.

CBuD app

News: Prime Minister launched the 'Call Before u Dig' (CBuD) app, to facilitate coordination between excavation agencies and underground utility owners to prevent damage to utilities due to digging.

How does it work?

- The CBuD app will connect excavators and asset owners through SMS/Email notifications and click-to-call so that there are planned excavations in the country while ensuring the safety of underground assets.

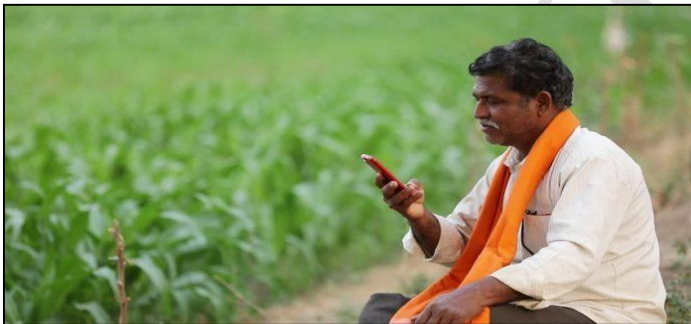
Need:

- It is an initiative of the Department of Telecommunications, Ministry of Communications that aims to prevent damage to underlying assets like optical fibre cables that occurs because of uncoordinated digging and excavation, leading to losses of about Rs 3,000 crore every year.
- It will save potential business loss and minimise discomfort to the citizens due to reduced disruption in essential services like road, telecom, water, gas and electricity.

DigiClaim

News: Union Ministry of Agriculture & Farmers Welfare has launched the National Crop Insurance Portal's digitized claim settlement module namely DigiClaim under the ambit of Pradhan Mantri Fasal Bima Yojana (PMFBY).

- It is developed by the integration of the National Crop Insurance Portal (NCIP) and the Public Finance Management System (PFMS)



Benefits:

- It will disburse claims electronically, thus easing the lives of insured farmers and providing them with sustainable financial support.
- It is part of the Indian government's effort to make farmers self-reliant and strong.
- It will reduce claim reversal and enable farmers to track their claim settlement process in real-time through their mobile phones
- Farmers' claims will be processed directly to their respective bank accounts in a transparent and accountable manner.

Vedic Heritage Portal

News: Recently, Union Home Minister launched the Vedic Heritage portal in New Delhi.

About:

- The portal is an effort to map the vedic heritage of the country. It is a one-stop solution for researchers and others who would like to search any information regarding the Vedic heritage.
- It is developed by **Indira Gandhi National Center for Arts**.
- It gives detailed information about oral traditions, textual tradition in the form of published books/manuscripts, or implements (yajna-related objects).
- It is available in a mix of English and Hindi, besides audio content in Sanskrit.
- Research articles and lectures on scientific subjects explaining the relevance of 'Vedic knowledge' in the perspective of modern science are also documented on the portal.

Guillotine

News: Amidst the ongoing stalemate in Parliament, some MPs said the government may guillotine the demands for grants and pass the Finance Bill without any discussion in the Lok Sabha.

About:

- In legislative language, "guillotine" means to **bunch together** and **fast-track** the passage of financial business.
- It is a fairly common procedural exercise in Lok Sabha during the Budget Session.

How is it used during Budget session?

- Post Budget presentation, Parliament goes into recess for about three weeks, during which time the House Standing Committees examine Demands for Grants for various Ministries, and prepare reports.
- Once the Parliament reassembles, the Business Advisory Committee (BAC) draws up a schedule for discussions on the Demands for Grants. Given the limitation of time, the House cannot take up the expenditure demands of all Ministries; therefore, the BAC identifies some important Ministries for discussions.
- Once the House is done with these debates, the Speaker applies the "guillotine", and all

outstanding demands for grants are put to vote at once. This usually happens on the last day earmarked for the discussion on the Budget. The main purpose is to ensure the timely passage of the Finance Bill marking the completion of the legislative exercise with regard to the Budget.

Plastiglomerate

News: A team of marine biologists (working in the Andaman and Nicobar Islands) have stumbled upon a piece of rock (Plastiglomerate) made from plastic from a beach on Aves Island.



About:

- It is a rock composed of sand, rock fragments, shells and other materials held together by plastic. It is a new form of plastic pollution, which scientists described in 2014.
- Laboratory analysis showed that it was made of two very commonly used plastic polymers, polyethylene and polyvinyl chloride.
- Plastic accumulation in oceans and on beaches has turned into a global crisis. Thousands of seabirds, turtles, seals and other marine mammals are killed each year after ingesting plastic or getting entangled in it.

CRISP App

News: Recently, the Rubber Board has launched a mobile app CRISP to inform growers about rubber cultivation and provides solutions online.

About:

- The Comprehensive Rubber Information System Platform (CRISP) application has been developed by the Rubber Research Institute of India (RRII) in collaboration with the Digital University of Kerala.
- It gives **information** to rubber cultivators related to **production** and **productivity**

enhancement, reduction of cultivation cost, maintenance of soil fertility, disease control measures, etc.

About Rubber Plantation:

- Natural rubber is a polymer made up of a chemical molecule called **isoprene**. It is a native of the Amazon basin which was introduced to countries in the tropical belts of Asia and Africa in the late nineteenth century.
- Rainfall - It requires **moist** and **humid climates** with **heavy rainfall** of more than **200 cm**.
- Temperature - It grows well in equatorial climates and temperatures **above 25 degrees Celsius**.
- Soil - Well-drained, weathered soils.
- India is the world's largest producer and the third-largest user of natural rubber.

Where is rubber grown in India?

- Traditional Areas - Primarily in Tamil Nadu's Kanyakumari District and Kerala.
- Non-traditional regions - Coastal Karnataka, Goa, Maharashtra's Konkan Region, coastal Andhra Pradesh and Orissa, the northeastern provinces, and the Andaman and Nicobar Islands, among other places.

Bobbili Veena

News: The Andhra Pradesh government is preparing to present the replicas of Bobbili Veena as part of their cultural exchange to the delegates of G-20 conference.



About:

- Bobbili veena, also known as '**Saraswati veena**,' is a large plucked string instrument used in Carnatic classical music.
- The making of the veena began in the 17th century during the reign of **Pedda Rayudu**, the king of Bobbili Samsthanam who was a great patron of music.

- Bobbili veena is made from a **single piece of jackwood tree**, unlike other veena which are made by joining two pieces of wood. Hence, it is also called as 'ekanda veena'.
- It is famed for its fine-tune and distinctive notes.
- The artisans have made the veenas by using elephant tusks, stag horns and strings to get 'Sapta Swaras' during Bobbili Raja's regime. Now, they are replaced the elephant tusks and stag horns with plastic material imported from Mumbai.
- It earned a **Geographical Indication (GI)** tag in 2012 for its unique design and high-quality craftsmanship.

Kharai Camel

News: In a recent report tabled in Gujarat Assembly, the Comptroller and Auditor General of India (CAG) asked the government to preserve mangroves and save the 'Kharai' breed of camels.

About:

- Rare breed of camel found in the salt marshes of the Kutch district of Gujarat.
- Their name is derived from the local word khara, meaning saline.
- It is well adapted to the saline desert environment and is known for its ability to swim (hence also known as 'swimming camel').
- They swim long distances in the sea to reach their grazing areas, usually more than 3 km at a time, even in deep waters.
- Kharai camels mostly feed on mangroves.
- They are considered a unique Eco-tonal species as they survive in the dryland ecosystem as well as the coastal ecosystem.
- IUCN status - Endangered

Cloned Cow-Calf

News: Recently, the National Dairy Research Institute (NDRI), Karnal has produced cloned female calves of the desi breed Gir.

About:

- It is **India's first cloned Gir female calf** named **Ganga**.
- To clone the Gir, oocytes are isolated from live animals using ultrasound-guided needles, and then, matured for 24 hours under control conditions.

- The somatic cells of elite cows are used as donor genomes, which are fused with OPU-derived enucleated oocytes. Following chemical activation and in-vitro culture, the developed blastocysts are transferred into recipient mothers to deliver the Gir calf.

Adjuvants

News: A Chinese research team recently created two novel broad-spectrum adjuvants that can dramatically boost the immune response to vaccines using computer-aided molecular design and machine learning.

About:

- An adjuvant is a substance that is **added to a vaccine** to stimulate and enhance the magnitude and durability of the immune response. They are commonly used to **improve the effectiveness** of a vaccine.

Gymnothorax tamilnaduensis

News: Recently, researchers have discovered a new species of Moray eel at the Mudusalodai fish landing centre off the Cuddalore coast.



About:

- Moray eels or Muraenidae are a family of eels found worldwide
- They have small eyes and rely primarily on their highly developed sense of smell to ambush prey. Their body is mostly patterned.
- Moray eels live in shallow water among reefs and rocks in all tropical and subtropical seas.
- Moray eels can be found in both freshwater and saltwater environments.
- The newly discovered species has been named after Tamil Nadu as Gymnothorax tamilnaduensis with common name as Tamil Nadu brown moray.

Places in News

Panna Tiger Reserve

News: Recently, as part of the Ken-Betwa Link Project (KBLP), a comprehensive Integrated Landscape Management Plan (ILMP) has been prepared for the conservation of wildlife and biodiversity in the Panna Tiger Reserve (PTR) & surrounding areas.

About:

- Panna Tiger Reserve is a critical tiger habitat located in **Vindhya Hill in northern Madhya Pradesh**.
- The dominating vegetation type is **dry deciduous forest** interspread with grassland
- In the north, it is surrounded by teak forest & in the east, it is surrounded by Teak-Kardhai mixed forest.
- The North East-South West, running Vindhya Hill ranges link the eastern and western populations of wild animals.
- Fauna - Leopard, Wild dog, wolf, Hyaena, Sloth bear etc.
- Other Tiger Reserves in MP – Kanha, Pench, Bandhavgarh, Satpura and Sanjay Dubri
- Following the Tiger Census 2018 result, Madhya Pradesh has become the **Tiger State of Country** with 526 Tigers beating Karnataka where the population of Tiger is 524.

Asola Bhatti Wildlife Sanctuary

News: Delhi's Forest Departments is looking to move Deer from Deer Park in Hauz Khas to the Asola Bhatti WS.

About:

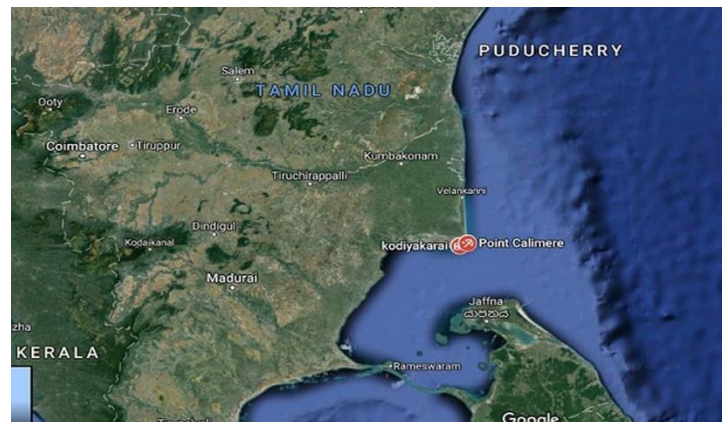
- Asola-Bhatti WS covering 32.71 km² area on the Southern Delhi Ridge of Aravalli hill range on **Delhi-Haryana border** lies in Southern Delhi as well as northern parts of Faridabad and Gurugram districts of Haryana state.
- Biodiversity significance of Ridge lies in its merger with Indo-Gangetic plains, as it is the part of the Northern Aravalli leopard wildlife corridor, an important wildlife corridor which starts from the Sariska National Park in Rajasthan, passes through Nuh, Faridabad and Gurugram districts of Haryana and ends at Delhi Ridge.
- There are about 193 species of birds reported from Asola along with large number of medicinal plants, more than 80 species of butterflies, hundreds of other insects, mammals such as leopards, nilgai (blue bull, the largest antelope of the country), blackbuck (fastest land animal surviving in the wild in the country), black-napped hare, Indian crested porcupine, small Indian civet, golden jackal, and jungle cat.

Point Calimere Wildlife Sanctuary

News: Recently, during the Synchronised Bird Census 2023 conducted by the Tamil Nadu Forest Department at Point Calimere Wildlife Sanctuary as many as 69 species of terrestrial birds were observed.

About:

- Created in 1967, the Point Calimere Sanctuary primarily focuses on the protection and conservation of the black antelopes, an endangered and endemic species that are found in this region.
- It is flanked by the Bay of Bengal in the east, and Palk Strait in the south.



- It's a sandy coast covered in saline swamp and thorny scrub around the backwaters.
- Wild boar, macaque, black buck, chital etc. are some of the animals that you find commonly in Point Calimere.
- The sanctuary also hosts a number of bird species including stilts, plovers, turns and teals. Migratory birds like flamingos and waterfowl can also be seen in this region.
- It is also a Ramsar site.

Guindy National Park

News: A total of 421 birds of 63 species were spotted during the two-day annual bird census at the Guindy National Park.

About:

- Located in Chennai, India, Guindy National Park is a 2.70 km² (1.04 sq mi) protected area within **Tamil Nadu** and is one of the few national parks located within a city.
- One of the few remaining remnants of Southern **Tropical Dry Evergreen Forests** forms a pattern of mosaic with grasslands and scrubs in the National Park.
- A total of 350 species of plants have been identified, most of which are indigenous. During the summer months, parts of the vegetation look dry, but the National Park turns green and verdant after monsoon rains.
- Fauna – Blackbuck, Palm Civet, Spotted Deer, Jackals.
- The tropical dry evergreen forests is a unique forest only seen in Tamil Nadu and Andhra Pradesh.

Falkland Islands

News: The archipelago, located in the **South Atlantic Ocean**, has been **under British control** since 1833. However, **Argentina has claimed sovereignty** over the islands since the early 19th century, leading to a series of conflicts and tensions between the two countries.

Background:

- During the G20 summit in India, Argentine Foreign Minister Santiago Cafiero presented a proposal to recommence discussions regarding sovereignty over the Falkland Islands to his British counterpart, James Cleverly.

What is the Falkland island issue?

- The Falkland Islands, also known as the **Malvinas**, have been a long-standing issue between Argentina and the United Kingdom.
- The Falkland Islands were discovered by Europeans in the 16th century and were claimed by Spain. However, the islands were abandoned in the 18th century, and in 1764, France established a settlement on the islands. The British also established a settlement in 1765, but they abandoned it in 1774. In 1820, Argentina declared independence from Spain and claimed sovereignty over the Falkland Islands. However, the British re-established their presence in 1833 and have maintained control ever since.
- In 1892, Argentine forces invaded the islands which led to war. However, Argentina were forced to surrender as they couldn't beat the British counterparts.

What do the International law say?

- The issue of sovereignty over the Falkland Islands is complicated by international law. The United Nations Charter recognises the principle of self-determination for all peoples. However, it also recognises the territorial integrity of states.
- In this case, Argentina claims that the principle of self-determination should apply to the Falkland Islanders, who are of Argentine descent. The United Kingdom argues that the principle of self-determination should apply to the current inhabitants of the islands.

What are views of Falkland islanders?

- In a referendum held in March 2013, 99.8 per cent of Falkland Islanders voted to remain a British Overseas Territory. The referendum was seen as a clear indication of the wishes of the islanders and has been cited by the United Kingdom as evidence that they have a right to self-determination.

Madhav National Park

News: Three Tigers, as part of a tiger reintroduction project, will soon be released in Madhav National Park.

About:

- Named after Madhao Rao Scindia, the Maharaja of Gwalior, this NP is situated in Shivpuri, MP on the northern fringe of Central Highlands of India.
- The **Sakhya and Madhav Sagar** lakes are two of the most critical zones of the park and are always surrounded by animals and birds seeking relief from the heat.
- The Park represents the **Northern Tropical dry deciduous** mixed forest as well as **dry thorn forest**.
- Some of the main tree species found inside the park include Khair (*Acacia catechu*), Salai, Kerdhai, Dhawda, Tendu, Palash, and others alike.
- It is home to antelopes like Nilgai, Chinkara, Chowsinga, and Deer, including Chital, Sambar, and Barking Deer. Animals like the Leopard, Wolf, Jackal, Fox, Wild Dog, Wild Pig, Porcupine, Python etc., are also sighted in the park.

Mozambique Channel

News: The Tropical cyclone recently intensified over the Mozambique Channel.

About:

- An arm or a part of the Western Indian Ocean, it separates the southeast African countries of **Madagascar** and **Mozambique**. It is also surrounded by the southern part of Tanzania, and Comoros, an island nation, lies at the channel's northern boundary.
- The Mozambique channel is 1600 km or 1000 miles long.
- As per studies, the Mozambique channel has the **highest diversity of corals** in the northern, western and central Indian Ocean. The channel and the east coast of Africa are the main habitats of the **coelacanth** which is a **living fossil**. Its analysis highlights the long oceanographic stability of the area.
- The Mozambique Channel shares its boundaries with **5 nations** which are Madagascar, Mozambique, Tanzania, Comoros and territories of France.
- France has many islands in the channel, including **Banc du Geysier, Bassas da India, Mayotte and Europa island**. Some of these islands are disputed and claimed by Madagascar.
- The Mozambique Channel has a **strong and warm current** that flows in the southern direction towards the **Agulhas Current** off the east coast of South Africa.

Hantan River

News: U.S. Army's armored vehicles prepare to cross the Hantan river at a training field in Yeoncheon, near the border with North Korea.

Background:

- The river is in news owing to South Korea's and US militaries biggest joint exercise in the years.

About:

- The Hantan River is a river in South Korea, flowing through Gangwon and Gyeonggi Provinces. It is a tributary of the **Imjin River**, which eventually joins the Han River and empties into the **Yellow Sea**.
- The Hantan River is a popular site for white-water rafting.



Kermadec Island

News: An earthquake of 7.1 magnitude struck the New Zealand's Kermadec Islands region on Thursday, the US Geological Survey (USGS) said.

About:

- The islands lie within 29° to 31.5° south latitude and 178° to 179° west longitude, 800–1,000 km (500–620 mi) northeast of New Zealand's North Island, and a similar distance southwest of Tonga. The total area of the islands is 33.6 km² (12.97 sq mi).
- New Zealand is prone to earthquakes as it is located on the boundary of two of the world's major tectonic plates- the **Pacific Plate** and the **Australian Plate**.
- It includes group of Islands such as Raoul Island, Macauley Island, Curtis Island, Nugent Island, L'esperance Rock.



Tashiding Monastery

News: Bumchu festival was recently celebrated in Tashiding Monastery.

About:

- Tashiding Monastery belongs to the Nyingmapa order and was built in the 17th century on top of a hill between the two beautiful rivers, **Rangit** and **Rathong (Sikkim)**
- This popular monastery is believed to cleanse every sin of those seeking forgiveness and willing to repent.

Karnala Bird Sanctuary

News: The recent annual scientific bird count report covering three seasonal bird counts at the Karnala Bird Sanctuary finds a total of 187 species of birds.

About:

- Karnala Bird Sanctuary is located in the Raigad District of **Maharashtra**.
- It is a habitat of woodland birds in the Western Ghats & was one of the favoured areas of well-known ornithologist Dr Salim Ali.
- It also forms a catchment area of the **Patalganga River**.
- The Sanctuary area is covered with mixed deciduous forest.
- Globally threatened and endemic birds like Long Billed Vultures, Malabar Gray Hornbill, Small Sun Bird and Shahin Falcon birds spp. are found in Karnala Bird Sanctuary.

Hasdeo Aranya

News: Tribal villagers near Hasdeo forest in the state of Chhattisgarh, India, have been protesting against the proposed opening of a new coal mine.

- Earlier, Centre for Policy research (CPR) also received show-cause notice for its involvement in Hasdeo Movement (Launched by activists against coal mining)

About:

- The Hasdeo forest (spanning over 170 sq km) and is often called the "**lungs of Chhattisgarh** ", is said to be the largest contiguous stretch of dense forestland in central India.
- Hasdeo Aranya is a biodiversity-rich forest which also happens to be a rich source of coal.
- The forest falls under Korba, Sujapur and Sarguja districts, with a sizeable tribal population. The Hasdeo river, a **tributary of Mahanadi**, flows through it.
- The forest is also home to **Lemru Elephant reserve**.

Loktak Lake

News: Centre advises the state government to take steps for the protection of Loktak Lake and Keibul Lamjao National Park.

About:

- Found in the state of Manipur, Loktak lake is the **largest freshwater lake** in Northeast India.
- It is known for its floating circular swamps, which are called **phumdis** in the local tongue.
- The lake houses the only floating national park in the world, the **Keibul Lamjao National Park**, which is the last refuge of the **endangered brow-antlered deer** or **sangai**.
- Loktak lake was initially designated as a wetland of international importance under the Ramsar Convention in 1990. Later it was also listed under the Montreux Record in 1993.

Merapi Volcano

News: Mount Merapi, one of the world's most active volcanoes, erupted, spewing out smoke and ash that covered villages near the crater.

About:

- Merapi (Mountain of Fire) is the most active of more than 120 active volcanoes in **Indonesia** and has repeatedly erupted with lava and gas clouds recently.
- It is located near the centre of the island of Java and Indonesia's cultural capital, Yogyakarta. Its last major eruption in 2010 killed 347 people and displaced 20,000 villagers.



Torres Strait

News: The Strait as such is not in news but recently, Australian government took a step towards historical referendum to give Aboriginal and Torres Strait Islanders recognition in the constitution.

About:

- Torres Strait, passage between the **Coral Sea**, on the east, and the **Arafura Sea**, in the western Pacific Ocean.
- To the **north lies New Guinea** and to the **south Cape York Peninsula** (Queensland, Australia).
- It is about 80 mi (130 km) wide and has many reefs and shoals dangerous to navigation, and its larger islands are inhabited.
- Discovered (1606) by the Spanish mariner Luis Vaez de Torres, its existence was kept secret until 1764.

Zealandia

News: Scientists have confirmed the existence of a continent called Zealandia, which is approximately 1.89 million square miles in size and was once part of the ancient supercontinent called Gondwana.

About:

- It is a long, narrow microcontinent that is mostly submerged in the **South Pacific Ocean**.
- Zealandia started to separate from Gondwana about 105 million years ago and gradually sank beneath the waves, with over 94% of the landmass remaining underwater.
- It is recognized as the **world's eighth continent**
- The part of Zealandia which is above water forms the foundation of New Zealand's north and south islands as well as the island of New Caledonia.
- The existence of Zealandia was first recorded in 1642 by Dutch businessman and sailor **Abel Tasman**, who was on a mission to find the "great Southern Continent," or Terra Australis.

Aves Island

News: In news due to Plastiglomerate found.

About:

- Aves Island village is located in Mayabunder tehsil of **North & Middle Andaman** district in Andaman & Nicobar Islands, India.
- The island lies north of Port Blair.
- It is situated 6km away from Mayabunder, which is both district & sub-district headquarters of Aves Island village.
- According to the 2011 Census, there are just two people on Aves Island. Both are male.

Barda Wildlife Sanctuary

News: The Gujarat government has proposed a second home for Asiatic lions in Gujarat at Barda Wildlife Sanctuary, about 100km away from their present home at Gir National Park.

About:

- The sanctuary having a forest area of 192.31 sq. km. is relatively small in extent. However, it is characteristically abundant in floral diversity, which consists of a good number of medicinal plants.
- The ethnic races such as Maldharis, Bharvads, Rabaris and Gadhvis live in this region of Saurashtra.

Flora - The area has maximum floral diversity in the state (650 plant species). Gorad, Babul, Dhav, Rayan, Ber, Jamun, Aml, Dhudhlo, Bamboo etc.

Fauna - Sambar, chital and chinkara were present in the Sanctuary in recent past and therefore they can be re-introduced, as the habitat is quite suitable for these wild ungulates.

Other important animals include Leopard, hyena, wild boar, wolf, jackal, bluebull etc.

Matarbari Deep Sea Port

News: Landlocked Northeast India may soon get a trade gateway through Matarbari deep sea port in Bangladesh being constructed by Japan, under its Free and Open Indo-Pacific strategy.

About:

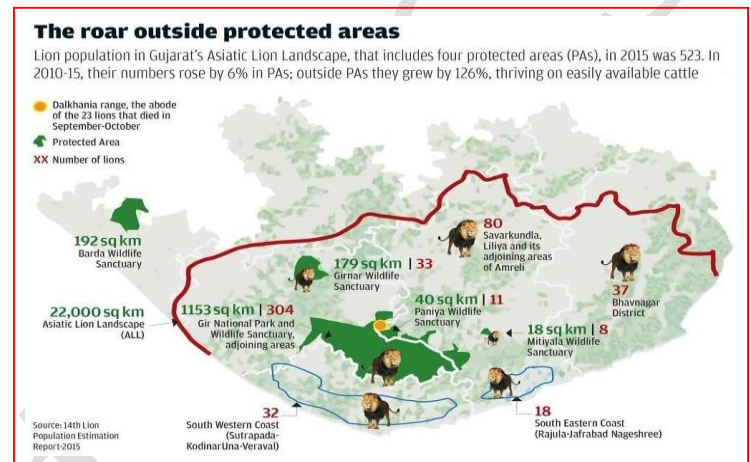
- Through the Bay of Bengal Industrial Growth Belt (BIG-B) initiative, Japan is helping Bangladesh develop infrastructure and Industrial Belt along Dhaka-Chittagong-Cox's Bazar belt area and beyond.
- India-Japan Act East Forum (AEF) - Through this, Japan has been supporting the development of India's North East through connectivity to Bangladesh and Southeast Asia.

What is Japan's Indo-Pacific Strategy?

- Japan will promote the Bay of Bengal-Northeast India industrial value chain concept to foster the growth of the entire region. The strategy consists of three pillars:
- I) Promotion and establishment of rule of law, freedom of navigation and free trade
- II) Pursuit of economic prosperity
- III) Commitment to peace and stability (capacity building on maritime law enforcement, HA/DR cooperation, etc.)

Other important projects in NE India:

- Kaladan Multimodal Transit Transport Project (for connectivity with Myanmar), Protocol on Inland Water Transit and Trade between India and Bangladesh and India-Myanmar-Thailand Trilateral Highway.



Tathastu-ICS