

UPSC COACHING THAT GIVES YOU UNIVERSITY DEGREE



TATHASTU

Institute of Civil Services



CURRENT AFFAIRS September Month 2022

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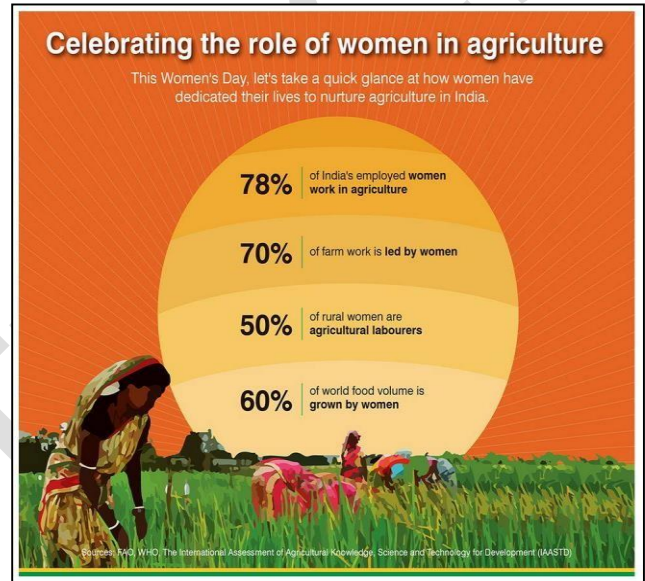
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Editorials of the Month

Feminization of Agricultural sector – Its impact

What contributes to Feminization of agricultural sector?

- According to 2011 census, approximately 33.7% of rural males migrate in search of employment and better economic opportunities. This trend is one of the reason that has contributed to feminization of agriculture.
- The nature of work in urban areas such as construction laborers, rickshaw pullers and unsafe living conditions there force the rural men to leave their families behind in the villages.
- Women are more willing to accept low-paid irregular work, are easy to hire and fire, are thought to be docile and hardworking, and certain jobs are typified as women's work.
- Poverty forces women to work as agricultural laborers or domestic laborers in order to supplement family income.



What are the impacts of feminization of agricultural sector?

- Serious cause of social exclusion and injustice as women are forced to sacrifice education and skill development opportunities to manage household and agriculture.
- Work overload leaves women with inadequate time for their children. Despite economic gains derived from male migration, parental absence may lead directly to decreased care and supervision, negatively affecting child rearing.
- Spousal separation due to male migration, lack of companionship, and increased household responsibilities may trigger mental health problems in left-behind female spouses of migrant workers.
- Agricultural productivity may suffer as well because women are left alone to arrange everything from inputs, seeds, fertilizer and labor.
- Continued marginalization in terms of land ownership despite pulling off almost every part of work.

How can Natural Farming help the Indian women?

- Women's Participation in Natural Farming Initiatives can help them to boost their incomes and their involvement in decision-making. It would also positively impact the health and nutritional status of the family. Studies have indicated that there is a direct correlation between women's control over agricultural resources as a primary producer and the socio-economic characteristics of their household.
- Since women mostly cook for their families, they understand the importance of natural products to nurture and nourish their children. As a result, women are likely to adopt natural farming sooner than men.
- Women have played a key role in biodiversity management and sustainable agriculture through ecological practices, such as conserving traditional seeds, preparing natural fertilizer, and using diverse natural resources to meet daily household needs.

Andhra Pradesh Community-Managed Natural Farming:

- APCNF has engaged women in social mobilization, collective action, community learning and community marketing by utilizing the existing institutional platform of women's Self-Help Groups (SHGs), which are instrumental in scaling, sustaining and deepening the natural farming programme. This movement has also helped women improve their household nutrition and incomes and empowered them to create their agency in their village.

What should be the way forward?

- Identify women as farmers and provide them with farm ownership. This will not only boost their confidence but also help avail benefits provided by government schemes.
- Ensure that there is equity in access to resources such as land, credit, water, seeds.
- Include women in planning stage. They are better aware of village's geography and topography. Mainstream their role in India's agriculture sector.

The Hard Truths about India's Labor Reforms

Economic development is not just restricted to creation of jobs but also involves working conditions which ensures safety, dignity and freedom to the workers. Labor force can be divided into organized and unorganized sectors. India's gravest socio-economic problem is the difficulty a vast majority of citizens have in earning good livelihoods. It is not just employment that causes their problems, but the poor quality of that employment: insufficient and uncertain incomes, and poor working conditions, regardless of where they work.

Labor Codes in India - A background

The new set of regulations consolidates 44 labor laws under 4 categories of Codes:

- 1. The Code on Wages, 2019**
 - It applies to all the employees in the organized as well as unorganized sector
 - It aims to regulate wage and bonus payments in all employments and aims at providing equal remuneration to employees performing work of a similar nature.
- 2. The Code on Social Security**
 - It consolidates nine laws related to social security and maternity benefits.
- 3. The Code on Occupational safety, health and working conditions code**
 - It seeks to regulate the health and safety conditions of workers in establishments with **10 or more workers, and in all mines and docks.**
- 4. The Code on Industrial Relations**
 - It consolidates three labor laws – The Industrial Disputes Act, 1947, The Trade Unions Act, 1926 and The Industrial Employment (Standing Orders) Act, 1946.

What are the benefits of Labor codes?

- **Reduce Litigations** - They are expected to reduce litigation as it streamlines the definition of wages. It will substantially reduce the number of minimum wages in the country from the existing more than 2000 rates of minimum wages.
- **Easy Dispute Resolution** - The codes simplify archaic labor laws and revamp adjudication processes, which will enhance dispute resolution.
- **Consolidates and simplifies complex laws** – The 3 codes subsume 25 central labor laws that have been on the offing for over 17 years. It will provide boost to industry, employment and relax procedural delays.
- **Simplifies Licensing mechanism**
- **Gender Parity** – Increases maternity leave, women can now work in mines and it also allows all sectors to facilitate women to work at night.
- **EODB** - Several economists and industry experts say these reforms will boost investment and make doing business easier.
- **Minimum Wage** - They ensure that every worker gets a minimum wage which will also be accompanied by an increase in the purchasing power of the worker thereby giving a fillip to growth in the economy.

What are concerns observed regarding recent reforms?

- The new codes have thrown light on the role of an "Inspector-cum-Facilitator" who has the responsibility of checking for compliance as well as facilitating businesses in achieving that compliance.
- The code required greater clarity regarding matters such as the distinction between workers and employees, overtime compensation (particularly in light of Covid's remote working policies) and the relationship between organizations and the gig workers.
- Post current pandemic situation, a majority of small businesses are in no position to adopt and implement the labor code changes.
- The work hours' provisions for regular workers do not provide flexibility to fix work hours beyond eight hours a day. The codes have also missed laying down uniform provisions for part-time employees.
- Invisible labor is the part that goes unnoticed and unrecognized and is thus unregulated. Generally, unpaid work is called Invisible labor. A majority of invisible workers are women, and they have the most tedious work schedules. None of the new codes talks about invisible labor.
- The labor codes also chalk out fines on businesses for non-compliance of provisions, second offenses and officer-in-default.
- There are no specific provisions for social security of employees in small startups, Micro, Small and Medium Enterprises or workers in small establishments having less than 300 workers.

Way Forward:

- More GDP does not automatically produce more incomes at the bottom. The paradigm driving employment and labor policies must also change to enable the generation of better-quality livelihoods for Indian citizens, now and in the future. In order to achieve this, fundamental reform is required in the ways policies are made.
- The large corporate houses should also take the responsibility of skilling people in the unorganized sectors under CSR expenditure.
- A national policy for domestic workers needs to be brought in at the earliest to recognize their rights and promote better working conditions.
- There is also a need for welfare services to the unorganized workers such as compensation for accidents at work, death, and old age pension in the 'risk cover mode'.

The Future of Old times in India

The share of the elderly (persons aged 60 years and above) in India's population, **close to 9% in 2011**, is growing fast and **may reach 18% by 2036** according to the **National Commission on Population**.

- Life expectancy in India has more than doubled since Independence (from 32 years to 70 years) and during the same period, the fertility rate has declined from about 6 children per women to just 2. While these numbers are positive they also possess with an added challenge – the Ageing of population.

What are the problems associated with old age?

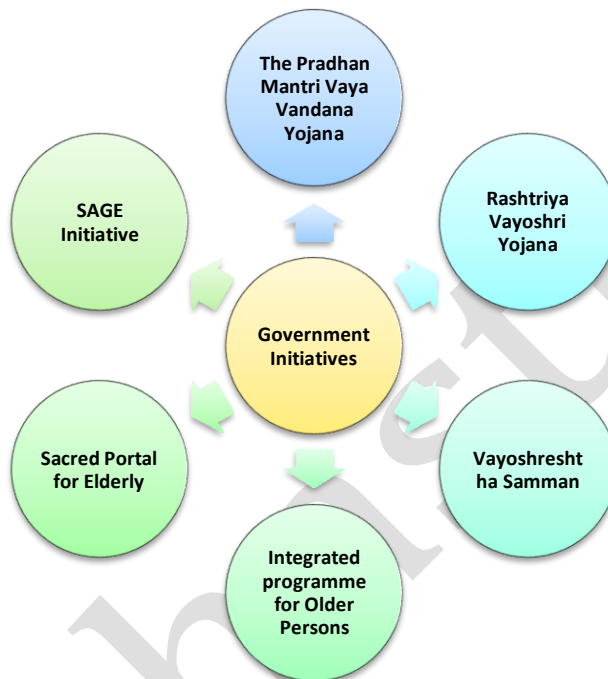
- As the Indian society is undergoing rapid changes owing to impact of industrialization, urbanization, globalization and education; this has subsequently led to erosion of traditional values and institutions resulting in the weakening of intergenerational ties that formed cornerstone of the traditional Indian family.
- Retirement and dependence of elderly on their child for basic necessity.
- Sudden increase in out of pocket expenses on treatment of the elderly.
- Migration of young working-age persons from rural areas has negative impacts on the elderly, living alone or with only the spouse.
- A national survey carried out by the **NGO Help Age India** has shown that as many as **47% of elderly people are economically dependent** on their families for income and **34% are relied on pensions and cash transfers**, while 40% of the surveyed people have expressed the desire to work "as long as possible".

India's National social assistance programme (NSAP) scheme:

- It aims to provide financial assistance to the elderly, widows and persons with disabilities in the form of social pensions.
- The NSAP is a Centrally Sponsored Scheme under the Ministry of Rural Development.

Issues observed with NSAP:

- Restricted to below poverty line(BPL) families, based on outdated and unreliable BPL lists. Targeting is not a good idea in any case as there are huge exclusion errors in the BPL lists.
- The central contribution to old-age pensions under NSAP has stagnated at a tiny Rs. 200 per month since 2006, with a slightly higher but still paltry amount (Rs.300 per month) for widows.
- Targeting tends to be based on household rather than individual indicators. For example, a widow (one who actually needs financial assistance) may experience deprivation even in a relatively well-off household.
- Targeting involves complex formalities in the form of submission of BPL certificates. It can be particularly forbidding for elderly persons with low incomes or little education.



Way Forward:

- The first step towards a dignified life for the elderly is to protect them from destitution and all the deprivations that may come with it. Here, old-age pensions form a vital part of social security systems around the world.
- A better approach is to consider all widows and elderly or disabled persons as eligible, subject to simple and transparent “exclusion criteria”. Eligibility can even be self-declared, with the burden of time-bound verification being placed on the local administration or gram panchayat.
- States such as Odisha and Rajasthan have achieved near-universal social security pensions. Other states must as well learn from them.
- If India is to ensure a decent quality of life for the elderly in the near future, planning and providing for it must begin today.

The outline of an essential global pandemic treaty

What is a pandemic treaty?

- The World health organization established an intergovernmental negotiating body (INB) to draft and negotiate the contents of the pandemic treaty in compliance with Article 19 of the WHO Constitution.
- The pandemic treaty is expected to cover aspects such as Data sharing and genome sequencing of emerging viruses, equitable distribution of vaccine and drugs and any related research throughout the world.

What is the importance of such a treaty?

- A treaty under the umbrella of WHO would build coherence and avoid fragmentation.
- It will formally commit governments and parliaments to implement an early warning system and a properly funded rapid response mechanism.
- It will mobilize nation states to agree on a set of common metrics that are related to health investments and a return on those investments.
- A global pandemic treaty will ensure global pandemic preparedness for future health emergencies.

Why is there a need for Global pandemic treaty?

- The socio-economic consequences of Covid-19 are irreversible in low and middle income countries.
- To check on the monopoly held by giant pharma companies as fewer of their vaccines reached people in low-income countries.
- Only 3% of people in low-income countries had been vaccinated with at least one dose, compared to 18% in high-income countries.
- Public health data and infrastructure are fragmented and lacking any global standard causing a major concern regarding quality and reliability of existing healthcare systems.
- Technological advancement has increased the threat of biological weapons being used for bioterrorism or biological warfare.
- Antimicrobial Resistance is reducing the effectiveness of medicines, making infections and diseases difficult or impossible to treat. WHO has declared that AMR is one of the top 10 global public health threats facing humanity.

Way Forward:

- India produces nearly 60% of the world's vaccines and is said to account for 60%-80% of the United Nations' annual vaccine procurement. While India was reeling under severe pressure to meet vaccine needs for its own citizens, it continued the shipment of vaccines to those countries in need. India, must be at the forefront of such a pandemic treaty and deliberations.
- It is important to address issues associated with development and distribution of vaccines to help hundreds of millions of people in shortest time and a framework needs to be worked upon for allocation of essential tools to fight future pandemics.

An essential pit stops in Parliamentary Business

News: The recently concluded monsoon session of Parliament has only five pieces of legislation in its bucket. Frequent parliamentary disruptions eat away the time in the legislative process and on many occasions the bills get referred to the standing committees, which may be counterproductive as it only delays the whole process.

Relevant Parliamentary Functioning Data:

- The Lok Sabha and Rajya sabha recorded low productivity 47% and 42% respectively during this monsoon session.
- Department Related Parliamentary Standing Committees (DRSC) -Parliament has 24 DRSCs, having members from both the Lok Sabha and the Rajya Sabha in the ratio 2:1. These are constituted by the Speaker of the Lok Sabha and the Chairman of the Rajya Sabha.

- The percentage of Bills having been referred to the DRSCs during the tenures - 14th (2004-2009)-60%, 15th (2009-2014)- 71% and 16th Lok Sabha (2014-2019)-27%

Importance of Parliamentary Committees:

- There is a **general acceptance** that if a bill is not referred to the parliamentary committee, **it may not be examined from the perspective of consumers and stakeholders**. For example, the three farm bills were passed without being referred to the Departmental related parliamentary standing committees.
- Unlike Parliamentary proceedings, the **DRSC functions away from the camera lens**, in a relatively friendly environment. The whole process adds value to the content of legislation as in DRSC, the member is more inclined to reach a consensus, notwithstanding their party positions.
- The **member usually** is not bound by party whips either so she/he can freely offer his opinion on any matter she/he considers to be important.

What are the areas that need to be worked upon?

- Making the recommendations of DRSC **time-bound** will ensure **efficiency** and **quick** decision making. Perhaps, the **speaker/chairman** can play an important role by **giving timelines** to committees to conclude discussions.
- Subject experts may be invited to the committees to provide their technical and domain inputs.
- Compulsory or automatic reference of critical bills to committees.
- The committees should not limit themselves to discussing just the budget proposals and endorsing them with a few qualifications here or amendments there. They should also come up with suggestions for the Ministry to take up new initiatives and people-friendly measures.

Way Forward:

- Governments and the opposition party should not be wary of these committees, as in most of these committees, the government has a majority and the final decision is always by the process of majority voting.
- Discussions and deliberations on crucial issues is important for democracy to survive and gain confidence of all stakeholders. The parliamentarians both from ruling and opposition need to work together to bridge the trust-deficit and ensure the relevance of parliamentary committees and work they do.

Life Skills – The missing link between Education and Employment

The National Education Policy (NEP 2020) recommended incorporating life skills as part of the curriculum, considering the fact that education must go beyond academic outcomes to focus on overall development of children.

What are life skills?

- The term 'Life Skills' refers to the skills you need to make the most out of life.
- There is no definitive list of life skills. Certain skills may be more or less relevant to you depending on your life circumstances, your culture, beliefs, age, geographic location, etc.
- However, in 1999, the **World Health Organization** identified six key areas of life skills:

Life Skills

- Communication & Interpersonal Skills
- Decision making & problem solving
- Creative and critical thinking
- Self-awareness & empathy
- Assertiveness and self-control
- Resilience

Need for Life skills from Indian perspective:

- Critical thinking involves organizing and processing facts, it ensures students better comprehend and address situation based on information and facts that are available to them.
- Time-management skills for kids, being self-aware, developing interpersonal skills help students to adapt to situations, encourage them to persevere and reevaluate.
- Creative thinking enables innovative thought process which results in doing things in a new way, in a fresh way.
- Knowledge is the core of a productive society, however the ability to learn and apply critical thinking skills to solving problems (both defined as "skills") is more important than the accumulation of knowledge. In

India, children and adolescents have low levels of understanding and conceptual clarity around learning and analytical skills. National Achievement Survey (NAS), State Learning Achievement Surveys (SLAS), Annual Status of Education Report (ASER) and Programme for International Student Assessment (PISA) are large scale assessments that have consistently pointed to the poor learning levels of children in language and mathematics even after eight years of education.

- A fragile knowledge society has ramifications on the ability of its members in understanding and applying learning to gain opportunities and build a productive society. This is driving inequalities in health, education and life chances and is most pronounced in some states and pockets of India.
- Patterns of inequality and exclusion continue to exist in India, largely due to deep rooted social and class structures that limit opportunities for people, systematically blocking them from availing of the rights, opportunities and resources that are usually available to all members of society.

Way Forward:

- Multiple e-learning solutions that aggregate high-quality learning content on the most basic of academic subjects have indeed revolutionized education. A similar solution to curate content on life skills could greatly benefit stakeholders invested in transacting life skills at scale. This would not only enable young people to take charge of their own learning, but also offer opportunities for collaboration with learning experts in the space and building on existing efforts in the ecosystem.
- To deliver life skills at scale, existing school systems and vocational training infrastructure must be leveraged. There are over 10 million teachers and over 1.5 million schools in India – a significant asset base and delivery channel that can be tapped into.

India's cyber infrastructure needs more than patches

Background:

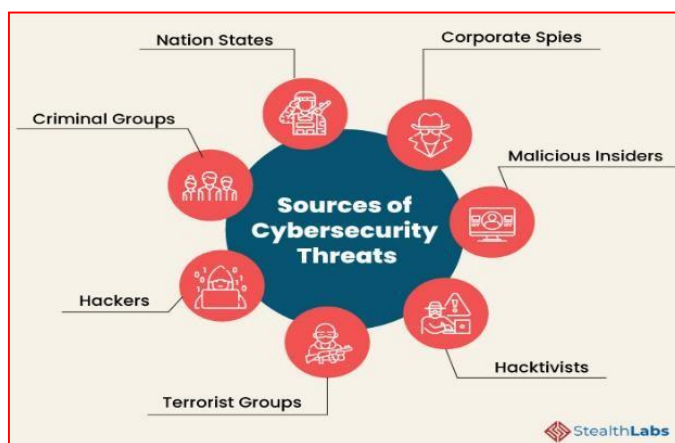
- According to the National Crime Records Bureau (NCRB), from 12,317 cases of cybercrime in 2016, there were 50,035 cases registered in 2020. In India, cybercrime is increasing with the increased use of information and communication technology (ICT).

What is Cybercrime?

- Cybercrime, also called computer crime, involves the use of a computer as an instrument to further illegal ends, such as committing fraud, trafficking in child pornography and intellectual property, stealing identities, or violating privacy.
- Cybercrime, especially through the Internet, has grown in importance as the computer has become central to commerce, entertainment, and government.

Challenges related to Cyber security in India:

- There is **no separate procedural code** for the investigation of cyber or computer-related offences.
- It is observed that **half-hearted attempts** have been made by the **states to recruit technical staff** for the investigation of cybercrime.
- Most cybercrimes are **trans-national** in nature. The collection of evidence from foreign territories is not only a difficult but also a tardy process.
- The **cyber forensic laboratories** of States **must be upgraded** with the advent of new technologies. **Offenses related to crypto-currency** remain **under-reported** as the capacity to solve such crimes remains limited.



- Private sector companies across sectors have overlooked concerns associated with cyber security. Their profit oriented approach at the cost of investing in infrastructure that will not generate profits is a cause of concern.

Steps taken by India to tackle Cyber Threats:

- National Critical Information Infrastructure Protection Centre
- Cyber Surakshit Bharat Initiative
- Cyber Swacchta Kendra
- Indian cybercrime coordination center (I4C)
- Computer Emergency Response Team (CERT-IN)
- IT Act, 2000
- Recently withdrawn Personal Data Protection Bill (soon to come up as Comprehensive law in Winter session of Parliament)

What should be the way forward?

- As 'police' and 'public order' fall in the State List, the **primary obligation to check crime and create the necessary cyberinfrastructure lies with States.**
- However, with IT Act and work on Personal Data Protection being carried out by the centre therefore the centre and states must not just coordinate better but also join hands to commit sufficient funds to develop cyber infrastructure.
- As electronic evidence is entirely different in nature when compared with evidence of traditional crime, laying down **standard and uniform procedures** to deal with electronic evidence is essential.
- Cyber forensic laboratories should be upgraded with the advent of new technologies. National Cyber Forensic Lab and the Cyber Prevention, Awareness and Detection Centre (CyPAD) initiative of the Delhi Police, is a good step in this direction.
- It is important to build up sufficient capacity to deal with cybercrime. It could be done either by setting up a separate cyber police station in each district or range, or having technically qualified staff in every police station.

Inner-Party Democracy

News: The Congress party is gearing up for elections for the post of the party president. The Yuvajana Shramika Rythu Congress Party (YSRCP) elected the current Chief Minister of Andhra Pradesh as the president of the party for life in July 2022 and the Election Commission of India (ECI) has rejected this idea of a "permanent president" as anti-democratic.

Political Parties in India

- Despite India looking as if it is a party-led democracy or democracy based on political parties, the term "political party" was not mentioned or described in the original Constitution. The definition of a "political party" was introduced in the Constitution for the first time through the Anti-defection Law only in 1985.
- The Indian political parties are of different kinds:
 - A few of the parties are structured and are cadre-based organisations that operate with an ideological goal or a principle
 - A few others are loosely structured collections of individuals with varied opinions but functioning within an association that has core ideals
 - And a few others still reflect social or regional cleavages
- Moreover, all the rules and regulations in India are applicable more to candidates than to political parties.

Significance of Inner-party Democracy:

- The increased fragmentation of India's polity into a federalised and multi-party system has often led to the domination by certain charismatic individuals or their families due to the amount of influence they enjoy within the party or due to their financing structures. This necessitates the periodic conduction of inner party

elections. Further, internal elections are said to be the key to upward mobility from being controlled by strong individuals or political families.

- In democratic countries, the ideals of democracy should be reflected at every level, and political parties which are a crucial pillar of democracy are also expected to operate in a democratic manner through formal and periodic elections for the posts of its office-bearers.
- As most of the political parties in India lack homogeneity with respect to ideas and leadership, the internal elections, meetings and contests of ideas become more important to build consensus among the members of the party.

Role of ECI:

- The courts in the past have observed that none of the provisions in Article 324 of the Constitution, or Section 29A of the Representation of the People Act, 1951 (RP Act) provides the power to ECI to regulate internal structures, organisations or elections of the party.
- Despite there being no law or any statutory powers, the ECI has constantly used the guidelines issued for the registration of parties under Section 29A of the RP Act to persuade the parties to conduct elections and to ensure that their leadership is renewed. ECI in the past has ordered the conduct of organisational elections within the political parties through executive orders.
- However, the ECI does not question the result or the procedure of the election followed by the parties and it just expects political parties to abide by their constitution, a copy of which is submitted to the ECI when the parties are registered.
- The registered political parties are mandated to inform the ECI about changes in their leadership and also submit a document about the cost incurred during elections and in the non-election period. However, there is no provision for action against non-compliance.

Way forward:

- Rather than introducing new laws, there is a need for new and reinterpretation of the existing laws which accords more power to the ECI to enforce inner-party democracy.
- Also, the ECI must come up with innovative methods to regulate political parties.
- There have to be efforts to check the arbitrariness in electing certain individuals unopposed as getting elected unanimously is also considered a valid election.
- Further, in 1999, the Law Commission Report recommended that the government must consider state funding of political parties as these political parties are currently involved in sourcing money from corporates or private individuals who most of the time expect something in return.

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

History & Culture

Shumang Leela

News: The 50th All Manipur Shumang Leela Festival 2021-2022 kicked off at Iboyaima Shumang Leela Shanglen at Palace Compound in Imphal.

About:

- Shumang Leela is a traditional form of theatre in Manipur.
- 'Shumang' means 'open courtyard' and 'leela' means play and literal meaning of Shumang leela is "play of the open courtyard".
- The roles of female artists are all played by male actors and male characters are played by female artists in case of female theatre groups.
- Shumang Leela started as a comic genre presented before the kings and noblemen, which ultimately developed into the present form of courtyard-enacted play. The groups of those days attempted to preserve and promote humanism, tolerance, confidence, devotion, truth and justice through their performances.
- It has, today, developed both theatrically and artistically.
- It has become a powerful medium for mass education besides giving entertainment and relaxation.
- It has also been trying to strengthen the bond of brotherhood and friendship among various communities in the State.



V.O. Chidambaram Pillai

News: Prime Minister, paid tributes to freedom fighter V. O. Chidambaram Pillai on his 150th birth anniversary.

About:

- Also remembered as Kappalottiya Tamizhan ("Tamil Helmsman"), he was an Indian freedom fighter and former leader of the Indian National Congress.

- He founded the **Swadeshi Steam Navigation Company** in 1906 to compete against the monopoly of the British India Steam Navigation Company (BISNC).
- He purchased two steamships, S.S. Gallia and S.S. Lawoe for the company and commenced regular services between Tuticorin and Colombo against the opposition of the British traders and the Imperial Government.
- To encourage swadeshi business and boycott British made things he established "Swadeshi Stores" to sell locally made produces. He also understood that British make money by doing business.
- He wrote several books. Some of them Meiyaram, Meiyarivu, Autobiography and commentary on Thirukural. He also wrote commentary on Tamil Grammar book 'Tholkapiyam'.



Netaji Subhas Chandra Bose

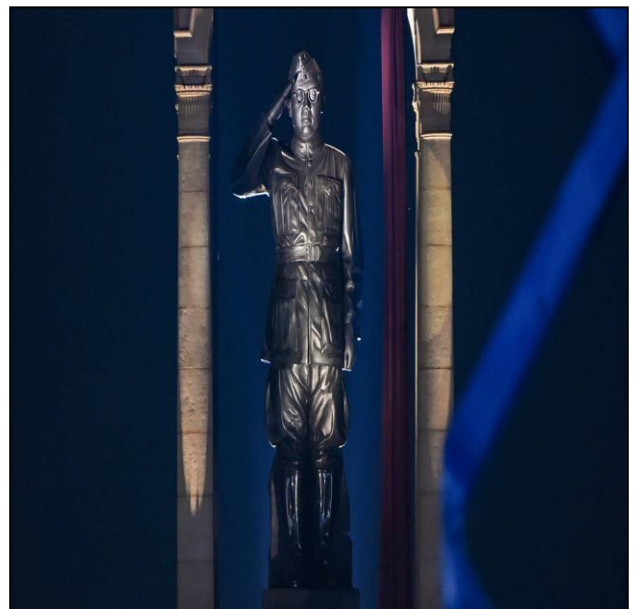
News: A statue of Subhas Chandra Bose was unveiled by PM Modi at India Gate, inaugurated along with the Kartavya Path that was earlier known as Rajpath.

About:

- In 1919, Bose was selected to be in Indian Civil Services (ICS) however, resigned, as he believed he could not side with the British.
- He was highly influenced by Vivekananda's teachings and considered him his spiritual Guru. His political guru was C.R. Das.
- During the mid-1930s, Bose travelled in Europe. He researched and wrote the first part of his book, The Indian Struggle.
- Bose took over as the elected President of the Indian National Congress in 1938 (Haripur) and stood for unqualified Swaraj (self-governance). He was re-elected in 1939 (Tripuri) but soon resigned from the presidency and formed the **All-India Forward Bloc**.
- To commemorate his contribution to India's struggle for independence, every year on 23rd January, Subhas Chandra Bose's birthday is celebrated as Parakram Diwas across the country.

Contribution to India's Freedom struggle:

- He espoused the idea of economic planning and himself led the way in this regard.
- The Indian national army earlier known as Azad Hind Fauj was revived by Netaji. Initially formed by Rash Behari Bose in 1942 the INA significantly increased the pressure on the British to leave India.
- A women's regiment of Azad Hind Fauj was formed, which was under the command of Captain Lakshmi. It was called the Rani Jhansi regiment.
- The Azad Hind Fauj became the symbol of unity and heroism to the people of India. Bose motivated the troops with his fiery speeches.



Some facts about the Netaji Subhas Chandra Bose statue at India Gate:

- A 100-ft-long truck with 140 wheels was specially designed for this **giant granite stone** to travel 1,665 km from Khammam in Telangana to New Delhi.
- The statue is completely "**hand sculpted using traditional techniques and modern tools**".
- The team of sculptors was led by **Arun Yogiraj**.
- It took around 26,000 hours to complete the statue.

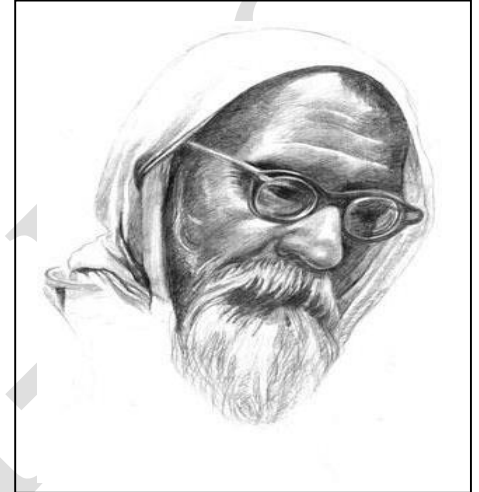
Some of the books authored by Netaji are as follows – An Indian Pilgrim, Dreams of a Youth, Letters to Emilie Schenkl (1934-1942), Azad Hind, On to Delhi, A beacon across Asia, Ideas of a Nation, The Indian Struggle and Jaruri Kichu Lekha.

Acharya Vinoba Bhave

News: Recently, the Prime Minister paid rich tributes to Acharya Vinoba Bhave on his birth Anniversary.

About:

- Vinayak Narahari Bhave was born on 11th September 1895 in Gagode, Bombay Presidency (Maharashtra).
- Being an avid follower of Mahatma Gandhi, Vinoba upheld his doctrines of non-violence and equality.
- He was the first recipient of the international **Ramon Magsaysay Award for Community Leadership** in 1958 and was also conferred with the **Bharat Ratna** (India's highest civilian awards) posthumously in 1983.
- The name Vinoba (a traditional Marathi epithet signifying great respect) was conferred upon him by **Mama Phadke**, another member of the Ashram.



Social and religious work:

- Worked towards eradicating inequality and took up the cause of people referred to as Harijans by Gandhiji.
- Established the Brahma Vidya Mandir which was a small community for women, aiming at self-sufficiency.
- He was very vocal against cow slaughter and wanted it banned in India.
- He adopted the term 'Sarvodaya' from Gandhi which meant 'Progress for All'. The sarvodaya movement implemented several programs, most important being the 'Bhoodan movement'.

Role in Freedom struggle:

- Participated in non-cooperation movement and encouraged the use of Swadeshi goods.
- While he was jailed for 6 months, he explained to fellow prisoners the different subjects of 'Bhagwad Gita' in Marathi. All the lectures given by him in the jail were collected and later published as a book.
- He was also chosen as the first Individual Satyagrahi by Gandhi himself.

Bhoodan Movement:

- Once India became an independent nation, about four years later Vinoba Bhave carried out a unique movement of his own. He travelled across all of India to convince the wealthy land-owners or land-lords to share a small area of their land with their poor and downtrodden neighbors with the condition that they can't sell the land.
- Over a span of 20 years, a total of 4 million acres of land was shared across the country through this movement.
- Bhoodan or Land Gift movement began with Acharya Vinoba Bhave in 1951 in Telangana
- Vinoba Bhave stepped into the Nalgonda district, which was the epicenter of communist activity in the region. He stayed at Pochampalli, a village with about 700 families who gave him a hearty welcome. He visited the 'untouchables' or Harijan colony, where they asked for 80 acres of land for 40 families. As documented in history, while the discussion was going on, **Ram Chandra Reddy** who was the local landlord, got up and exclaimed, "I will give you 100 acres for these people."
- This made Vinoba come up with an idea, that this may have the solution for possibly resolving land issues across the country. Soon, this movement led to become the Gramdan or village-gift movement and went through many levels of allied programmes and initiatives.

- In October 1951 rose a demand for fifty million acres of land for the landless in the whole of India by 1957, thus turning a small goal into a mass-scale movement. The success lasted till 1957, post which it slowly faded.

Important literary works - Swarajya Sastra, Geeta Pravachane, Teesri Shakti.

Dara Shikoh

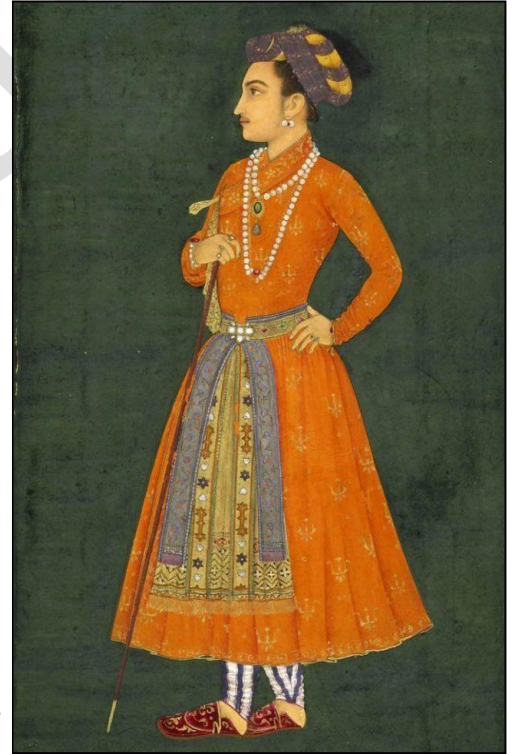
News: On the occasion of releasing the Arabic Version of “**Majma Ul-Bahrain**” of Dara Shikoh Vice President Shri Jagdeep Dhankar said that India has a glorious heritage of not only ‘tolerance’ for others’ views, but a unique culture of ‘engagement’ with all views – a culture of pluralism and syncretism.

What is Majma Ul-Bahrain?

- Majma-ul-Bahrain (Confluence of Two Oceans) throws invaluable light on the similarities between religions and helped bring stronger unity among the people of India.
- In this book ‘Majma-ul-Bahrain’, Dara Shikoh listed one by one, all the commonalities between Hinduism (Vedanta) and Islam (Sufism) and came to the conclusion that the difference between Islam and Hinduism is only verbal.

Who was Dara Shikoh?

- He was the eldest son of Shah Jahan, and is described as a “liberal Muslim” who tried to find commonalities between Hindu and Islamic traditions.
- Known as a pioneer of the academic movement for interfaith understanding in India.
- In 1655, his father declared him the Crown Prince but was defeated by Aurangzeb, his younger brother.
- The Vice President noted that he was a torchbearer of social harmony and religious unity. Mentioning that Dara Shikoh strove for improving dialogue between different religions, the VP called for reviving his legacy and applying his spiritual thought to strengthen social cohesion in the present times.
- His most important works, Majma-ul-Bahrain (Mingling of Two Oceans) and Surr-i-Akbar (Great Mystery) are devoted to the cause of establishing connections between Hinduism and Islam
- His proficiency in Sanskrit and Persian, enabled him to play a key role in popularizing Indian culture.
- He translated the Upanishads and other important sources of Hindu religion and spirituality from Sanskrit to Persian.



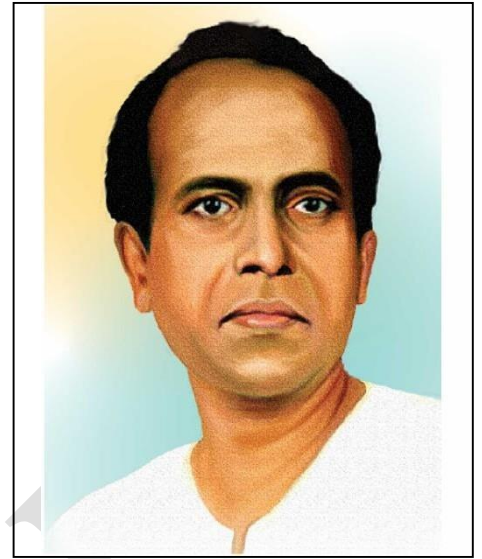
“Lokshahir” Annabhau Sathe

News: In a rare honour, a statue of Marathi litterateur and social reformer “Lokshahir” Annabhau Sathe, considered the Father of Dalit Literature, got inaugurated in Russian capital of Moscow.

About:

- Annabhau Sathe (real name: Tukaram Bhaurao Sathe) was born in 1920 in Maharashtra’s Satara district.

- He is widely regarded as the Father of Dalit literature and has contributed extensively to the Ambedkarite movement.
- In 1934, Sathé participated in a workers' strike under the leadership of Lal Bawta Mill Workers Union.
- It was during his days at the Matunga Labour Camp that Sathé got to know RB More, an associate of Dr Babasaheb Ambedkar in the famous 'Chavdar Lake' Satyagraha at Mahad, and joined the labour study circle.
- Progressive Writers Association was formed at the national level at the same time with the likes of Premchand, Faiz Ahmad Faiz, Manto, Ismat Chughtai, Rahul Sankrityayan, Mulkraj Anand as its members. The group would translate the Russian work of Maxim Gorky, Anton Chekhov, Leo Tolstoy, Ivan Turgenev into Marathi, which Sathé got hooked on. It is here that he was inspired to write street plays, stories, novels etc. In 1939, he wrote his first ballad 'Spanish Povada'.



His works:

- Several of his works like '**Aklechi Goshta**,' '**Stalingradacha Povada**,' '**Mazi Maina Gavavar Rahili**,' '**Jag Badal Ghaluni Ghav**' were popular across the state.
- Almost six of his novels were turned into films and many translated into other languages, including Russian.
- His '**Bangalchi Hak**' (Bengal's Call) on the Bengal famine was translated into Bengali and later presented at London's Royal Theatre.
- Sathé's work was immensely inspired by the Russian revolution and the Communist ideology. He was a member of the Communist Party of India (CPI) and featured among the selected authors from India whose work was translated in Russian.
- He is also regarded as the '**Maxim Gorky**' of Indian literature.
- He was the first Indian whose books including Powada of Stalingrad and My Journey to Russia were prescribed in Russian universities. In 1943, he was part of the process that led to the formation of the Indian Peoples Theatre Association (IPTA). He became its national president in 1949.

Sittanavasal Caves

News: Archaeological Survey of India has undertaken conservation measures and also introduced digital checks to track public access in Sittanavasal, Pudukottai district of Tamil Nadu.

About:

- Sittannavasal is a small village in Pudukkottai district and is world famous for its **fresco paintings** in the rock-cut Jaina cave temple.
- The megalithic monuments such as **stone-circles**, **urn burials** and **cists** spread in the plains of this village testify that this area was inhabited by **pre-historic man**.
- Sittannavasal is known primarily for its **mural paintings** in the Jaina rock-cut cave temple called **Arivar-koil**.
- There is a **natural cavern**, called



Ezhadippattam, with polished rock beds of Jaina ascetics. These rock beds contain Tamil inscriptions.

- Sittanavasal also houses megalithic burial sites and the **Navachunai tarn** (small mountain lake) with a submerged shrine.
- In the Tamil Brahmi inscription mentioned before, the name of this place is mentioned as '**ChiRu-posil**'.
- **Megalithic burial sites** in this village testify that the areas around the hillock having been inhabited by **iron-age men**.
- Presently, the Jaina cave temple, the natural cavern called Ezhadippattam, and the megalithic burial sites are protected monuments and are under Archaeological Survey of India (ASI).

About Sittanavasal Paintings:

- The place is famous for its **mural paintings**. The ceiling of the sanctum and ardha-mandapam of this cave temple contain beautiful paintings.
- These murals have close resemblance to Bagh and Ajanta paintings
- These paintings include, as its subject matter, the **Jaina Samavasarana** (preaching hall)
- The central element of the paintings in Sittanavasal is a pond with lotuses. Flowers in this pond are collected by monks, there are shown ducks, swans, fishes and animals.

Rosh Hashanah

News: Prime Minister Modi has extended his warmest greetings to the PM of Israel, Yair Lapid, the people of Israel, and the Jewish people around the world on the occasion of Rosh Hashanah.

About:

- Rosh Hashanah commemorates the **universe's birth** and marks the start of the **Days of Awe**, a 10-day period of repentance that concludes with **Yom Kippur** (Also called **Atonement Day**).
- Throughout Rosh Hashanah, people will do good actions hoping that God writes their names in the Book of Life, granting them a joyful and prosperous year ahead.
- The Jewish faith observes two High Holy Days -Rosh Hashanah and Yom Kippur.

About Yom Kippur:

- The Day of Atonement is Yom Kippur, a Jewish holiday devoted to atoning for sins. It's considered the holiest day of the year in Judaism.
- Observation of the day is marked by **fasting and prayers of repentance** during a daylong service in the synagogue.

Note - In the picture, you can see an instrument known as 'shofar'. It is a musical horn used for Jewish religious purposes.



Society

Human Development Index 2021

News: According to the Human Development Report 2021-22, India's rank on the Human Development Index (HDI) has slipped from 130 in 2020 to 132 in 2022, in line with a global fall in HDI scores in the wake of the Covid-19 pandemic.

What is HDI?

- HDI is a composite index that measures average achievement in human development taking into account four indicators - Life expectancy at birth, Expected years of schooling, Mean years of schooling and Gross national income (GNI).

Key Findings (India perspective)

- India's HDI value stood at 0.633 in 2021, which was lower than the world average of 0.732. In 2020, too, India recorded a decline in its HDI value (0.642) in comparison to the pre-Covid level of 2019 (0.645).
- In 2021, India's life expectancy at birth was recorded at 67.2 years.
- Expected years of schooling at 11.9 years; mean years of schooling at 6.7 years;
- The gross national income per capita stood at USD 6,590.
- India has been ranked 122 on the Gender Inequality Index.

Key Findings (Global perspective)

- Ninety percent** of countries have registered a **reduction** in their Human Development Index value in 2020 or 2021, **reversing** much of the progress toward the Sustainable Development Goals.
- A large contributor to the Human Development Index's recent **decline** is a **global drop in life expectancy**, down from 72.8 years in 2019 to 71.4 years in 2021.

Other notable observations made:

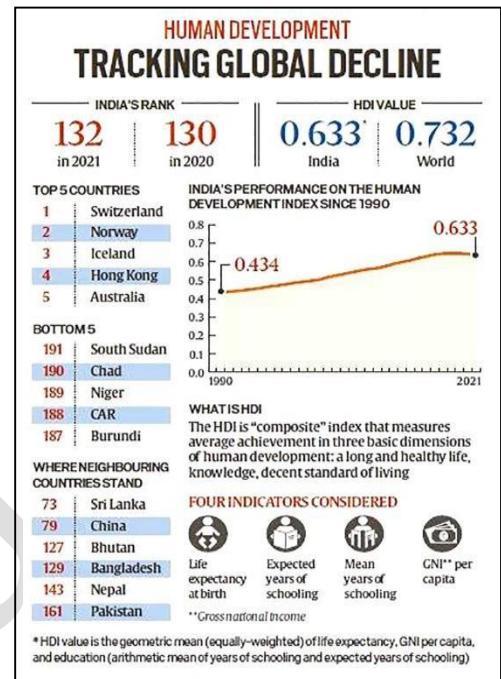
- Without an abundance of insect pollinators, humans face the mind-boggling challenge of growing food and other agricultural products at scale.
- It stated that humans were unprepared for a world with climate crises like fires and storms and other planetary-level changes.
- Plastics are now everywhere, in country-sized garbage patches in the ocean, in protected forests and distant mountaintops and in people's lungs and blood.

India Discrimination Report 2022

News: The India Discrimination Report which is released by Oxfam India highlighted that women and marginalized communities suffered discrimination in the job market.

Key Highlights:

- Indian women face discrimination in the job market and earn less than men even when they have the same qualifications and experience. Gender Discrimination accounts for over 90% of employment and earning gap between males and females
- Discrimination is observed amongst earnings of schedule caste and scheduled tribes vis-à-vis non SC/ST's employees. For example, Self-employed non-SC/ST workers earn a third more than their counterparts from SC or ST backgrounds.



Data around Female labor force participation (FLFP) - According to Indian government data, in 2020-21 women made up only 25.1% of the labor force (from 42.7% in 2004-05)

Why is it declining?

- “Societal and employers’ prejudices” is responsible for women’s lower wages.
- A large segment of well-qualified women not “wanting” to join the labour market because of household responsibilities or social status.
- Poor access to education or work experience.

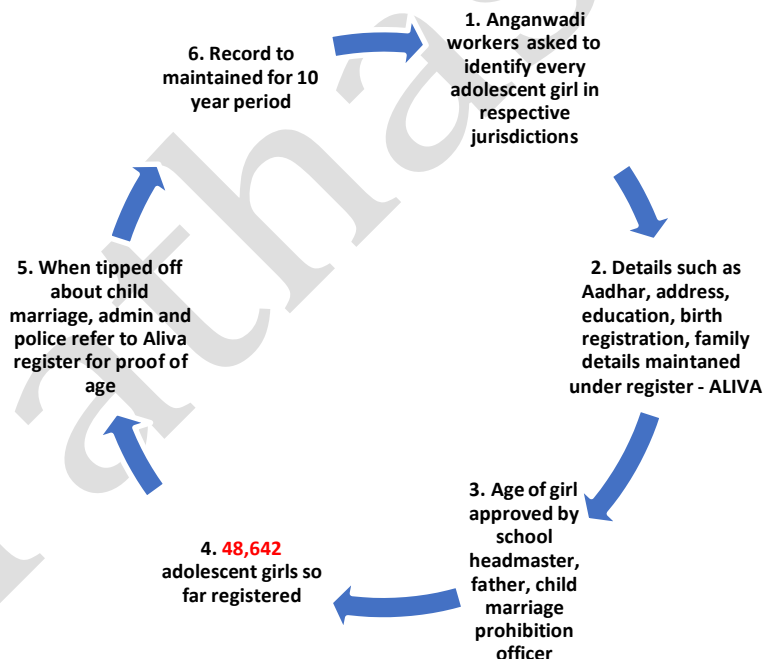
How do we change it?

- Formalization of the jobs can help. This will also ensure that they receive social security benefits.
- Encourage and incentivize more women, ST/SC community to participate in workforce by providing skilling courses, flexible workspace environment, safety, providing work from home facility wherever possible.
- More equitable distribution of household and care work. Today, woman are involved in 2 full-time jobs (at office and household duties) this must change.
- Implement “Living wages” as opposed to minimum wages. A minimum wage is the lowest amount a worker can be paid hourly as determined by law. A living wage is an amount an individual or family would need to make to avoid living in poverty. This amount is usually higher than the minimum wage and is not mandated by law.

Aliva Programme

News: In Odisha’s Navagarh district, the administration has launched the ‘Aliva programme’ to keep a record of all adolescent girls in the district to come across the information regarding their child marriage and its prevention.

About Aliva:



Impact of Aliva:

- These registers are the most comprehensive in nature which keeps tabs on the life of girls for 10 years.
- It has helped law enforcement agencies as parents sometimes attempt to hide age of girls to escape punishment.
- It has not only helped to prevent child marriages but also been useful for checking health of girls.

Status of Child marriage in India:

- Child marriage, according to the Indian law, is a marriage where either the woman or man is below the age of 21.
- Most child marriages involve girls, many of whom are in poor socio-economic conditions.
- A **2015–2016 UNICEF** report estimated that India's child marriage rate is **27%**.
- The Census of India has counted and reported married women by age, with proportion of females in child marriage falling in each 10-year census period since 1981.
- According to **NFHS-5**, every fourth woman surveyed in the age group of 20 to 24 was married before they turned 18.
- The **elimination** of child marriage by 2030 is a global target under the SDGs.

Causes of Child marriage:

- Social norms in many regions and cultures where parents begin preparations for a girl's marriage once she has reached menarche (the first occurrence of menstruation)
- Huge costs of dowry associated with delayed marriage forces parents to marry child at early age.
- For many poor families, marrying their daughter at an early age is kind of a strategy for economic survival (one less person to feed, educate etc)
- Educating girls is seen as less of priority and their primarily role is considered to be that of a wife, mother and homemaker which forces them to marry at early age.
- The Prohibition of Child marriage act, 2006 requires only marriages resulting from use of force/threat/fraud/ kidnapping or violation of an injunction order of a court to prevent such a marriage from taking place are null and void, which means child marriages other than these reasons are valid.

Government of India initiatives to end child marriage:

- **Prohibition of Child marriage Act, 2006**
- **Beti Bachao Beti Padhao scheme**
- **Child Help Line** – GOI initiative which introduced CHILDLINE with short code 1098, a 24*7 telephone emergency outreach service for children in crisis.
- **National Commission for Protection of Child Rights (NCPCR)** – It takes programmes from time to time on the issue of child marriage.

Geography

Floods in Pakistan – India offers help

News: India will be extending humanitarian assistance to Pakistan to deal with the Devastating Flood that occurred because of Pakistan's Monster Monsoon. The climate crisis is the prime reason for the devastating scale of flooding in Pakistan, which has killed more than 1,000 people and affected 30 million.

Reasons behind severe Floods:

- The current flood is a direct result of an extremely wet monsoon season this year. The same southwest monsoon that brings the bulk of India's annual rainfall causes rain in Pakistan as well. There's been a 400% increase in average rainfall in areas like Baluchistan and Sindh, which led to extreme flooding.
- In May 2022, Pakistan consistently saw temperatures above 45 degrees Celsius (113 Fahrenheit). Warmer air holds more moisture about 7% more per degree Celsius and that eventually comes down, in this case in torrents.
- Instead of just swollen rivers flooding from extra rain, Pakistan is hit with another source of flash flooding.
- The extreme heat accelerates the long-term glacier melting and then water speeds down from the Himalayas to Pakistan in a dangerous phenomenon called glacial lake outburst floods.
- The El Niño–Southern Oscillation (ENSO) appears to be in its La Niña phase. "La Niña is behaving very strongly in some metrics and is a significant factor for enhancing monsoonal rains.

India's assistance:

- The aid will be the first time since 2014 that India will be extending aid to Pakistan on account of a natural disaster. In the past, India extended assistance to Pakistan for the floods in 2010, and for the earthquake in 2005.



La Nina

News: Recently, Australia's Bureau of Meteorology (BOM) predicted, that a third consecutive event of La Nina could be underway which could lead to unusual weather effects in various countries.

What is La Nina?

- La Nina means the Little Girl in Spanish. Often referred to as simply 'cold event'.
- La Nina events represent periods of below-average sea surface temperatures across the east-central Equatorial Pacific. It is indicated by sea-surface temperature decreased by more than 0.9°F for at least five successive three-month seasons.
- La Nina event is observed when the water temperature in the Eastern Pacific gets comparatively colder than normal, as a consequence of which, there is a strong high pressure over the eastern equatorial Pacific.

Impact of La Nina on Different regions:

- In **Europe**, El Nino reduces the number of autumnal hurricanes. La Nina tends to lead to milder winters in Northern Europe (especially UK) and colder winters in southern/western Europe leading to snow in the Mediterranean region.
- It is continental **North America** where most of these conditions are felt. The wider effects include Stronger winds along the equatorial region, especially in the Pacific, favourable conditions for hurricanes in the Caribbean and central Atlantic area and Greater instances of tornados in various states of the US.
- In **South America**, La Nina causes drought in the South American countries of Peru and Ecuador. It usually has a positive impact on the fishing industry of western South America.
- In the **western Pacific**, La Nina increases the potential for landfall in those areas most vulnerable to their effects, and especially into continental Asia and China. It also leads to heavy floods in Australia. There are **increased temperatures in Western Pacific, Indian Ocean** and off the Somalian coast.

What is El Nino?

- El Nino is a climate pattern that describes the unusual warming of surface waters in the eastern tropical Pacific Ocean. It is the “warm phase” of a larger phenomenon called the El Nino-Southern Oscillation (ENSO). It occurs more frequently than La Nina.

Impacts of El Nino:

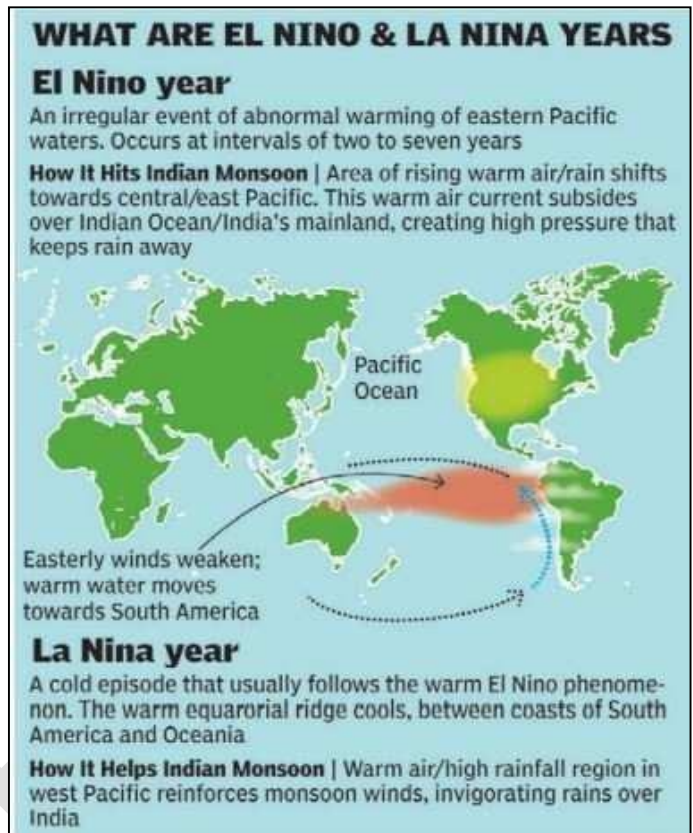
- El Nino also impacts ocean temperatures, the speed and strength of ocean currents, the health of coastal fisheries, and local weather from Australia to South America and beyond.
- Rainfall increases drastically in South America, contributing to coastal flooding and erosion.
- El Nino-related flooding is associated with increases in cholera, dengue, and malaria in some parts of the world, while drought can lead to wildfires that create respiratory problems.
- As El Nino brings rain to South America, it brings droughts to Indonesia and Australia. These droughts threaten the region’s water supplies, as reservoirs dry and rivers carry less water. Agriculture, which depends on water for irrigation, is also threatened.

What is ENSO?

- The combined phases of La Nina and El Nino are termed El Nino-Southern Oscillation (ENSO) and affect rainfall patterns, global atmospheric circulation, and atmospheric pressure across the planet.

Impact of 3rd consecutive La Nina on India as predicted by IMD:

- The India Meteorological India (IMD) has predicted that some parts of India may witness heavy rains.
- The Western Ghats may receive average or below-average rain.
- Winter rainfall is likely to be less than normal in North India.
- Less than normal Winter temperatures in plain areas.
- Extended Winter Seasons over North India.
- More rain is expected during the second half of the Northeast Monsoon.
- Farmers are expected to be at risk of losing their standing Kharif crops as harvesting of Kharif crops begins in September end or early October and rains prior to that will not help farmers.



Narmada waters will reach Kutch

News: Recently, Prime Minister Mr. Narendra Modi has led the foundation stone and inaugurated the Narmada canal that will bring water to Kutch from the Narmada Sarovar dam in south Gujarat.

Significance of the move:

- In recent years, Kutch has focused on agriculture and has emerged as the State's largest region for **horticulture**, and with the Narmada's water reaching in the district, **farmers could benefit by growing fruits and vegetables.**
- Kutch holds India's one of the first commercial milk production brands. Hence, water supplies will increase feedstock production and animal rearing plants.
- It will help build the aspirations of people living in Kutch who are deprived of water due to lesser rains, high temperature. The poor people and women will stand to benefit the most.
- This project will cover Saurashtra, Kachchh as well as parts of North Gujarat (Ahmedabad, Mehsana, Banaskantha, Sabarkantha, and Panchmahal).

Why is Kutch important?

- After the earthquake, the Gujarat government had focused on the Kutch district, which was then known as "very backward" but the government's efforts led to massive industrial development across the district.
- In way of development in the Kutch region and water scare region, the growth and irrigation models are now built. Narmada canal is one among this initiative of the State government.
- Kutch houses Asia's first Special economic zone (SEZ) at Mundra.
- Kandla and Mundra ports handle **30% of India's cargo**, and the district produces **30% of the country's salt.**
- Kutch produces **2,500 MW** of power from solar and wind energy.
- The district is known for its cement plants, textile plants and stood second in the world in welding pipe manufacturing.

About Sardar Sarovar Project:

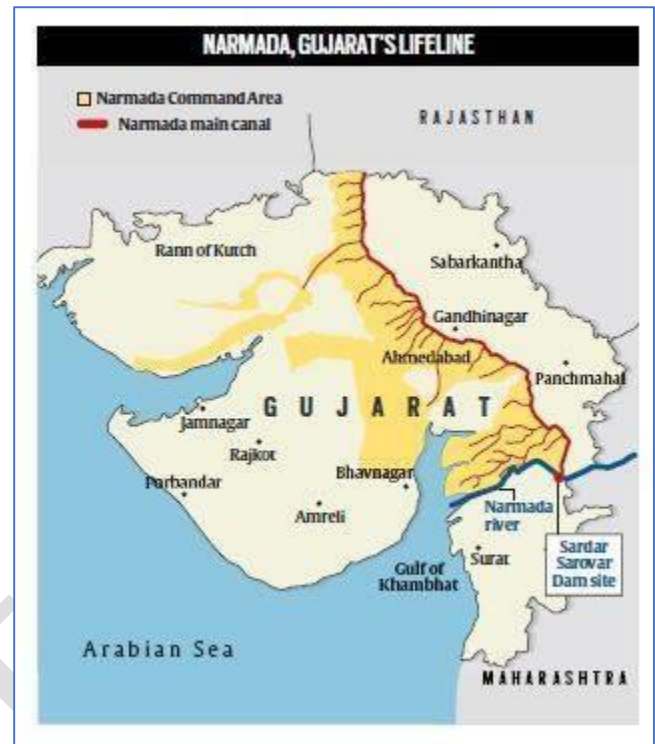
- The Sardar Sarovar Project is one of the largest water resources projects of India covering four major states – Maharashtra, Madhya Pradesh, Gujarat and Rajasthan.
- The dam's spillway discharging capacity (30.7 lakhs cusecs) would be the third highest in the world.
- The Narmada Main Canal would be the largest irrigation canal in the world.

Procurement target doubled for Coarse Cereals

News: In a meeting organized by the Department of Food and Public Distribution, the government of India has considered pushing towards coarse cereals as climate change affects wheat and paddy cultivation.

What are coarse cereals?

- They are traditionally grown in resource poor agro-climatic regions of the country. Sorghum, pearl millet, maize, barley, finger millet and several small millets such as kodo millet, little millet, foxtail millet, proso millet and barnyard millet together called coarse cereals.
- They are known for nutria-rich content and they exhibit strong resilience towards climate change.
- They offer option in food processing industry and which can be further tapped for its export potential.



- Nutritional value can be excellent tool to combat malnutrition.
- Their cultivation in drought prone areas helps not only generate employment but also serves as feedstock for animal and poultry and has industrial potential too.

Reasons behind Government's push for Coarse Cereals:

- Dependency on wheat and paddy alone for country's food security may not suffice in the long run. In addition, climate change has affected production of wheat and paddy in the country.
- Changing rainfall pattern in past few years and especially in 2022 has increased the government's concern for Kharif season yield.
- Cost of cultivation is low as compared to paddy and wheat.
- Coarse cereals have been sown in 17.63 million hectares in 2022 as against 16.93 million hectares in 2021.

What steps are taken by Government to promote coarse cereals?

- The United Nation General Assembly adopted an India-sponsored resolution to mark 2023 as the "International Year of Millets".
- The government has hiked the Minimum Support Price of Millets, which came as a big price incentive for farmers and to provide a steady market for the produce, the government has included millets in the public distribution system.
- Initiative for Nutritional security through Intensive millet promotion – The scheme aimed to improve production and post-harvest technologies to increase production of millets.

Zombie Ice

News: A new study finds that Greenland has more than 120 trillion tons of ice that can be thought of as zombie ice that's **going to raise sea level globally by at least 10 inches.**

What is Zombie Ice?

- Zombie Ice referred to as dead or doomed ice.
- It is one that is not accumulating fresh snow even while continuing to be part of the parent ice sheet.
- Such ice is "committed" to melting away and increasing sea levels.
- It's dead ice. It's just going to melt and disappear from the ice sheet. This ice has been consigned to the ocean, regardless of what climate (emissions) scenario we take now.

What are key findings?

- The unavoidable ten inches in the study is more than twice as much sea level rise as scientists had previously expected from the melting of Greenland's ice sheet.
- Intergovernmental Panel on Climate Change (IPCC) report in 2021 projected a range of 2 to 5 inches (6 to 13 centimeters) for likely sea level rise from Greenland ice melt by the year 2100.
- 3% of Greenland's total ice volume will melt no matter what happens with the world cutting carbon pollution.

What are the possible consequences?

- According to the **UN Atlas of the Oceans**, 8 of the world's 10 largest cities are near a coast. Rising sea levels will make flooding, high tides and storms more frequent and worse as their impact will reach more inland. This, in turn, means a threat to local economies and infrastructure.
- The low lying coastal areas will take a harder hit.
- The World Economic Forum's 2019 Global Risks Report noted that "already an estimated 800 million people in more than 570 coastal cities are vulnerable to a sea-level rise of 0.5 metres by 2050".



What are other things that is accelerating melting of Ice across Greenland?

- **Increased rain** is accelerating surface melt and ice flow.
- Large tracts of the ice surface are undergoing **bio-albedo darkening**, which accelerates surface melt, as well as the impact of snow melting and refreezing at the surface. These darker surfaces absorb more solar radiation, driving yet more melt.
- **Warm, subtropical-originating ocean currents** are intruding into Greenland's fjords and rapidly eroding outlet glaciers, undercutting and destabilizing their calving fronts.

Broken Rice exports banned

News: Recently, India has banned exports of broken rice and imposed a 20% duty on exports of non-Basmati rice except for parboiled rice to boost domestic supplies amid a fall in area under the paddy crop in the current Kharif season.

What is Broken rice?

- Broken Rice as the name indicates are rice grains "broken" or fractured during the milling process. The broken grains are deemed inferior, and so, are separated from the whole grains and sold as "Broken Rice". There's absolutely nothing wrong with this rice other than the grains are fragmented rather than whole.
- It is often used in the manufacture of feed for very young animals and for pets. Further, it is used for all types of livestock and is particularly suitable due to its rich caloric value and low fibre content.
- It is also used in the brewing industry, where it is mixed with barley and the production of arak (aniseed alcoholic drink, distilled, colourless drink).
- It is a raw material for rice flour, used in baby food, breakfast cereals, rice wine, rice liqueur, sake, and prepackaged and canned foods.

Why did the Government ban export?

- In 2021-22, India exported about 3.9 million tonnes of broken rice, primarily to China, which uses it as animal feed. The high exports **created a shortage** in India, where broken rice is used for manufacturing ethanol and as cattle feed.
- According to data shared by the food ministry, **domestic industry manufacturing ethanol and animal feed is struggling to ensure availability of broken rice at a reasonable price**. Due to robust exports, the price of broken rice shot up to Rs 22 per kg in early September from Rs 16 per kg in early January — a 27 per cent increase in just eight months.
- The poultry and animal husbandry sectors have been hit hard due to the hike in feed prices. So, **to contain the impact on milk, egg and poultry prices**, it was imperative to ban broken rice exports.

Natural Rubber

News: After a moderate post-pandemic revival, the price of natural rubber (NR) has crashed to a 16-month low of 150Rs per kg (RSS grade 4) in the Indian market.

Why fall in Rubber prices?

- Mainly attributed to weak Chinese demand.
- European energy crisis
- High inflation and import glut.

What is Natural rubber?

- It is a commercial plantation crop which is made from the latex of a tree called *Hevea Brasiliensis*.
- Rubber is largely perceived as a strategic industrial raw material and accorded special status globally for defense,



national security and industrial development.

- It is an equatorial crop, but under special conditions, it is also grown in tropical and sub-tropical areas.
- Temperature- Above 25°C with moist and humid climate.
- Rainfall - More than 200 cm.
- Soil Type - Rich well drained alluvial soil

Natural Rubber in India:

Commercial cultivation of natural rubber was introduced in India by the British.

The first commercial Hevea plantations in India were established at Thattekadu in 1902.

India is currently the **world's fifth largest producer** of natural rubber while it also remains the **second biggest consumer** of the material globally.

About 40% of India's total natural rubber consumption is currently met through imports.

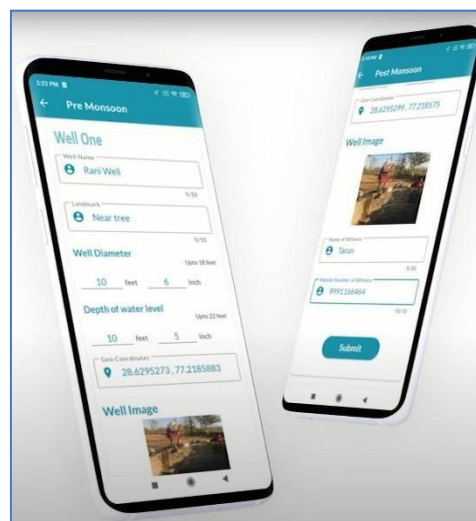
The auto-tyre manufacturing sector accounted for 73.1% of the total quantity of natural rubber consumption.

JALDOOT App

News: The **Union Rural Development Ministry** recently launched a mobile application that will enable gram rojgar sahayaks to measure the water level of selected wells twice a year, before and after the monsoon.

About:

- The JALDOOT app has been jointly developed by **Ministry of Rural Development** and **Panchayati Raj**.
- This app will be used **across the country** to capture the water level of selected 2-3 wells in a village.
- Manual monitoring of water levels in open wells will be measured twice in a year, from 1st May to 31st May as pre-monsoon water level and from 1st October to 31st October for post-monsoon level for the same well.
- Jaldoots who are the officers assigned to measure the water levels, should also upload the geo-tagged photographs through the app on every occasion of measurement. The app will work in both online and offline mode.
- So water level can be captured even without internet connectivity and captured data will be stored in mobile and when mobile comes in the connectivity area, data will synchronize with the central server.
- The regular data to be input by the Jaldoots would be integrated with the database of National Water Informatics Centre (NWIC), which can be utilized for analysis and display of various useful reports for the benefit of various stakeholders.
- Water level report, Monsoon Report and Registered user report are available at JALDOOT web portal.



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

Constitution Bench

News: Justice Uday Umesh Lalit, 49th Chief Justice of India (CJI), assured there will be at least one Constitution Bench functioning throughout the year in the Supreme Court.

What is it?

- A Constitution Bench is a bench of the Supreme Court having five or more judges on it.
- These benches are not a routine phenomenon.
- A vast majority of cases before the Supreme Court are heard and decided by a bench of two judges (called a Division Bench), and sometimes of three.
- The Chief Justice of India has the power to constitute a Constitution Bench and refer cases to it.

What are the circumstances for Constitution bench to exist?

- **Article 145(3)** - It says, "The minimum number of Judges who are to sit for the purpose of deciding any case involving a substantial question of law as to the interpretation of this Constitution or for the purpose of hearing any reference under Article 143 shall be five."
- **Article 143** - When the President seeks the Supreme Court's opinion under law under Article 143 of the Constitution. As per the provision, the President of India has the power to address questions to the Supreme Court, which he deems important for public welfare. The Supreme Court upon reference advises the President by answering the query. However, such referral advice by the apex court is not binding on the President, nor is it 'law declared by the Supreme Court'.
- In case of **Conflicting Judgements** - When two or more three-judge benches of the Supreme Court have delivered conflicting judgments on the same point of law, necessitating a definite understanding and interpretation of the law by a larger bench. The Constitution benches are set up on ad hoc basis as and when such conditions exist.

Need for Constitution bench:

- Currently, Constitution Benches are set up on an ad hoc basis (particular purpose) as and when the need arises.
- The Supreme Court's pendency has crossed over 71,000 from a little over 55,000 in 2017. This is despite the fact that the sanctioned judicial strength of the court was increased to 34 judges in August 2019.
- Such bench help the judges identify, hear and provide relief in cases which need their urgent attention and also help litigants and lawyers to avoid delay in getting their cases listed for hearing before judges due to the long-winded processes of the Supreme Court Registry.

Competition (Amendment) Bill, 2022

News: Recently, the Bill to amend the Competition Act, 2002, was finally tabled in the Lok Sabha.

Key amendments proposed:

- The new Bill proposes to add a **deal value threshold**. Further, it will be mandatory to notify the Commission of any transaction with a deal value in excess of ₹2,000 crores and if either of the parties has substantial business operations in India.
- The Commission shall frame regulations to prescribe the requirements for assessing whether an enterprise has substantial business operations in India. It will strengthen the Commission's review mechanism,

STRONGER COMPETITION LAW
Salient Features of Competition (Amendment) Bill, 2022

- Permit CCI to seize documents and records during probes
- CCI approval needed if value of the transaction over Rs 2,000 crore
- Assessment in 150 days
- Reduce litigations through penalty
- Incentivise parties during an investigation with lesser penalty

particularly in the digital and infrastructure space.

- For any business entities wanting to execute a combination, they must inform the Commission.
- Earlier it had 210 days to approve the combination, after which it is automatically approved. The new amendment accelerated the timeline from 210 working days to only 150 working days with a conservatory period of 30 days for extensions. It will speed up the clearance of combinations and increase the importance of pre-filing consultations with the Commission.
- Earlier the penalty for gun-jumping was a total of 1% of the asset or turnover which is now proposed to be 1% of the deal value.
- The amendment broadens the scope of 'anti-competitive agreements' to catch entities that facilitate cartelization even if they are not engaged in identical trade practices.
- It proposes to exempt open market purchases and stock market transactions from the requirement to notify the Commission in advance.
- The new amendment proposes a framework for settlements and commitments for cases relating to vertical agreements and abuse of dominance. As in the case of vertical agreements and abuse of dominance, the parties may apply for a commitment before the Director General (DG) submits the report. As per the amendment, the Commission's decision regarding commitment or settlement will not be appealable after hearing all stakeholders in the case.
- Provision of Leniency plus - It allows the commission to give an additional waiver of penalties to an applicant who discloses the existence of another cartel in an unrelated market, provided the information enables the Commission to form a prima facie opinion about the existence of the cartel.
- The appointment of a Director General by the Commission rather than the Central government gives the Commission greater control. It gives the Commission greater control.
- The Commission will develop guidelines regarding the number of penalties for various competition violations. For an appeal to be heard by the National Company Law Tribunal (NCLT) against the Commission's order, the party will have to deposit 25% of the penalty amount.

What is the role of CCI?

- Eliminate practices adverse to competition.
- Ensure freedom of trade in the markets.
- Promote and sustain competition.
- Protect the interests of consumers.
- Give opinion on competition issues.
- Undertake capacity building and competition advocacy.

Aadhar-Voter ID linkage

News: There have been reports of instances where block-level officers have asked individuals to link their Aadhaar with their Voter IDs, failing which their Voter IDs could be cancelled.

Reasons behind push for linkage:

- The linking project would help the Election Commission, which conducts regular exercises to maintain an **updated and accurate record** of the voter base.
- To **weed out duplication of voters**, such as migrant workers who may have been registered more than once on the electoral rolls in different constituencies or for persons registered multiple times within the same constituency.
- As per the government, linkage of Aadhaar with voter IDs will assist in ensuring that **only one Voter ID** is issued per citizen of India.

Is it mandatory?

- Recently, Election Laws (Amendment) Act, 2021 had amended RPA,1950 and Section 23(4) was inserted. It states that the electoral registration officer may "for the purpose of establishing the identity or authentication of any person already enrolled, require them to furnish their Aadhaar numbers".

- Registration of Electors Rules, 1960(Rule 26B) - Every person whose name is listed in the roll may intimate his Aadhaar number to the registration officer.
- Form 6B requires the voter to either submit their Aadhaar number or any other listed document.

What is the significance of this linkage?

- Aadhaar-based authentication and verification are considered more reliable, quicker and cost-efficient when compared to other IDs.
- At the end of 2021, 99.7% of the adult Indian population had an Aadhaar card exceeding any other officially valid document such as a driver's license, ration cards, PAN cards that are mostly applied for specific purposes.

What are the concerns surrounding this linkage?

- **Violation of right to privacy** - The linking of the two databases of electoral rolls and Aadhaar could lead to the linkage of Aadhaar's "demographic" information with voter ID information and lead to violation of the right to privacy and surveillance measures by the state.
- **Ambiguous constitutional status** - In the Puttaswamy case (Right to Privacy), one of the questions that the Supreme Court explored was whether the mandatory linking of Aadhaar with bank accounts was constitutional or not.
- **Questions raised over Aadhaar's use for proof of citizenship** - Aadhaar as per its original mandate was supposed to be only used for providing proof of residence.
- **Errors in Biometrics** - The estimate of error rates in biometric-based authentication differ widely. As per the UIDAI in 2018, Aadhaar-based biometric authentication had a 12% error rate.

What is the way forward?

- It is important that the government clarifies through a correction in Form 6B that the linking is not mandatory
- The enactment of data protection legislation that allays concerns of unauthorized processing of personal data held by the government.

Nitipath scheme on the lines of Agnipath

News: Nitin Pai (co-founder and director of the Takshashila institution) highlighted a case for the government to launch a "Nitipath" scheme on the lines of Agnipath and the Short Service Commission for military officers.

How would Nitipath scheme work?

- Officers can **be filtered out after 10, 25 and 30 years of service**. This would **rectify the top-heavy structure**, and create a culture of public service and performance.
- The government can **recruit four times as many candidates at the entry level** without being constrained by the number of apex level positions and career paths.
- Instead of 600-1,000 candidates appointed to the AIS, we can have 4,000 officers entering service every year. Only 25% of them will be retained after a performance review after the fourth year.

Benefits of Nitipath?

- It will bring a **lot of young and energetic officers at the junior levels**, give them strong incentives to perform, and give them work experience in government. The **average quality of the top 4,000 all-India rank holders will not be markedly different from that of the top 1,000**. So, a four-year review period will allow the **government to get a better pick than merely exam and interview scores**.
- Those who leave government service after four years will have good economic prospects. It is quite likely many will voluntarily choose to leave and opt for higher studies or private employment. The addition of such youthful, trained and experienced managerial cadre will benefit the broader economy.
- Instituting performance reviews and exit filters every five years will create a path towards a semi-structural reform of India's administrative machinery.

- A lateral entry scheme can accommodate the re-entry of people who might have been filtered out at junior levels but have distinguished themselves since.

What are the government initiatives for Civil services reforms?

- **Provision of Lateral Entry** - Lateral entry means when personnel from the private sector are selected to an administrative post of the government despite them not being selected in or being part of a bureaucratic setup. It helps because contemporary times require highly skilled and motivated individuals at the helm of administrative affairs, without which public service delivery mechanisms do not work smoothly.
- **Citizens Charters** - Government has mandated Citizen Charters for all Ministries/Departments which are updated and reviewed on a regular basis.
- **Mission Karmayogi** - It is a National Programme for Civil Services Capacity Building (NPCSCB). It is a comprehensive reform of the capacity building apparatus at individual, institutional and process levels for efficient public service delivery.
- **Centralized Public Grievance Redress and Monitoring System (CPGRAMS)** - It is an online web-enabled system which provides the facility to lodge a grievance online from any geographical location. It enables the citizen to track online the grievance being followed up with Departments concerned and also enables DARPG to monitor the grievance.

Civil Servants right to Free speech

News: A senior IAS officer, Smita Sabharwal from Telangana, tweeted from her personal account in support of Bilkis Bano and questioned the Gujarat government's decision, sparking off a row over whether she was in breach of the Central Civil Services (Conduct) Rules of 1964.

Was she right in tweeting this?

No. Why?

- Just like any other citizen, a civil servant has right to free speech guaranteed under Article 19 of the constitution.
- However, a Civil servant is bound to be adhered to **disciplinary rules**. Such rules prevent a government servant from becoming a member of a political organization, or any organization of such a nature, or expressing herself freely with regard to anything that has to do with the governance of the country.
- **Rule 9** of the Rules of the Central Civil Services (Conduct) Rules states, "No Government servant shall... make any statement of fact or opinion... which has the effect of an adverse criticism of any current or recent policy or action of the Central Government or a State Government."
- In addition, she was **not a stakeholder** in the decision making process.

Yes, she was. Why?

- In the **Lipika Paul vs The state of Tripura case (2020)**, a landmark judgement was given where the High court of Tripura opined that 'a government servant is not devoid of her right to free speech, a fundamental right which can be curtailed only by a valid law.' However, the court did observe that the expression of right to speech is subject to curtailment in certain circumstances.
- **Kerala High Court** had also observed that one cannot be prevented from expressing his views merely because he is an employee.

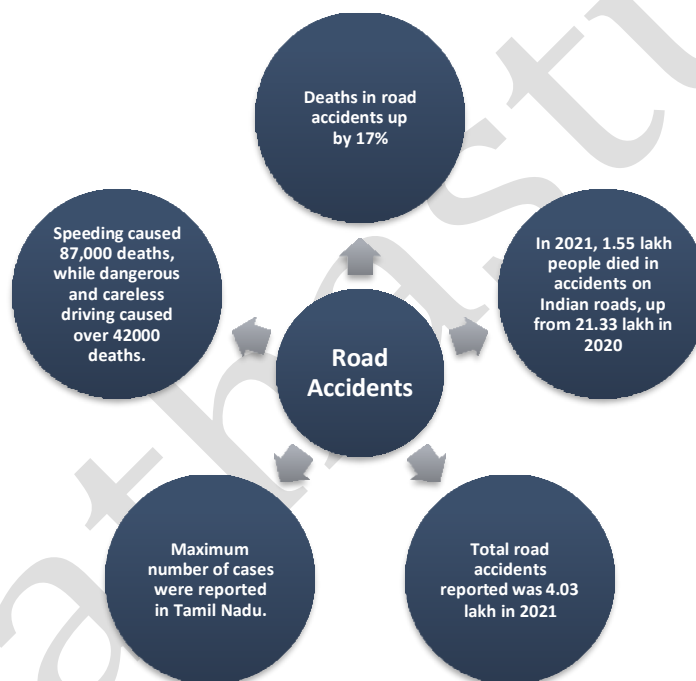
What is the way forward?

- Many government officers and ministers are encouraged to communicate government policies to the general public through social media. Unfortunately, government officers are only encouraged to say good things in the media. The problem with this is that if any policy is being implemented everybody has a right to express his or her opinion, a right to object, a right to dissent in a democracy.
- Government officers have a duty to increase transparency about policies through social media. A case-by-case approach must be followed.

News: NCRB has released its report on various crime statistics.

Accidental and Suicide Deaths 2021

- Suicide - 120 deaths per mn population (the highest level ever recorded)
 - At the national level, the number of suicides increased by 7.17 per cent from the years 2020 to 2021.
- Daily wage earners remained the largest profession-wise group among suicide victims in 2021
- The overall share of "Persons engaged in the farming sector" among the total recorded suicides stood at 6.6 per cent during 2021



Data regarding Crimes against Women:

- The NCRB report also shows that the rate of crime against women (the number of incidents per 1 lakh population) increased from 56.5 per cent in 2020 to 64.5 per cent in 2021.
- The report places **Uttar Pradesh** on top in terms of the actual number of cases registered in 2021,
- **Nagaland stood out with the lowest number of crimes against women** registered in the past three years
- Only 507 cases were registered in the country under the Domestic Violence Act in 2021 — 0.1 per cent of the total cases of crime against women: Showing an under-reporting of cases.

Few facts about NCRB:

- NCRB was set-up in 1986 to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators

- It was based on the recommendations of the Tandon Committee, National Police Commission (1977-1981) and the MHA's Task force (1985).
- Subsequently, NCRB was entrusted with the responsibility for monitoring, coordinating and implementing the Crime and Criminal Tracking Network & Systems (CCTNS) project in the year 2009.
- Reports released by NCRB include Crimes in India, Prison statistics in India and Accidental Deaths and Suicides in India.

POSHAN Abhiyaan

News: More than half the funds for POSHAN Abhiyaan remained unutilized as stated by the 4th progress report released by the NITI Aayog.

What is Poshan Abhiyaan?

- The programme seeks to improve nutritional outcomes for children, pregnant women and lactating mothers.
- It was launched in 2018 with specific targets to be achieved by 2022.
- It aimed to reduce Stunting and wasting by 2% a year (total 6% until 2022) among children.
- To reduce Anemia by 3% a year (total 9%) among children, adolescent girls and pregnant women and lactating mothers.
- Target - To bring down stunting among children in the age group 0-6 years from 38.4% to 25% by 2022.

What are key findings of the report?

- It was observed that **less than half the funds** set aside for the Poshan Abhiyaan have been utilized by India's states.
- The States and Union territories (UTs) with **poor distribution of mobile phones and growth monitoring devices** emerged as those with low fund utilization.
- Only three states had used more than 50 per cent of their POSHAN Abhiyaan funds between 2017-2018 and 2018-2019. This improved marginally to 12 between 2017-2019 and FY 2019-2020.
- On a scale of 0-100, only Punjab scored less than 50 among the large states. Arunachal Pradesh, Manipur, and Mizoram were the poor performers among the small states while no UT scored less than 50.
- However, interventions across human resources, infrastructure, supplies, training and capacity building under the programme has improved compared to the previous progress report.

What are the 5 key elements of Poshan Abhiyaan scheme as listed by the report?

- Deliver a high-impact package of interventions in the first 1,000 days of a child's life. Strengthen the delivery of these interventions through technology and management.
- Improve the capacity of frontline workers.
- Facilitate cross-sectoral convergence to address the multi-dimensional nature of malnutrition.
- Enhance behavior change and community mobilization.

Foundational Learning Survey

News: Recently, the nationwide Foundational Learning Survey (FLS) was carried out jointly by the Union Ministry of Education and the National Council of Educational Research and Training (NCERT).

About FLS, what should we know?

- It aims to setup benchmarks for reading with comprehension in 22 Indian languages. It was undertaken in 2022 towards strengthening efforts for foundational literacy and numeracy under the **NIPUN Bharat Mission**.
- FLS was carried out among 86,000 class III children in 10,000 schools in the country.

- Based on children's performances, they were placed in **four categories** - Those who lacked the most basic knowledge and skills, those who have limited knowledge and skills, those who have developed sufficient knowledge and skill and those who have developed superior knowledge.

Key Findings:

- At National level, 11% of students lack the most basic knowledge and skills. 37% of the students have limited knowledge and skills.
- As far as English language is concerned, 15% of students were found to be lacking even basic skills, 30% had limited skills, 21% had sufficient skills and 34% had fairly superior skills.
- Speaking about Hindi language, 21% fell under the worst performing bracket and 32% had limited proficiency.
- While basic Maths and numeracy is concerned the study found that the **most basic knowledge and skills in numeracy** were **either lacking or limited in 48% of class III students**. Tamil Nadu (29%) had the maximum number of students who could not complete the most basic grade-level tasks, followed by Jammu and Kashmir (28%), Assam, Chhattisgarh and Gujarat (18%).
- Limited skills with numbers - In total, there were 11 States with more than 50% of students who either lacked or had limited skills with numbers.

What is the basis of findings?

- Findings of the FLS are based on interviews with each individual participant. The sample included state government schools, government-aided schools, private recognized and central government schools.

About NIPUN scheme:

- It is a national mission to enable all children at the end of class 3 to attain foundational skills by the year 2026-2027.
- It aims to cover the learning needs of children in the age group of 3 to 9 years.

EWS Quota

News: A Constitution Bench led by the Chief Justice of India finalized three cardinal issues for examining whether the 103rd Constitutional Amendment violates the Basic Structure of the Constitution.

About:

- The 10% EWS quota was introduced under the 103rd Constitution (Amendment) Act, 2019 by amending Articles 15 and 16.
- It inserted **Article 15 (6) and Article 16 (6)**.

Three cardinal issues:

- **Economic criteria** - Whether the amendment breaches the Basic Structure by permitting the state to make special provisions, including reservation, based on economic criteria.
- **Admissions** - Whether it violates the Basic Structure by allowing the state to make special provisions in relation to admissions to private unaided institutions
- **Excluding SC/ST/OBC** - Whether the Basic Structure is trampled upon by the constitutional amendment by excluding SEBC/OBC/SC/ST communities from the scope of the EWS quota.

What is the Basic structure of the Constitution?

- The Kesavananda Bharati judgment (1973) introduced the Basic Structure doctrine which **limited Parliament's power** to make **drastic amendments** that may affect the core values enshrined in the Constitution like secularism and federalism.

Delisting of Inactive Political Parties

News: The EC's move to delist 86 unrecognized political parties and declare 253 inactive is a sensible one in terms of electoral housekeeping.

Background:

- Since May, the EC has taken action against 537 non-compliant registered parties.
- The 86 parties deleted from the rolls of registered parties were found to be non-existent after physical checks were conducted by EC officers.
- The 253 parties that have been declared inactive had not contested a single election either to an assembly or parliament between 2014 and 2019.

Why do the recent actions matter?

- Many of these parties are suspected to have been setup to round-trip black money. Therefore, their removal cuts out one source of money laundering.
- Inactivating dormant parties prevents the crowding out of the electoral space by non-serious outfits.
- These parties become ineligible for some significant benefits. Candidates belonging to parties registered by EC get preference in terms of allotment of free symbols that cannot be used by any other political party in elections across India even if they are not recognized.

What are the benefits parties get if they fulfill certain EC criteria?

- Recognized state and national parties get two sets of electoral rolls free of cost from the EC.
- Each candidate contesting general elections also gets a free copy of the electoral rolls.
- National parties receive land and buildings from the government to establish their party offices.
- National parties can have up to 40 star campaigners and state parties (20) which means travel and other expenses of star campaigners are not included in the election expenditure of the party's individual candidates.
- Candidates of national parties get free time slots on national and state television and radio.

What is the biggest benefit a registered party gets, whether recognized or not?

- Entitlements such as collecting donations, income from property, and capital gains are fully exempt from Income tax.
- Between 2016 and 2018, the EC **delisted** 1,000 inactive parties. That action followed a Supreme court ruling that **barred the EC from deregistering** a party. But, the EC is within its rights to delist parties.

Stringent scrutiny will discourage people from forming political parties only to take tax concessions and financial gains.

Contempt of Court

News: Madurai bench of Madras High Court described popular Youtuber Savukku Shankar as an “unrepentant character” who is “no stranger to contempt proceedings”, while imprisoning him for six months on charges of contempt of court.

What is Contempt of court?

- It consists of words spoken or written which bring the administration of justice into contempt.
- **Article 129** and **215** of the constitution of India empower the Supreme court and High court respectively to punish people for their contempt and the judiciary was provided with this power under Contempt of court Act, 1971.
- According to the Contempt of Courts Act, 1971, contempt of court can either be civil contempt or criminal contempt.

Civil Contempt - Wilful disobedience of any judgement, decree, direction, order, writ or other process of court, or wilful breach of an undertaking given to a court.

Criminal Contempt - means the publication (whether by words, spoken or written, or by signs, or by visible representations, or otherwise) of any matter or the doing of any other act whatsoever which scandalises or tends to scandalise, or lowers or tends to lower the authority of, any court; or prejudices, or interferes or tends to interfere with, the due course of any judicial proceeding; or Interferes or tends to interfere with, or obstructs or tends to obstruct, the administration of justice in any other manner.

Why is there a need for such powers?

- To prevent **scandalization or lowering** the authority of any court. It is needed to maintain the dignity of the higher courts.
- To **prevent public opinion** and **media criticism** from **hampering the decision making** based on justice.
- To prevent the legislative and executive to undermine the independence of the courts, by distorting the facts.
- It ensures that an individual cannot defy court's orders according to one's own free will.

What is the punishment?

- Contempt of court may be punished with simple imprisonment for a term which **may extend to six months**, or with a **fine of maximum Rs.2,000**, or **with both**, provided that the accused may be discharged or the punishment awarded may be remitted on apology being made to the satisfaction of the court.

Criticism:

- Currently it is the **court which themselves decide** whether an act is a contempt of court.
- Such proceedings have the **effect of muzzling free speech** guaranteed under **Article 19** of the Indian constitution.
- Contempt of court, 1971 are seen to be **misused by the judiciary to shut the mouth** of the public who tries to criticize the judicial system.
- **Pandit Thakur Das Bhargava** in the Constituent assembly said that power of contempt should only be restricted to disobedience of an order or direction of a court, which were already punishable infractions.

Way Forward:

- The judiciary also is not free from corruption and nepotism. Criticism of courts may help to maintain check on corruption in judiciary. Therefore, we must restrict the contempt of court only to severe case, by amending the Contempt of court act, 1971.

Attorney General for India

News: The central government has appointed senior advocate R Venkataramani as the 15th Attorney General of India for a period of three years. Venkataramani will succeed 91-year-old K K Venugopal, whose term will end on September 30.

About:

- The AG is the Government of India's first law officer, and has the right of audience in all courts of the country.
- Under **Article 76(1)**, the AG is appointed by the **President** from among persons who are **"qualified to be appointed a Judge of the Supreme Court"**.
- **Article 76(4)** says "the Attorney-General shall hold office during the **pleasure of the President**, and shall receive such remuneration as the President may determine."
- Article 76(2) of the Constitution says "it shall be the duty of the Attorney-General to give advice to the Government of India upon such legal matters, and to perform such other duties of a legal character, as may from time to time be referred or assigned to him by the President".
- As per **Article 88**, the "Attorney-General of India shall have the **right to speak in**, and otherwise to **take part in the proceedings of, either House, any joint sitting of the Houses, and any committee of Parliament of which he may be named a member**". However, he **"shall not"** by virtue of this article be **entitled to vote** in the House.
- **Article 105** of the constitution deals with powers, privileges and immunities of Attorney General.

Role of AG:

- To give advice to the Government of India upon such legal matters, that are referred to him by the President.
- To perform such other duties of a legal character that is assigned to him by the president.
- To discharge the functions conferred on him by the Constitution or any other law.

Duties assigned to the AG by the President of India:

- To appear on behalf of the Government of India in all cases in the Supreme Court in which the Government of India is concerned.
- To represent the Government of India in any reference made by the president to the Supreme Court under Article 143 of the Constitution.
- To appear (when required by the Government of India) in any high court in any case in which the Government of India is concerned.

Live-Streaming of Court Proceedings

News: Recently, the Supreme Court (SC) in a full court decided to live stream its proceedings in crucial Constitution Bench cases.

Background:

- The decision comes nearly four years after a plea was made in the interest of transparency. The first steps towards the decision were taken in 2018. A three-judge Bench agreed to hear a public interest litigation seeking live streaming of judicial proceedings on matters of constitutional and national importance.
- On August 26 2022, on the day of former Chief Justice of India (CJI)'s retirement, the Supreme Court streamed its proceedings live.
- Following the SC's decision, Gujarat High Court began live streaming its proceedings in July 2021.
- Currently, the Jharkhand, Karnataka, Madhya Pradesh, Orissa, and Patna High Courts live stream their proceedings. Allahabad High Court is learnt to be considering doing the same.

Global practices:

- United States of America: While the US Supreme Court has rejected pleas for broadcast of its proceedings, it has since 1955 allowed audio recording and transcripts of oral arguments.
- Australia: Live or delayed broadcasting is allowed but the practices and norms differ across courts.
- Brazil: Since 2002, live video and audio broadcast of court proceedings, including the deliberations and voting process undertaken by the judges in court, is allowed. A public television channel, TV Justiça, and a radio channel, Radio Justiça, were set up to broadcast video and audio. Separately, dedicated YouTube channels hold discussions and commentaries on the judicial system, apart from broadcasting proceedings live.

- Canada: Proceedings are broadcast live on Cable Parliamentary Affairs Channel, accompanied by explanations of each case and the overall processes and powers of the court.
- South Africa: Since 2017, the Supreme Court of South Africa has allowed the media to broadcast court proceedings in criminal matters, as an extension of the right to freedom of expression.
- United Kingdom: In 2005, the law was amended to remove contempt of court charges for recording proceedings of the Supreme Court. Proceedings are broadcast live with a one-minute delay on the court's website, but coverage can be withdrawn in sensitive appeals.

Significance:

- The Indian legal system is built on the concept of open court and the SC is an institution of constitutional governance so the public has the right to know about court proceedings which will be open to all now.
- This will be in consonance with the principle of open court established under Article 145(4), and in furtherance of fundamental right of access to justice.
- The historical cases like on the entry of women in Sabarimala temple, on constitutionality of the Aadhaar scheme or on the legality of Section 377 of the Indian Penal Code etc. are public interest issues, Such issues in future will be available for all to watch now.
- Access to information for journalists, increased transparency, ensuring the right to access to justice as geographical locations will no longer be an issue, building the right perception, fostering public confidence and educating common people on how the judiciary functions are important benefits of live-streaming of court proceedings.
- It will do away with the menace of fake news and the need to avoid multiple versions or wrong projections of facts. Sometimes positive systemic corrections have been made possible due to the broadcast of court proceedings.
- Judicial interactions at oral argument are highly gendered, with women being interrupted at disproportionate rates by their male colleagues, as well as by male advocates. Such incidences have reduced after live streaming, a study suggests.
- In post-Covid-19 situations, people will be able to watch the proceeding, maintaining a safe distance so the health of all will be safeguarded.

Challenges:

- Video clips of proceedings from Indian courts are already on YouTube and other social media platforms with sensational titles and little context, such as "HIGH COURT super angry on army officers". There are fears that irresponsible or motivated use of content could spread disinformation among the public.
- The lack of technical infrastructure, internet connectivity in particular, is a major concern and the technical glitches can make it worse.
- Lack of comprehensive guidelines might lead to the misuse of live access or there are chances of it getting hacked in absence of proper cybersecurity.
- The matters with a privacy dimension, such as family matters or criminal matters, or matters with legal procedural intricacies etc. are left out of the scope.
- Justices behave like politicians when given free television time, they act to maximise their individual exposure.

Way forward:

- Introducing live streaming as a pilot project in Court No.1, which is the CJI's court, and only in Constitution Bench cases. The success of this project should determine whether or not live streaming should be introduced in all courts in the Supreme Court and in courts in India.
- The A-G cited de-congestion of courts and improving physical access to courts for litigants who have to otherwise travel long distances to come to the SC in support of his recommendation.
- The court must retain the power to withhold broadcasting, and to also not permit it in cases involving:
 - Matrimonial matters, Matters involving interests of juveniles or the protection and safety of the private life of the young offenders, Matters of National security, To ensure that victims, witnesses or defendants can depose truthfully and without any fear. Special protection must be given to vulnerable or intimidated witnesses. It may provide for face distortion of the witness if she/he consents to the broadcast anonymously,
 - To protect confidential or sensitive information, including all matters relating to sexual assault and rape.

Social Justice

PM SHRI Schools

News: On the occasion of Teacher's Day 2022, the Prime Minister of India announced a new initiative - PM SHRI Schools (PM ScHools for Rising India).

About:

- It is a centrally sponsored scheme for upgradation and development of more than 14500 Schools across the country.
- It aims at strengthening the selected existing schools from amongst schools managed by Central Government/ State/ UT Government/ local bodies.

Importance:

- It will showcase all components of the National Education Policy 2020 and act as exemplar schools and also offer mentorship to other schools in their vicinity.
- It aspires to create holistic and well-rounded individuals equipped with key 21st century skills.
- Pedagogy adopted will be play/toy based, inquiry-driven, discovery-oriented, learner-centered, discussion-based.
- Focus will be on achieving proficiency in learning outcomes of every child in every grade. Assessment at all levels will be based on conceptual understanding and application of knowledge to real life situations and will be competency-based.
- The schools to be equipped with labs, smart classrooms, libraries, sports equipment etc.
- These schools shall also be developed as green schools with water conservation, waste recycling, energy-efficient infrastructure and integration of organic lifestyle in curriculum.

Why do we celebrate teacher's day in India?

- Teachers' Day is celebrated every year, since 1962, on September 5, to recognize and celebrate the works of educators including teachers, researchers and professors in India.
- After Dr Sarvepalli Radhakrishnan took charge as the President of India in 1962, some students sought permission from him to celebrate his birthday. Dr Radhakrishnan, however, did not approve any fancy celebration but rather requested that the day be observed as Teachers' Day.

The Gender Snapshot 2022

News: Recently, the report entitled "Progress on the Sustainable Development Goals (SDG): The Gender Snapshot 2022" was launched by United Nations (UN) Women and the UN Department of Economic and Social Affairs (UN DESA).

Key Findings:

- The report highlighted that Sustainable Development Goal-5 (SDG-5), or achieving gender equality, will not be met by 2030 at the current pace of progress.
- By the end of 2022, more women and girls will live in extreme poverty compared to men and boys.
- It will take close to 300 years to achieve full gender equality at the current rate of progress.
- Girls from the poorest rural households and in conflict-affected areas are expected to suffer the most.
- In 2021, about 38% of female-headed households in war-affected areas experienced moderate or severe food insecurity, compared to 20% of male-headed households.
- Globally, women lost an estimated USD 800 billion in income in 2020 due to the pandemic.
- Over 1.2 billion women and girls of reproductive age (15-49) live in countries and areas with some restrictions on access to safe abortion.

What factors exacerbate gender disparities?

- Same repeated factors – Aftermath of Covid-19 pandemic, climate change, wars, backlash against women's sexual and reproductive health and rights.

- More women and girls have suffered from food insecurity and hunger due to the ongoing Russia-Ukraine war.
- Legal systems across the world don't ensure uniform protection of women rights in all spheres such as denying women's rights in marriage and family, unequal pay and benefits at work and unequal rights to own and control land.

Way forward:

- Gender equality is a foundation for achieving all SDGs and it should be at the heart of building back better.
- Cooperation, partnerships and investments in the gender equality agenda, including through increased global and national funding, are essential to correct the course and place gender equality back on track.

PM Garib Kalyan (PMGK) Anna Yojana

News: Since the Scheme's sixth-phase ending in September 2022, States including Gujarat and Rajasthan argued to further extend PMGK Anna Yojana to curb the post-pandemic Consequences and ensure food security to poor.

About:

- The Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) is a free food grain scheme introduced in March 2020
- Main objective of the scheme was to alleviate Covid distress. The scheme was launched as part of Atmanirbhar Bharat package to supply free food grains to migrants and poor.
- Over the course of 2 years the scheme has been extended across six phases. The latest phase being (April 2022-September 2022).
- PMGKAY beneficiaries get **5kg free ration per person per month in addition to** their normal quota of food grains under **the National Food Security Act**. Under NFSA, highly subsidized food grains are provided to about 75% rural and 50% urban population of the country.

Eligibility:

- Families belonging to the Below Poverty Line - Antyodaya Anna Yojana (AAY) and Priority Households (PHH) categories will be eligible for the scheme.
- AAY families are to be identified by States/UTs as per the criteria prescribed by the Central Government.
- Households headed by widows or terminally ill persons or disabled persons or persons aged 60 years or more with no assured means of subsistence or societal support.
- All primitive tribal Landless agriculture labourers, marginal farmers, rural artisans/craftsmen such as potters, tanners, weavers, blacksmiths, carpenters, slum dwellers, and persons earning their livelihood on daily basis in the informal sector are included under the scheme.

What is Food security?

- Food security, as defined by the United Nations' Committee on World Food Security, means that all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life.

International Relations

Joint River Commission of India-Bangladesh

News: Recently, India and Bangladesh have finalized the text of the Memorandum of Understanding (MoU) on interim water sharing of the Kushiyara river.

Key Highlights of MOU:

- The MOU was finalized during the 38th meeting of the ministerial-level Joint Rivers Commission (JRC) of India and Bangladesh,
- It welcomed the finalization of the design and location of the water intake point on Feni River to meet the drinking water needs of Sabroom town in Tripura as per the October 2019 India-Bangladesh MoU.
- Other issues discussed included water-sharing of common rivers, sharing of flood data, addressing river pollution, conducting joint studies on sedimentation management, river bank protection works, etc.
- Both sides agreed to conduct the feasibility study for optimum utilization of water received by Bangladesh under the provision of the Ganges Water Sharing Treaty, 1996.

About JRC:

- The Joint Rivers Commission of India and Bangladesh was constituted in the year 1972 as a bilateral mechanism to address issues of mutual interest on common / border / transboundary rivers. The JRC is headed by Water Resources Ministers of both countries.
- It is commencing after a long gap of twelve years, although technical interactions under the framework of JRC have continued in the interim.
- As India and Bangladesh share 54 rivers, of which seven have been identified earlier for developing the framework of water-sharing agreements on priority. During the latest meeting, they agreed to include eight more rivers for data exchange.

What are the common rivers between India and Bangladesh?

- **Kushiyara, Ganga, Teesta, Manu, Gumti, Khowai, Muhuri, Dharla, Dudkhkumar.**

Kushiyara River:

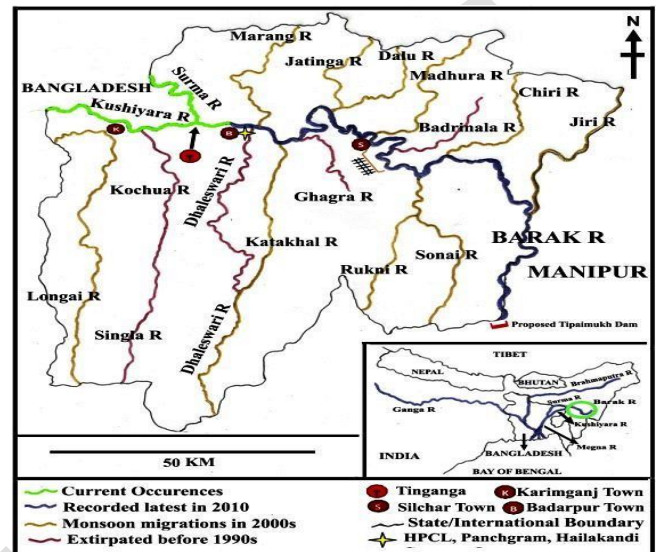
- The Kushiyara River is a distributary river in Bangladesh and Assam, India.
- It forms on the India-Bangladesh border as a branch of the Barak River, when the Barak separates into the Kushiyara and Surma.
- The waters of the Kushiyara thus originate in the state of Nagaland in India and pick up tributaries from Manipur, Mizoram and Assam.

India's vote against Russia during 'procedural vote'

News: India for the first time voted against Russia during a "procedural vote" at the United Nations Security Council on Ukraine.

About:

- India has voted for a procedural matter that Russia opposed at the UN Security Council.



- Going against Moscow's stance, India joined 12 other members of the Council to vote for inviting Ukrainian President Volodymyr Zelensky to speak via a remote video link.
- While speaking at the meeting, India's Permanent Representative Ruchira Kamboj stuck to New Delhi's distinctive version of neutrality in the Ukraine conflict.

What has been India's stand so far?

- India has not criticized Russia for its aggression against Ukraine. It is still on its '**NEUTRAL**' approach.
- It wants both the countries to return to the path of **diplomacy** and **dialogue**.
- It has also expressed its **support for all diplomatic efforts** to end the conflict between the two countries.

How has our approach helped?

- India has showcased **fullest expression of strategic autonomy**. It is a posture that relies on diplomatic activism, geopolitical pragmatism, **prioritizing national interests over bloc politics** and maintaining **good relationships with all sides** so that these relationships can be leveraged to eke out the best possible outcome for India, even amid moments of global turmoil.
- India has attracted global attention with its neutral approach. It has emerged as a big and strategically important swing state.
- India sees bloc politics as a constraint on its actions and choices.
- India's stance has invited wrath of the West at times but our Foreign policy has firmly stood for its belief. We have successfully navigated possible Western sanctions while continuing to trade with Russia to meet our domestic needs and global aspirations. Strategic autonomy does help to maximize policy space.

What factors explain India's muted criticisms of Russia?

- India-Russia relationship is vital to meet oil and energy opportunities.
- Reliance on Russia for weapons and our strategic interests in central Asia.
- India may also be mute in its criticism of Russia in an attempt to mollify Russia and wean it off its increasing dependence on China.

Uyghur rights abuses

News: The U.N. accused China of serious human rights violations that may amount to "crimes against humanity" in a long-delayed report examining a crackdown on Uyghurs and other mostly Muslim ethnic groups. Beijing on Thursday denounced the assessment as a fabrication cooked up by Western nations.

Who are Uyghurs?

- The Uyghurs are Turkic-speaking Muslims from the Central Asian region.
- The largest population lives in China's autonomous Xinjiang region, in the country's north-west.
- The Uyghurs are one of a number of persecuted Muslim minorities in Xinjiang, including the Kazakhs, Uzbeks, Tajiks, Kyrgyz and Hui.

What did The UN observe?

- The extent of arbitrary and discriminatory detention of members of Uyghur and other predominantly Muslim groups and may constitute international crimes, in particular crimes against humanity.
- "Allegations of patterns of torture or ill-treatment, including forced medical treatment and adverse conditions of detention, are credible, as are allegations of individual incidents of sexual and gender-based violence"
- "Credible indications of violations of reproductive rights through the coercive enforcement of family planning policies since 2017"
- "Similarly, there are indications that labor and employment schemes for purported purposes of poverty alleviation and prevention of 'extremism'... may involve elements of coercion and discrimination on religious and ethnic grounds"

What was China's response?

- China has always denied targeting Uyghurs and others for their religion and culture, denouncing the accusations as a confection of lies by the West and saying its crackdown was aimed at quashing separatism, terrorism and religious extremism.

- It has said camp attendance was voluntary and no human rights were abused, although internal Chinese documents have frequently contradicted such claims.
- China calls it as a patchwork of false information that serves as political tool for the U.S. and other Western countries to strategically use Xinjiang to contain China.

Importance of Xinjiang to China:

- Xinjiang lies in the north-west of China and is the country's largest region. Like Tibet, it is autonomous, meaning - in theory - it has some powers of self-governance. But in practice, both regions are subjected to major restrictions by the central government.
- It produces about a fifth of the World's cotton.
- The region contains a wealth of natural resources, including oil, gas and rare earth minerals, but perhaps it's most important value is as a strategic buffer that extends China's influence westward.
- While China and Russia have largely aligned their foreign policies in recent years, Xinjiang was on the front line of their Cold War rivalry and remains important as an assertion of Chinese influence in Moscow's back yard.



Vostok 2022

News: An Indian Army contingent comprising troops from 7/8 Gorkha Rifles is participating in the multilateral strategic and command exercise 'Vostok-2022' which commenced recently at the training grounds of the eastern military district in Russia.

About:

- The Vostok-2022 strategic command and staff exercise will be held under the command of the chief of Russia's General Staff, Valery Gerasimov, at 13 training grounds of the Eastern Military District.
- Participants - India, China, Belarus, Tajikistan, Mongolia and other countries will also participate in the drills.
- It aims to deepen pragmatic and friendly cooperation with the militaries of participating countries, enhance the level of strategic coordination of all participating parties, and enhance the ability to deal with various security threats.
- The drills are unrelated to the current international and regional situation. Last such Vostok exercise took place in 2018, when China took part for the first time.

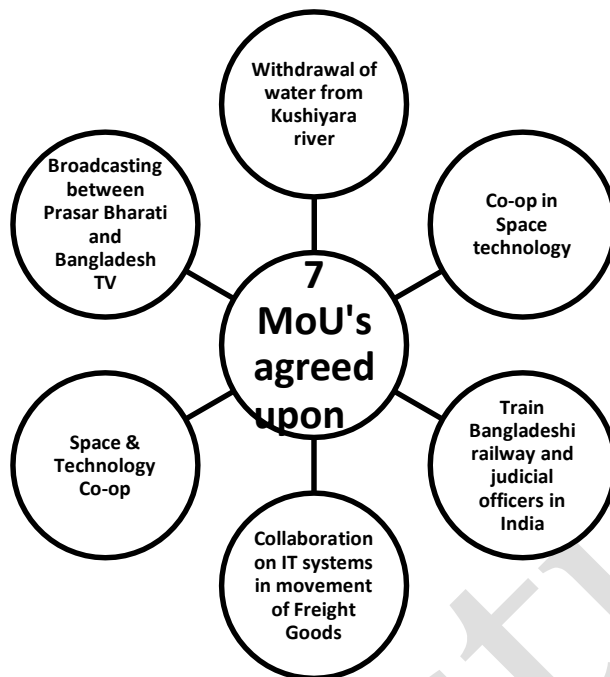
About other military exercises in Russia:

- VOSTOK (meaning 'East') is part of a system of strategic exercises that the Russian Armed Forces have been developing since 2009.
- It is one of the four named annual strategic exercises conducted on a rotating basis among four of Russia's five military districts.
- The scheduled strategic exercises (ZAPAD, VOSTOK, TSENTR, KAVKAZ) are the capstone event of the Russian Armed Forces' annual training cycle.
- Last year, India attended Exercise ZAPAD 2021 drills in Russia in which 17 countries including China and Pakistan took part.

India-Bangladesh Relations

News: Recently, the Prime Minister of Bangladesh has visited India and held talks with Indian Prime Minister. India and Bangladesh have signed seven agreements for cooperation in areas ranging from sharing of river waters to space and unveiled new connectivity and energy initiatives.

Key Highlights:



- **Thermal Power Project** - The two nations unveiled the first unit of the Maitree super thermal power project being built in Khulna division of Bangladesh with concessional funding from India.
- **Loans and Advances** - India has provided concessional loans worth \$ 9.5 Billion for development projects in Bangladesh for rail connectivity, connecting Mongla port with Darshana-Gede, supply of road construction equipment and machinery etc.
- **Defense procurement** - In 2018, India has extended USD 500 million defence Line of Credit (LoC) to Bangladesh.
- **Rushpa rail bridge** - The 5.13-km Rupsha rail bridge was also inaugurated, a key part of the 64.7-km Khulna-Mongla port broad gauge railway project. The bridge was constructed with an Indian line of credit of \$389 million.

Why Bangladesh is important for India?

- In 2021-22, Bangladesh has emerged as the largest trade partner for India in South Asia and the fourth largest destination for Indian exports worldwide.
- India's export to Bangladesh - Raw cotton, non-retail pure cotton yarn, electricity.
- Indian imports from Bangladesh include textile scraps, pure vegetable oils.
- The Prime Minister of India also said that India and Bangladesh will soon commence negotiations on a Bilateral Comprehensive Economic Partnership Agreement (CEPA).

What are some of the pending issues?

- Sharing of river waters (Teesta river)
- Border issues and border incidents
- Bangladesh's concerns over roll out of NRC in Assam.
- Bangladesh's growing ties with China and its involvement in the Belt and Road initiative.
- Bangladesh's dependence on China for military equipment's.

India-Japan 2+2 Dialogue

News: The Second India-Japan 2+2 Ministerial dialogue was recently held in Tokyo on September 8th where our Defense and External Affairs ministers met their Japanese counterparts.



Key Highlights:

- The joint-statement at the end of the dialogue reiterated the commitment to a free and open Indo-Pacific, a rules-based global order that respects the sovereignty and territorial integrity and the peaceful resolution of disputes among others.
- Key outcome of the talks was the agreement to launch the **Joint service staff** talks. It is significant step towards enhancing cooperation between the three services as well as the coast guard.
- The services staff talks are an addition on building existing bilateral and multilateral exercises including 'Dharma Guardian', 'JIMEX' and 'Malabar' and, an earlier decision to conduct the inaugural India-Japan fighter exercise between the two air forces.
- The year also marks the 70th anniversary of the establishment of bilateral relations this year which has been instrumental in re-energising ties.
- Bilateral priorities such as the **India-Japan Industrial competitive** partnership, **the Supply chain resilience initiative** and **cooperation in clean energy** are expected to show faster results.
- The 2+2 dialogue is expected to provide thrust to cooperation in defense equipments and technology, covering areas such as Unmanned ground vehicles, robotics, where Japan has considerable strengths.
- Drones also provide another area where cooperation can be enhanced as Japan has expertise towards it.

The **Agreement Concerning Reciprocal Provision of Supplies and services (ACSA)** between the self-defense forces of Japan and the armed forces of India signed in 2020 has already been operationalized earlier this year. This paves way for deeper cooperation between the two militaries.

IPEF

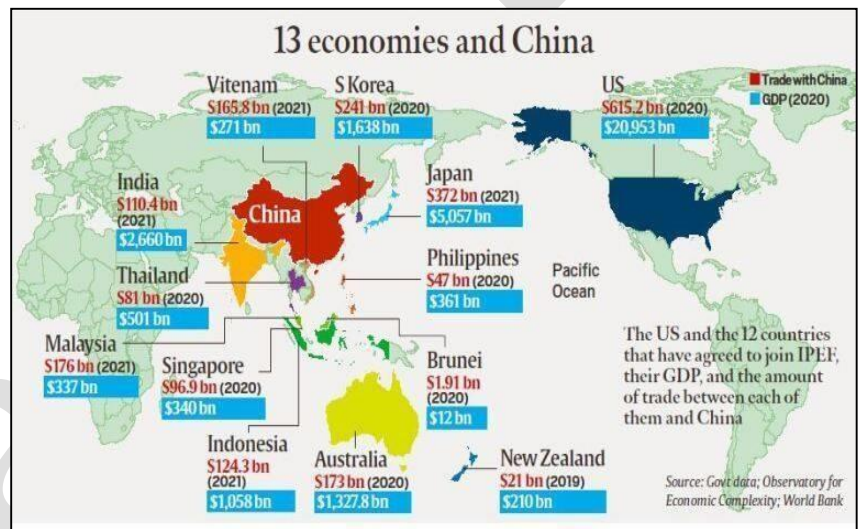
News: India has decided to join three pillars of the United States-led Indo-Pacific Economic Framework (IPEF)-- supply chains, tax and anti-corruption and clean energy--**while opting out of the trade pillar for now.**

About:

- The Indo-Pacific Economic Framework (IPEF) was launched by United States (US) President Biden in Tokyo in May, 2022.
- The IPEF has four pillars – I) Trade, II) supply chains, III) clean energy, decarbonization and infrastructure and IV) tax and anti-corruption.
- Except Cambodia, Laos and Myanmar, other Southeast Asian nations are a part of the IPEF.
- The Framework will advance resilience, sustainability, inclusiveness, economic growth, fairness, and competitiveness for our economies.
- Through IPEF, the partners aim to contribute to cooperation, stability, prosperity, development, and peace within the region.
- The Framework will also offer tangible benefits that fuel economic activity and investment, promote sustainable and inclusive economic growth, and benefit workers and consumers across the region.
- The 14 IPEF partners represent 40 percent of global GDP and 28 percent of global goods and services trade.

About Four Pillars:

- **Supply Chain Pillar** – The countries will ensure to work on coordination to mitigate and prevent future supply chain disruptions.
- **Trade Pillar** – Here, the IPEF partners will seek high-standard provisions in areas that are foundational to resilient, sustainable, and inclusive economic growth, including labour, environment, digital economy, agriculture, transparency and good regulatory practices, competition, inclusivity, trade facilitation, and technical assistance and economic development.
- **Fair Economy Pillar** - The countries will seek to level the playing field for businesses and workers within partner countries by preventing and combatting corruption, curbing tax evasion, and enhancing transparency, recognizing the importance of fairness, inclusiveness, the rule of law, accountability and transparency.
- **Clean Energy Pillar** - The partners aim to advance cooperation on clean energy and climate-friendly technologies, as well as mobilize investment and promote usage of low- and zero-emissions good and services.



Why India opted out of Trade pillar?

- Due to possible **binding commitments** on **labour, environment, and digital trade**, New Delhi opted out of its trade pillar.
- The **labour issue** has been cited as one of the major concerns for not joining the IPEF trade pillar. But even in the supply chain pillar, it is clearly mentioned that partner countries “will seek to ensure that the work promotes the labour standards that underpin fair, sustainable, and resilient supply chains”.
- New Delhi’s reasons stem partly from India’s well-established disagreements with the US over **data localization and the flow of data**. “India is still in the process of deciding what kinds of data can be allowed to cross borders freely and what kinds need to be kept on servers in the country,” said Jayant Dasgupta, former Indian Ambassador to WTO.

Eastern Economic Forum (EEF)

News: Russia hosted the seventh Eastern Economic Forum (EEF) Vladivostok recently.

About:

- The Eastern Economic Forum was established in 2015 to support the economic development of Russia's Far East and to expand international cooperation in the Asia-Pacific region.
- The primary objective of the EEF is to increase the Foreign Direct Investments in the Russia's Far East (RFE).
- The Forum takes place each year in Vladivostok.
- Key-issues discussed include - Issues in the world economy, regional integration, and the development of new industrial and technological sectors, as well as of the global challenges facing Russia and other nations.
- This year, the Forum aimed at connecting the Far East with the Asia Pacific region.

Major players involved:

- **China** is the **biggest investor** in the region as it sees potential in promoting the Chinese Belt and Road Initiative and the Polar Sea Route in the Russia's Far East (RFE).
- **South Korea** has also been gradually increasing its investments in the region. South Korea has invested in shipbuilding projects, manufacturing of electrical equipment, gas-liquefying plants, agricultural production and fisheries.
- **India** is keen to deepen its cooperation in energy, pharmaceuticals, maritime connectivity, healthcare, tourism, the diamond industry and the Arctic. In 2019, India also offered a \$1 billion line of credit to develop infrastructure in the region. Through the EEF, India aims to establish a strong inter-state interaction with Russia.
- In 2017, Japanese investments through 21 projects amounted to \$16 billion. Under Shinzo Abe's leadership, **Japan** identified eight areas of economic cooperation and pushed private businesses to invest in the development of the RFE.

About the Far East:

- ✚ The Far East is the easternmost part of Russia. The macro-region borders two oceans, the Pacific and the Arctic, and five countries (China, Japan, Mongolia, the United States and the DPRK).
- ✚ The Far Eastern Federal District covers more than a third of the country's territory.
- ✚ Resources: The Far East is rich in natural resources like diamonds, stannary, borax materials, 50 gold, tungsten, and fish and seafood. About 1/3 of all coal reserves and hydro-engineering resources of the country are here. Forests of the region comprise about 30% of the total forest area of Russia.
- ✚ Significant rivers include the Volga, Dnieper and Dvina (west), the Lena, Ob, and Yenisey (central) and the Amur in the far-east.

SCO Summit 2022

News: The Shanghai co-operation summit was recently held in Samarkand, Uzbekistan.

About:

- The SCO, which is currently the largest regional bloc in the world, has eight full-time members - India, Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan, Pakistan and Uzbekistan.
- Iran is expected to become the latest member of the bloc this year while Turkiye's Erdogan also has targeted joining the SCO soon.

Key Highlights:

- The Samarkand declaration advocated "commitment to peaceful settlement of differences and disputes between countries through dialogue and consultation".

- The member countries are working to form unified list of terrorists, separatist and extremist organizations.
- Chinese President called for implementing the roadmap for SCO member states to expand shares of local currency settlement as well as set up an SCO Development Bank.
- In order to promote the rich cultural and historical heritage of the people and tourism potential of SCO member states, it was decided to declare **Varanasi as the SCO Tourism and Cultural Capital for 2022-2023**.

What did PM Modi highlight in the summit?

- The PM urged Shanghai Cooperation Organization member states to give each other **full right to transit**. This will enhance connectivity and build resilient supply chains.
- The PM highlighted the **importance of food security** and urged the SCO member states to celebrate food festivals around **Millet**s which can play a critical role to ensure food security in the region. It is due to India's efforts that 2023 will be celebrated as International Year of Millets.
- On stressing the importance of **Traditional medicines**, the PM suggested India will take an initiative for a new SCO working group on traditional medicines.
- India highlighted to Russia that **'it's not an era of war'**, "food, fertilizer, fuel security is among major concerns".
- Stressing on the need of increased cooperation among nations, the PM said that India is working towards becoming a **global manufacturing hub**.

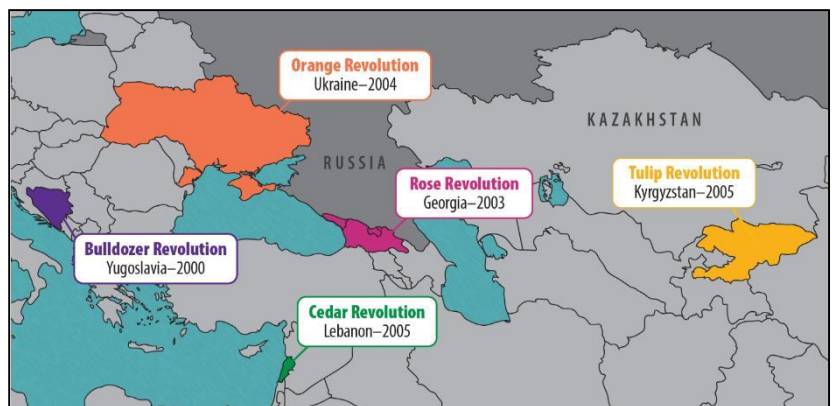


Colour Revolution

News: Chinese President Xi Jinping has warned his Central Asian neighbors against allowing outsiders to destabilize them with "color revolutions." The statement was made during the recent SCO Summit in Samarkand.

What do we understand by Colour revolutions?

- Colour revolutions refer to a series of uprisings that first began in former communist nations in Eastern Europe in the early 2000s, but are also used in reference to popular movements in the Middle East and Asia.
- Most have involved large-scale mobilization on the streets, with demands for free elections or regime change, and calls for removal of authoritarian leaders.



Important Colour revolutions:

- **Bulldozer Revolution** - The Bulldozer Revolution of 2000 was the first Color Revolution in a former Communist state. It was led by the Otpor movement and the Serbian democratic opposition to Serbia's ruling Socialist party. During the latter's reign, a series of bloody wars led to Yugoslavia's breakup, and living standards fell dramatically. The revolutionaries wanted to improve the socioeconomic situation and recover the prestige that Serbia had lost as a result of wars, isolation, and deterioration of its relations with the West. The Western politicians and organizations provided substantial support to the revolutionary movement.

- **Orange Revolution** - It refers to a series of protests that occurred in Ukraine between November 2004 and January 2005.
- **Tulip Revolution** - Also called the First Kyrgyz Revolution, the movement led to the ouster of Kyrgyzstan's President Askar Akayev in early 2005.
- **Jasmine Revolution** - The popular uprising that occurred between December 2010 to January 2011 in Tunisia was in response to the underlying corruption, unemployment, inflation and lack of political freedoms in the country.
- **Cedar Revolution** - The Cedar Revolution or Independence Uprising was a chain of demonstrations in Lebanon triggered by the assassination of former Lebanese Prime Minister, Rafik Hariri. The popular movement was remarkable for its avoidance of violence, peaceful approach, and its total reliance on methods of civil resistance.

India-Egypt Relations

News: India's defense minister is on a 2-day visit to Egypt. The leadership of the two countries has agreed to develop military cooperation and focus on joint training.

Key Highlights:

- To increase cooperation between defense industries of 2 countries.
- To emphasize specific proposals in relation to, joint training, defense coproduction, and maintenance of equipment.
- To exchange expertise and best practices in countering the threat of terrorism.
- Egypt has expressed interest in acquiring military platforms from India. Among other things, Egypt is considering the indigenous Light Combat Aircraft (LCA) for its fighter requirement.

India-Egypt Relations:

- Diplomatic relations between Egypt and India were established with Egypt's recognition of the independence of India on 18 August 1947, just three days after India's independence.
- The Maulana Azad Centre for Indian Culture (MACIC) was set up in Cairo in 1992 which aims to promote cultural cooperation between the two countries.

Trade and Commerce:

- Most important trading partner in African continent.
- **What do we import from Egypt?** - Raw cotton, raw and manufactured fertilizers, oil and oil products, organic and non-organic chemicals, leather and iron products.
- **What do we export to Egypt?** - Cotton yarn, sesame, coffee, herbs, tobacco, and lentils. Mineral fuel, vehicle parts, ship, boat, and floating structure, cuts of boneless bovine frozen meat and Electrical machinery and parts are also exported from India.

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

Charges on UPI transactions?

News: Recently RBI came out with a discussion paper seeking stakeholder views on charges in payment systems. Most other modes of digital retail payments attract a charge on transactions. But the government has mandated a “zero-charge framework” for UPI transactions (from 2020), meaning charges on UPI for users as well as merchants (on MDR) being nil.

What is UPI?

- Unified Payments Interface (UPI) is an instant real-time payment system, allowing users to transfer money on a real-time basis, across multiple bank accounts without revealing details of one’s bank account to the other party.
- UPI is currently the biggest among the National Payments Corporation of India (NPCI) operated systems including National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Aadhaar enabled Payment System (AePS), Bharat Bill Payment System (BBPS), RuPay etc.

What is RBI’s view?

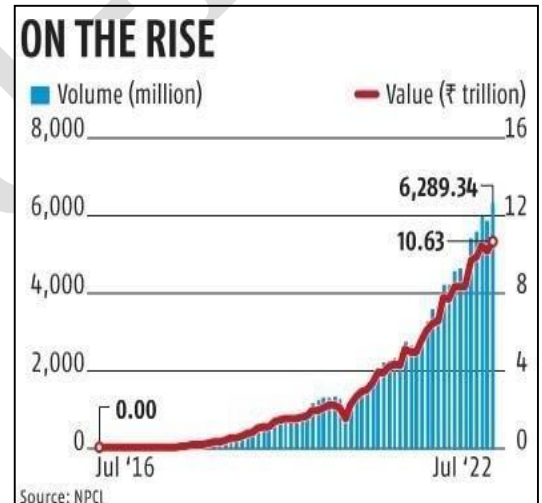
- It views that subsidy on these payments may have to be withdrawn as digital payment increases, thus increasing the subsidy burden.
- RBI had asked stakeholders if the merchant discount rate (MDR), a fee paid by merchants to acquiring banks, should be brought back for UPI transactions.
- MDR, or merchant discount rate, on UPI transactions, has been a long-standing demand of the payments industry.
- Recently, the RBI allowed UPI on credit cards as well starting with NPCI’s RuPay cards.

What is government’s stand?

- The government of India looks at UPI services as a ‘digital public good’.
- The finance ministry cleared that there is ‘no consideration’ in the government to levy any charges on UPI.

Benefits of charging fees on UPI:

- It will boost the payment system as more private investors will be pitching in.
- Save government finances on subsidies - The government allocated Rs 200 crore for reimbursement of charges towards RuPay debit card and UPI transactions. In 2021-22, it had budgeted Rs 1,500 crore towards this.
- However, if charges are levied it will discourage UPI transactions by citizens and it will further dampen the digital ecosystem based on UPI.



Pradhan Mantri Jan Dhan Yojana

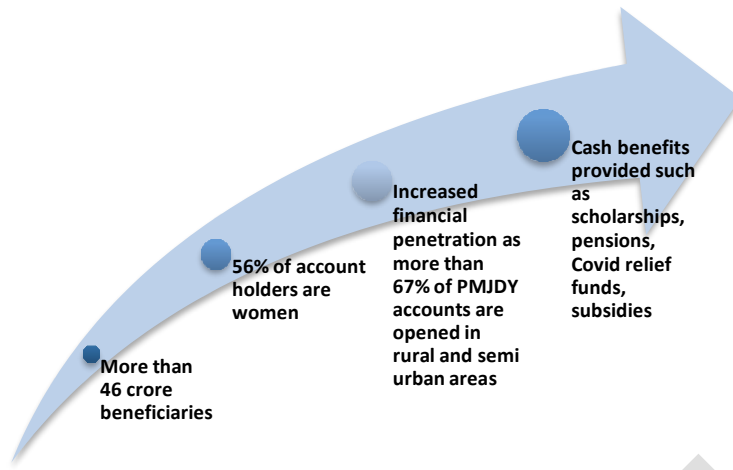
News: PMJDY (a central sector scheme under Ministry of Finance) has completed 8 years.

About PMJDY and its objectives:

- PMJDY is National Mission for Financial Inclusion (launched in 2014) to ensure access to financial services.
- To ensure access of financial products & services at an affordable cost - Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension

- Use of technology to lower cost & widen reach.
- Banking the unbanked - Account opening in camp mode, zero balance & zero charges.
- Securing the unsecured – Providing Debit cards for cash withdrawals & payments and free accident insurance coverage of Rs. 2 lakhs.
- Funding the unfunded – micro-insurance/Credit, overdraft for consumption, and micro-pension.

Following are key achievements:



State-wise Inflation measurement index

News: Recently, the Consumer Price Index (CPI) released the 'State-wise Inflation measurement index'.

Why do states experience divergence in Inflation rates?

- **Food price inflation** which dropped to a five-month low of 6.8% in July, is a key differentiating factor for States' inflation experience, explained Bank of Baroda chief economist.
- States that **are not major crop producers** have **higher food inflation** as **transport costs** are added on, and those with **predominantly rural areas** also clock more inflation as the **CPI for rural areas assigns a higher weightage** to food.
- Rural inflation has averaged more than urban inflation at 7.07% from January to July, and 7.6% in the four months since it peaked at 8.38% in April.
- Urban inflation crossed 6% in March 2022, has averaged 6.47% through 2022 and fallen 0.6 percentage points by July from its 2022 high of 7.09% in April.
- **Consumption patterns** and divergences in different item price trends also influence variations among States.
- While the share of private consumption has spiked to nearly 60% of GDP in Q1 2022-23.
- This persistently high inflation has dented spending propensity, particularly in rural India which is facing more price pressures.
- According to CRISIL's chief economist, Private consumption is improving, with urban demand getting support from contact-intensive services. If it had not been for high inflation and subdued rural demand due to negative real rural wage growth, private consumption would have grown faster.

Top 5 States with highest inflation in India		
	States	Inflation rate
1	Kerala	6.1%
2	Assam	6.0%
3	Uttar Pradesh	5.93%
4	Uttarakhand	5.9%
5	Tamil Nadu	5.8%
Top 5 States with lowest inflation in India		
	States	Inflation rate
1	Bihar	2.2%
2	Chhattisgarh	2.5%
3	Himachal Pradesh	3.5%
4	Andhra Pradesh	3.6%
5	Gujarat	3.8%

Automobile Industry

News: Recently, the Union Minister of Commerce and Industry, Shri Piyush Goyal addressed the 62nd Automotive Component Manufacturers Association (ACMA) Annual Session.

- Theme - 'Future of Mobility - Transforming to be Ahead of Opportunity'.

About ACMA:

- It is the apex body representing the interest of the Indian Auto Component Industry. Its membership of over 850 manufacturers contributes to more than 85% of the auto component industry's turnover in the organized sector.

5-point agenda set by Piyush Goyal:

- Firstly, to focus **on quality**, because that's the only thing that will be of importance as we go forward.
- To think **holistically** and **have a larger vision** to engage with others in the spirit of openness and competitiveness. He said that the companies need to go beyond thinking about themselves alone and think about the nation as a whole to define the success and growth.
- The third are he said the industry needs to focus on is **value addition in India**. He stressed whether do we need to import the steel or can we buy the steel locally? Are we being pressurized by somebody to buy imported steel which is available in India. We need to reflect on all of these issues and be bold about it.
- To **exit the uncompetitive** market and **explore new market opportunities** in the sectors where we can be competitive.
- To Think big and set aggressive targets and ambitions for the industry.

Few facts about automobile industry in India:

- India's Automotive Market was valued at USD 100 billion in 2021 and is expected to reach USD 160 billion in 2027.
- We are the 4th largest producer of Automobiles in the world, with an average annual production of more than 4 million motor vehicles. We are the largest tractor manufacturer, second-largest bus manufacturer, and third largest heavy trucks manufacturer in the world.
- The EV segment is the next big thing in Indian market.
- Share in Gross Domestic Product (GDP) - 7.1%.
- Share in India's exports - 4.7%.

Steps taken by the government to promote the automobile industry:

- The launch of PLI scheme in automobile and auto components sectors.
- 100% FDI is permitted under the automatic route in the sector which makes it easy to setup manufacturing plants in India.
- The National electric mobility mission plan 2020 was launched to provide impetus for growth of xEVs (hybrid and electric vehicles) through government-industry collaboration.
- The Automotive Mission Plan 2016-26 (AMP 2026) outlines the trajectory of growth of the automotive ecosystem in India.

Challenges:

- The government plans to ban internal-combustion powered two-wheelers and three-wheelers by 2023 and 2025 respectively. The sudden transition, when the situation of the automobile sector is already dire as the sales have slumped to a two-decade low, has worsened the situation of job cuts and market disruption.
- Banks have become extra-cautious in supplying credit to the people purchasing a car.
- The concept of shared cars has seen a rapid rise in the past years. Market giants like Ola, Uber have prompted a rethink over the concept of car ownership, maintenance and thereby affecting sales.

National Logistics Policy(NLP)

News: The NLP, launched by Prime Minister Narendra Modi, should help Indian businesses improve efficiency over time.

- Logistics costs in India are estimated to be 13-14% of GDP, and the policy seeks to bring them below 10% as quickly as possible.
- The policy will build on the PM Gati Shakti plan.

About the Logistics sector:

- The sector's present market size is 160 billion USD. Its improvement can ensure a 10 per cent decrease in indirect logistics cost and increase the growth of exports by 5 to 8 per cent.
- India's logistics sector provides jobs for more than 22 million people.
- India ranked 44th in World Bank Logistics Performance Index 2018.
- Gujarat has topped the Logistics Ease Across Different States (LEADS) 2021 index for 3 consecutive years now. (released by Ministry of commerce and industry)

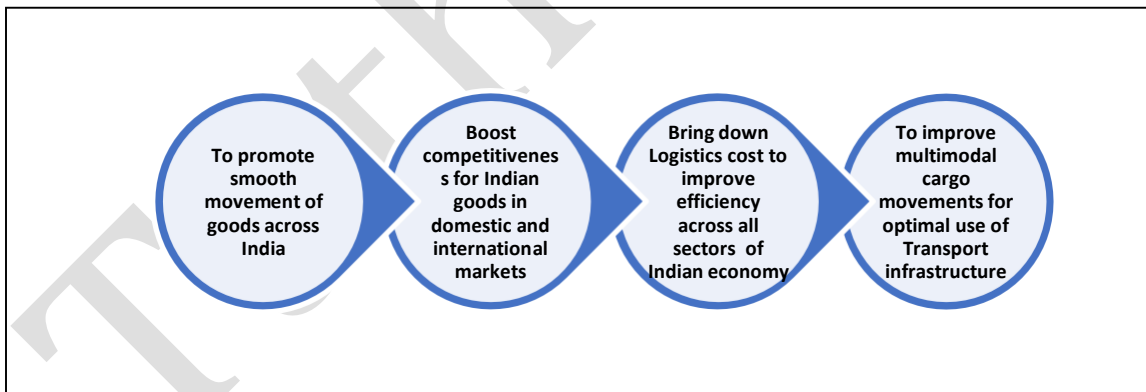
Key Details about NLP:

- The draft policy provides for the government creating a single point of reference for all logistics and trade facilitation matters, reducing costs for the logistics sector to 10 per cent in five years.
- An empowered group of secretaries (EGoS) has been constituted under the PM Gati Shakti to monitor and review the implementation of the NLP.
- The policy is an endeavor to improve the competitiveness of Indian goods, enhancing economic growth and increasing employment opportunities.

Four Focus areas under the policy:

- **Integration of Digital System (IDS)** - Different systems of seven different departments (such as road transport, railway, customs, aviation, foreign trade and commerce ministries) will be integrated digitally.
- **Unified Logistics Interface Platform (ULIP)** - It aims to ensure continuous monitoring of cargo movement.
- **System Improvement Group (SIG)** - It will monitor all projects related to logistics on a regular basis and ensure the removal of hurdles faced in the sector.
- **Ease of Logistics (ELOG)** - It will simplify the rules in the sector.

Aims and Objectives of NLP:



What are other steps taken to strengthen the Logistics sector?

- It started with creating a **Logistics division** in the Commerce department.
- **Sagarmala project** to connect ports and dedicated freight corridors have started to improve logistics connectivity and systematic infrastructure development work.
- **Gati Shakti Mission** - It was launched as a national master plan for multi-modal connectivity. It brings together 16 different ministries to promote coordinated planning and execution of projects.

- **Bharatmala Pariyojana** - 34,000 km of road infrastructure works would be undertaken, of which, 11,000 km have been targeted to be completed by March 2022.
- Commissioning of **Eastern and Western Dedicated Freight Corridors** can be a game-changer for boosting railway freight share.
- The National Air Cargo Policy has also been formulated that seeks to build air transport shipment hubs in all major airports by 2025.

Prompt Corrective Action Framework

News: The RBI had recently removed the Central Bank of India (CBI) from its PCA framework.

What is PCA?

- The banks with weak financial metrics are put under the PCA framework. RBI closely monitors working of such banks and puts certain restrictions on their functioning.

When is PCA triggered?

- When banks breach three primary risk thresholds based on parameters such as **net non-performing assets, minimum capital criteria** and **return on assets**.

What is the objective of PCA?

- To enable supervisory intervention at an appropriate time and require the supervised entity to initiate and implement remedial measures in a timely manner, so as to restore its financial health.
- To help the RBI and the investors/depositors in case of bank heading into uncharted territories.
- To check and resolve the problems of NPA.
- To follow the principle which highlights 'Prevention is better than cure' i.e. to act before a crisis occurs.

How was CBI removed from the PCA framework?

- The decision to lift the business restrictions from the bank was taken after a review by the **Board for Financial Supervision**.
- The bank has provided a **written commitment** that it would comply with the norms of minimum regulatory capital, net NPA and leverage ratio on an ongoing basis.
- It has also apprised the regulator of the structural and systemic improvements that it has put in place to meet these commitments.
- The bank reported a 14% rise in net profit to Rs 235 crore for the June quarter while its net NPA ratio fell 3.93%. (only for reference, no need to remember this data)

Banking System Liquidity

News: For the first time since May 2019, the banking system liquidity situation turned into a deficit mode of Rs 21,873.4 crore in September 2022.

What is Banking system liquidity?

- Liquidity in the banking system refers to readily available cash that banks need to meet short-term business and financial needs.
- On a given day, if the banking system is a net borrower from the RBI under Liquidity Adjustment Facility (LAF), the system liquidity can be said to be in deficit and if the banking system is a net lender to the RBI, the system liquidity can be said to be in surplus.
- The LAF refers to the RBI's operations through which it injects or absorbs liquidity into or from the banking system

Why do we see a Deficit?

- The change in the liquidity situation has come due to advance tax outflows. This also increases the call money rate temporarily above the repo rate.

- Also due to the continuous intervention of the RBI to stem the fall in the rupee against the US dollar.
- The deficit in the liquidity situation has been caused by an uptick in bank credit, intervention of the RBI into the forex market, and also incremental deposit growth not keeping pace with credit demand.

What is the impact of tight liquidity condition on consumers?

- A tight liquidity condition could lead to a rise in the government securities yields and subsequently lead to a rise in interest rates for consumers too.
- RBI may increase Repo Rate, which can lead to a higher cost of funds.
- Banks will increase their repo-linked lending rates and the marginal cost of funds-based lending rate (MCLR), to which all loans are linked to. This rise will result in higher interest rates for consumers.

What needs to be done?

- RBI's actions will depend upon the nature of the liquidity situation. If the current liquidity deficit situation is temporary and is largely on account of advance tax flow, the RBI may not have to act, as the funds should eventually come back into the system.
- However, if it is long-term in nature then the RBI may have to take measures to improve the liquidity situation in the system.

Quarterly Employment Survey

News: Shri Bhupender Yadav, Union Minister for Labour & Employment, released report on Fourth Round (January-March, 2022) of Quarterly Employment Survey (QES) part of All India Quarterly Establishment based Employment Survey (AQEES).

Key Highlights:

- An estimated total of **3.18 crore workers** was engaged in 5.31 lakh establishments during the 4th round, **compared to a total of 3.14 crores** in the third quarter.
- **Manufacturing sector** accounts for the largest percentage (**38.5%**) of the total number of workers, followed by **Education sector** with **21.7%**, **IT/BPO sector** with **12%** and **Health sector 10.6%**.
- Looking at **the size of the establishments** (number of workers), an estimated **80% of the establishments engaged 10 to 99 workers**. This figure increases to 88 % if we restrict ourselves to establishments with 10 or more workers. About 12 % of the establishments reported less than 10 workers.
- Only 1.4 % of the establishments reported at least 500 workers. Such large establishments were mostly in the IT/ BPO sector and in the Health sector.
- **Female worker's participation** reported marginally increase from 31.6% in the third quarter to 31.8% in the 4th quarter report. However, female workers constituted about 52 % of the workforce in the Health sector, the corresponding percentages in Education, Financial Services and IT/ BPO sector stood at 44%, 41% and 36% respectively.
- It is noteworthy that in **Financial Services, females far outnumber** males among self-employed persons.

How is AQEES different from PLFS?

- The AQEES has been taken up by the **Labour Bureau** to provide quarterly estimates about the employment and related variables of establishments in both organized and unorganized segments of nine selected sectors which account for a majority of the total employment in the non-farm establishments. While the PLFS is conducted by the National statistical organization (NSO).
- The nine selected sectors are Manufacturing, Construction, Trade, Transport, Education, Health, Accommodation& Restaurant, IT / BPO and Financial Services.
- The Report on quarterly employment survey being a **demand side** survey along with the **supply side** survey i.e. Periodic Labour Force Survey (PLFS) will **bridge the data gaps** on employment in the country.

Science & Technology

Japanese Encephalitis

News: At least 85 people have died of Japanese Encephalitis (JE) in Assam in the last two months.

About:

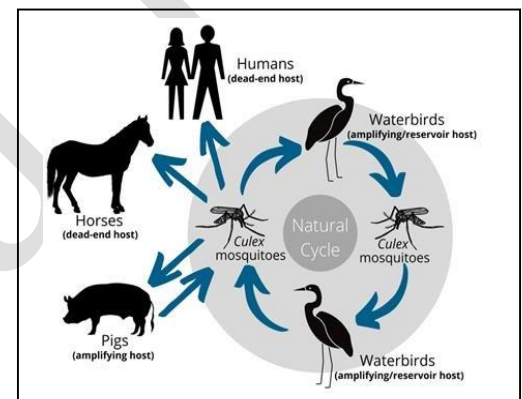
- Japanese encephalitis (JE) is one of the most common encephalitis
- The disease is caused by a mosquito-borne flavivirus and is found across south and east areas of Asia.
- It is a **zoonosis** – an **animal disease that can spread to humans**.
- JE virus is transmitted to humans through the bite of infected Culex mosquitoes, which lay their eggs in irrigated rice paddies and other pools of stagnant water.
- Pigs and birds serve as amplifying vertebrate hosts.
- Humans are believed to be dead-end hosts. The **disease outbreak** usually occurs during the **rainy season**.
- Case-fatality rate in severe clinical cases is estimated to be 20–30%, with **young children (< 10 years) having a greater risk of severe disease and death**.

Vaccines available?

- Currently, three WHO-prequalified JE vaccines are available, all of which are safe and effective. WHO recommends use of JE vaccines in all countries where JE is recognized as a public health priority.
- India has also launched its first indigenously produced anti-Japanese encephalitis (JE) vaccine—**JENVAC**.

Government initiatives to fight JE:

- The **National Vector Borne Disease Control Programme (NVBDCP)** is a comprehensive programme for prevention and control of vector borne diseases namely Malaria, Filariasis, Kala-azar, **Japanese Encephalitis (JE)**, Dengue and Chikungunya which is covered under the overall umbrella of NRHM.
- National Programme for Prevention and Control of Japanese Encephalitis (JE)/ Acute Encephalitis Syndrome - The goal of the programme is to reduce morbidity, mortality, and disability in children due to JE/AES.



Mahalingam Govindaraj

News: Telangana-based agriculture scientist Mahalingam Govindaraj has won the coveted 2022 Norman E. Borlaug Award for Field Research and Application.

What is Norman Bourlaug Field award?

- The Norman E. Borlaug Award for Field Research and Application, endowed by the Rockefeller Foundation, is presented every October in Des Moines, Iowa, USA, by the World Food Prize Foundation.
- This \$10,000 award recognizes exceptional, science-based achievement in international agriculture and food production by an individual under the age of 40.
- Awardees emulate the same intellectual courage, stamina and determination in the fight to eliminate global hunger and poverty



demonstrated by Dr. Norman Borlaug as a young scientist working in Mexico in the 1940s and '50s.

Mahalingam Govindaraj – His life and contribution:

- He is recognized for his outstanding leadership in mainstreaming biofortified crops, particularly **pearl millet**, in India and Africa.
- For more than **a decade**, he has directed the development and dissemination of high-yielding, high-iron and high-zinc pearl millet varieties which have contributed to **better nutrition for thousands of farmers** and their communities.
- As a scientist at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) starting in 2011, Govindaraj defined a strategy for biofortification of pearl millet with high iron and zinc content and dissemination of these high-yielding, drought-tolerant varieties to farmers.
- Biofortification is the process of increasing the micronutrient content of a crop through selective breeding, and has become a keystone strategy for reducing vitamin and mineral deficiencies in low- and middle-income countries.
- In 2014, Govindaraj released **Dhanashakti**, the **world's first biofortified pearl millet**.
- **Independent** clinical studies showed that **200 grams of Dhanashakti provided women with more than 80 percent of their recommended daily allowance of iron, compared to only 20 percent in regular pearl millet varieties**.
- Govindaraj's active collaboration with the Indian Council of Agricultural Research led to India becoming the first country in the world to commit to iron and zinc standards as core traits in their national cultivar release policy.
- Pearl millet became the first crop in which minimum levels of these essential micronutrients were mandated in 2018.

Quoting such examples will add value to your answers. Always remember such names and their contribution. Be different from the rest. That's the key to have an edge over others in CSE!

iNCOVACC

News: India's first nasal vaccine (Bharat Biotech's iNCOVACC) for Covid-19 gets DCGI nod for emergency use.

What is a nasal vaccine?

- A nasal vaccine is a vaccine administered to a person via the nose and does not require a needle. It induces immunity through the inner surface of the nose, a surface that naturally comes in contact with many airborne microbes.

About iNCOVACC:

- The vaccine has been developed by Bharat Biotech with technology in-licensed from Washington University-St Louis.
- iNCOVACC is a **chimpanzee adenovirus** vectored recombinant nasal vaccine that has been specifically formulated to allow intra-nasal delivery through nasal drops.
- The nasal delivery system has been designed and developed to be cost-effective in low- and middle-income countries. The vaccine is stable at 2-8°C.

How does it work?

- The vaccine is given nasally; it triggers an immune response in the mucosal membrane.
- Intra-nasal Covid-19 vaccines may produce local antibodies in the upper respiratory tract which may provide the potential to reduce infection and transmission. Therefore, it can stop the virus from replicating at its entry and spreading to the lungs and other parts of the body.
- The intra-nasal vaccine stimulates a broad immune response – neutralizing IgG, mucosal IgA, and T Cell responses.
- Immune responses at the site of infection (in the nasal mucosa) are essential for blocking both infection and transmission of Covid-19.

Importance of Mucosal Vaccines:

- With the vaccine being delivered through a nasal spray, it will **do away with the need for needles and syringes** currently required for all the Covid-19 vaccines available.
- **Reduce the dependence** on trained personnel to give shots.
- It has the potential to induce local (mucosal) immunity at the point of entry of the virus. It could ensure the presence of spillover antibodies on the nasal mucosa. The nasal area is the spot through which the Sars-CoV-2 virus enters the body.

Pradhan Mantri TB Mukht Bharat Abhiyaan

News: President Droupadi Murmu has launched the 'Pradhan Mantri TB Mukht Bharat Abhiyaan' which aims at working towards TB elimination from the country by 2025.

About:

- India is committed to **eliminating tuberculosis** from the country **by 2025**, five years ahead of the global target by the World Health Organisation (WHO) i.e. 2030.
- **National Tuberculosis Elimination Programme** is aligned with the ambitious goal.
- Pradhan Mantri TB Mukht Bharat Abhiyaan' has been envisioned to bring together all community stakeholders to support those on TB treatment and accelerate the country's progress towards TB elimination.

Ni-kshay Mitra Initiative:

- The President also launched the Ni-kshay Mitra initiative to ensure additional diagnostic, nutritional, and vocational support to those on TB treatment.
- The Ni-kshay 2.0 portal will facilitate in providing additional patient support to improve treatment outcome of TB patients, augmenting community involvement in meeting India's commitment to end TB by 2025 and leveraging Corporate Social Responsibility (CSR) opportunities.

About TB:

- Tuberculosis (TB) is a **bacterial infection** spread through inhaling tiny droplets from the coughs or sneezes of an infected person.
- It **mainly affects the lungs**, but it can affect any part of the body, including the tummy (abdomen), glands, bones and nervous system.
- The BCG vaccine offers protection against TB, and is recommended on the NHS for babies, children and adults **under the age of 35** who are considered to be at risk of catching TB.
- The BCG vaccine is not routinely given to anyone over the age of 35 as there's no evidence that it works for people in this age group.

Other initiatives to Fight TB:

- The Saksham Project - It is a project of the Tata Institute of Social Sciences (TISS) that has been providing psycho-social counselling to DR-TB patients.
- The Nikshay Ecosystem - It is the National TB information system which is a one-stop solution to manage information of patients and monitor program activity and performance throughout the country.
- TB Harega Desh Jeetega Campaign - Launched In September 2019 it is showcasing the highest level of commitment for the elimination of TB.
- Nikshay Poshan Yojana (NPY) – The scheme is aimed at providing financial support to TB patients for their nutrition.

Cloud Seeding

News: Recently, the United Arab Emirates (UAE) which is located in one of the hottest and driest regions on earth, has been leading the effort to seed clouds and increase precipitation.

- UAE combined shooting water-attracting salt flares with releasing salt nanoparticles, a newer technology, into the clouds to stimulate and accelerate the condensation process and hopefully produce droplets big enough to then fall as rain.

What is Cloud seeding?

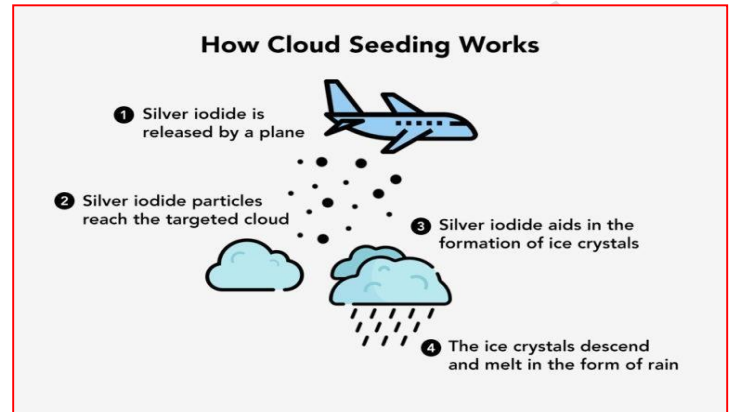
- Cloud seeding is the process of spreading either dry ice or more commonly, silver iodide aerosols, into the upper part of clouds to try to stimulate the precipitation process and form rain.
- The method uses planes to spray clouds with chemicals to condense smaller particles into larger rain droplets. It does help increase rainfall rates by approximately 10-30% per year.
- There are 3 types of Cloud seeding methods – Hygroscopic, static and dynamic cloud seeding method.

Where it can be used?

- **To tackle air pollution** – It may help settle down toxic air pollutants through the rain. For example, it was used in New Delhi on the orders of CPCB.
- **Agriculture** – As it brings rains it can help provide relief to drought prone areas. For example, Project Varshadhari in Karnataka.
- **Power Generation** - Cloud seeding experiments have shown to augment production of hydroelectricity during the last 40 years in Tasmania, Australia.
- **Fog Dispersal, hail suppression and Cyclone modification** - “Project Sky Water” of the U.S.A. in 1962 for weather modification through cloud seeding aimed at fog dispersal, hail suppression, and cyclone modification.

Challenges:

- The chemicals used in cloud seeding might be potentially harmful to plants, animals, and people, or the environment.
- It involves processes such as delivering chemicals to the sky and releasing them into the air by flare shots or airplanes, which involves huge costs and logistic preparation.
- Seeding agents like silver iodide (toxic), dry ice (source of GHG emission) possess their own challenges.
- It may be responsible in changing climate patterns.



Green Hydrogen – Dependency to fulfill energy targets can be risky

News: As per the study published in the journal **Nature Energy**, Green hydrogen would likely **supply less than 1 per cent of final energy globally by 2035.**

What is Green Hydrogen?

- Green hydrogen is defined as hydrogen produced by splitting water into hydrogen and oxygen using renewable electricity. This is a very different pathway compared to both grey and blue.

Challenges in producing Green hydrogen:

- Low stage of technology for sustainable production.
- It is capital intensive, therefore we need to reduce investment cost as well as the cost of investment, through scaling up manufacturing of renewable technologies and electrolyzers
- Thus, ramping up infrastructure for supply of electrolyzers through which green hydrogen is produced is critical. **Electrolysis capacity** is still tiny compared to where we need to be in 2050 for Net Zero emissions scenarios

Recommendations:

- Implementation is the key. We must ought to have **strong policies** that **could reverse the setbacks**. Fostering green hydrogen growth will require utmost dedication, coordination and funding along the entire value chain.
- **Carbon pricing** should always form the basis of climate policy.
- Accelerating the roll-out of crucial zero-carbon technologies like electric mobility and heat pumps. These technologies make more efficient use of scarce renewable electricity.
- Many **industrial processes** that **use hydrogen can replace grey with green or blue**, provided CO2 is adequately priced or other mechanisms for the decarbonization of those sectors are put in place.
- In the coming years, **ships can switch to green ammonia**, a fuel produced from green hydrogen and nitrogen from the air, which does not contain CO2, but investments will be needed to replace engines and tanks, and green ammonia is currently much more expensive than fuel oil.

Government efforts:

- Hon'ble Prime Minister launched **the National Hydrogen Mission** on India's 75th Independence Day (i.e. 15th August, 2021). The Mission aims to aid the government in meeting its climate targets and making India a green hydrogen hub. This will help in meeting the **target of production of 5 million tonnes of Green hydrogen by 2030** and the **related development of renewable energy capacity**.
- Ministry of Power also notified the **Green Hydrogen/Green Ammonia Policy** which is a step forward towards National Hydrogen Mission. This will reduce dependence on fossil fuel and also reduce crude oil imports. The objective also is for our country to emerge as an export Hub for Green Hydrogen and Green Ammonia.

Safe Harbour

News: US and India are looking to remove special protection available to social media platforms, called 'safe harbour'.

What is Safe Harbour?

- In the US, social media companies enjoy special protection under **Section 230 of the 1996 Communications Decency Act** which states that 'no provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider'.
- It is similar to **Section 79 of India's Information Technology Act, 2000**, (IT Act) which classifies social media platforms as intermediaries and broadly shields them from legal action based on content users post on their platform.
- Such regulations shield social media platforms and it is termed as 'safe harbour'.

Why are they provided safe harbour?

- Since platforms cannot control at the first instance what users post on their site, they should not be held legally liable for any objectionable content they host as long as they agree to take such content down when flagged by the government or various courts.
- Although tech platforms can help keep us connected, create a vibrant marketplace of ideas, and open up new opportunities for bringing products and services to market, they can also divide us and create serious real-world issues.

What is the need for regulations?

- A small number of dominant Internet platforms use their power to exclude market entrants, to engage in rent-seeking, and to gather intimate personal information that they can use for their own advantage
- The platforms are currently shielded from being held liable and lack adequate incentive to reasonably address issues such as child sexual exploitation, cyberstalking, and the non-consensual distribution of intimate images of adults.

What steps are taken by India to keep social media companies in check?

- India had notified changes to IT Rules, 2021 and issued several new digital rules that social media companies ought to comply with.
- The new digital rules ask social media companies like Facebook, WhatsApp, and Twitter to identify within 36 hours the originator of a flagged message as well as to conduct additional due diligence, including the appointment of a Chief Compliance Officer, Nodal Contact Person, and resident Grievance Officer.
- Creation of government-backed grievance appellate committees which would have the authority to review and revoke content moderation decisions taken by platforms.
- Enabling identification of the first originator of the information on its platform under certain conditions.

CRISPR – Beginning to Deliver

News: Over the last 3 years, gene-editing technology with nearly unlimited potential has produced flawless results in clinical trials. India has approved a **5-year project to develop CRISPR to cure sickle cell anaemia.**

What is CRISPR?

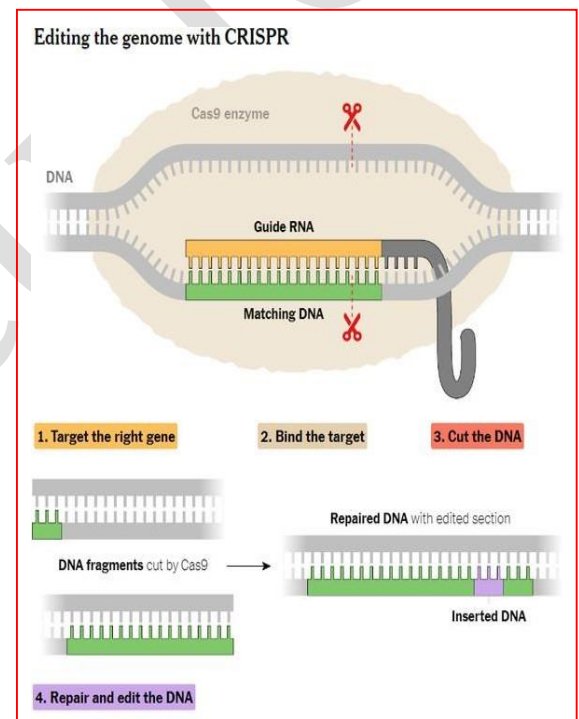
- Genome editing technology called CRISPR has begun to deliver on the near unlimited potential that scientists say it has to improve the quality of human life.
- The technology enables a simple but remarkably efficient way to 'edit' the genetic codes of living organisms, thus opening up the possibility of 'correcting' genetic information to cure diseases, prevent physical deformities, or to even produce cosmetic enhancements.
- Its mechanism is often compared to the 'cut-copy-paste', or 'find-replace' functionalities in common computer programmes. A bad stretch in the DNA sequence, which is the cause of disease or disorder, is located, cut, and removed and then replaced with a 'correct' sequence.

Where can the gene-editing technology be put to use?

- The technology opens up the possibility of finding a **permanent cure** to many of **genetic or hereditary** disease such as sickle cell anaemia, eye diseases including colour blindness, several types of cancer, diabetes, HIV, liver and heart diseases.
- It can also be a cure for **deformities** arising out of **abnormalities in gene sequences**, like stunted growth, speech disorders or inability to stand or walk.
- **Japan** has already approved the **commercial cultivation of a tomato variety** that has been improved using **CRISPR-based intervention**.
- Genome-editing technologies also have a number of relevant applications to global health security outside of the human body. Gene drives have the **potential to control vectors** and **minimize the possibility of certain outbreaks** whose impact is **felt by poor countries more**. It can help either by eliminating the vector entirely or by editing the vector's genome to remove its ability to carry a particular agent.
- Genome-editing technologies have a major advantage over traditional drugs where they can target the genetic basis of disease. This can lower the cost of life-threatening disease.

Ethical dilemma associated with technology:

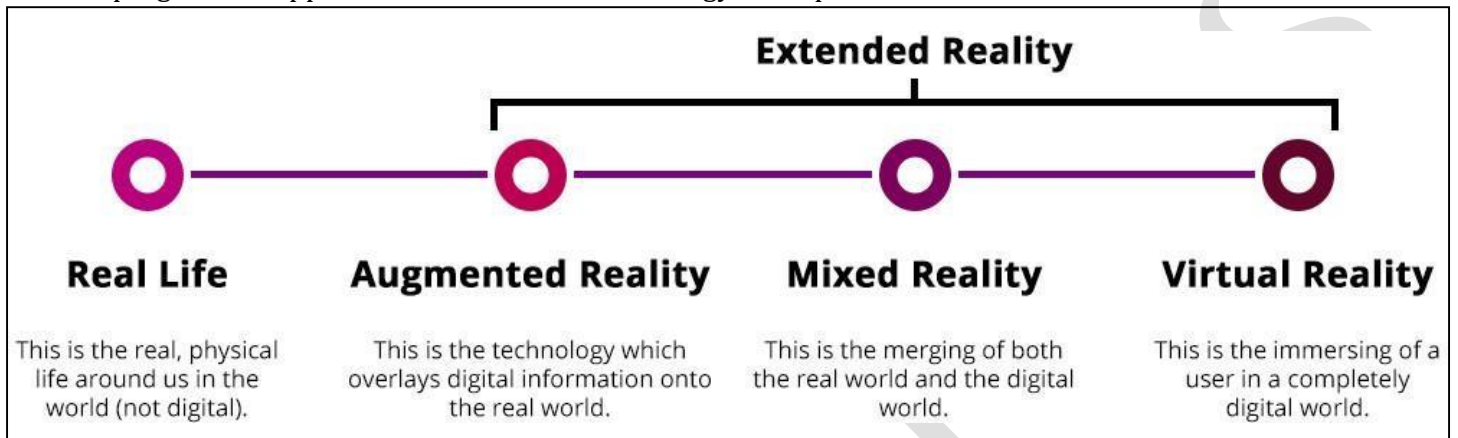
- In 2018, a Chinese researcher disclosed that he had **altered the genes of a human embryo to prevent the infection of HIV**. This was the first documented case of creating a '**designer baby**', and it caused widespread concern in the scientific community.



- Though the technology is fairly accurate, it is not 100% precise, and could induce few errors as well, making changes in other genes. While, in the case of therapeutic interventions, the changes in genetic sequences remain with the individual and are not passed on to the offspring.

XR Technology

News: Ministry of Electronics and Information Technology (MeitY) Startup Hub in collaboration with Meta will launch a program to support and accelerate XR technology startups across India.



Background:

- India is uniquely placed to play a pivotal role in the metaverse with a large talent pool of creators, developers and a vibrant technology ecosystem.
- The world looks to it for supply technology, innovation and talent to cater to the greater demand for digital products.
- This collaboration is part of the Indian Government's efforts for skilling in emerging and future technologies.

What is XR technology?

- Extended reality, or XR, is an emerging realm of technology that combines real and virtual environments.
- Extended Reality (XR) is an umbrella term encapsulating Augmented Reality (AR), Virtual Reality (VR), Mixed Reality (MR), and everything in between.
- The term is also used to refer to human-machine interactions generated through wearables and computer technology. It includes representative forms such as augmented reality, mixed reality and virtual reality and the areas interpolated among them.
- The term first popped up in the 1960s when Charles Wyckoff filed a patent for his silver-halide "XR" film, intended for photographing extremely bright light events, such as nuclear explosions.

About MeitY Startup Hub:

- Launched in 2019, the MeitY Startup Hub is a national platform focused on promoting technology innovation, start-ups, and the creation of intellectual properties.
- MeitY Startup Hub (MSH) aims to serve as an integrating platform for startups and incubators.
- According to the government, it has supported more than 3,000 startups.

Geoengineering

News: China is known to have exercised over half a million weather-modifications programmes (part of geoengineering) in the past 2 decades.

Background:

- In 2020, China announced its plan to expand its weather-modification programme to generate artificial rain or snowfall.

- Many countries have known to deployed cloud seeding techniques to fight against water scarcity and environmental crises.

What is Geoengineering?

- It is a deliberate, large-scale intervention carried out in the Earth's natural systems to reverse the impacts of climate change. It involves techniques to physically manipulate the global climate to cool the planet.

What is Weather modification?

- Weather modification is part of geoengineering involves action that deal with intentionally manipulating or altering the weather. Most common form of it is Cloud seeding.
- It also includes the goal of preventing damaging weather and can as well be used as military tactic as seen in **Operation Popeye** where clouds were seeded to prolong the monsoon in Vietnam.

Ethical and Environmental issues surrounding Weather modifications:

- The '**tragedy of the commons**' refers to the situation when individuals, acting rationally in their own self-interest, nonetheless act irrationally as a collective group by irreparably depleting a resource that is owned in common.
- A branch of ethics called **intergenerational ethics** examines whether present-day humanity has a moral obligation to strive for environmental sustainability for the benefit of future generations.
- **Injecting sulfate aerosols** above the Arctic to mimic volcano clouds **can disrupt monsoons** in Asia and create **more drought like situations** in Africa leaving over billions of people vulnerable to food and water crisis.
- Weather modifications are seen as **quick fix** to climate change. While some technological intervention is the need of the hour but such intervention **must be backed by thorough data and research**. In absence of it, it can lead to man-made disasters.

Integrated Cryogenic Engine Manufacturing Facility

News: President Droupadi Murmu inaugurated Hindustan Aeronautics Limited's (HAL) Integrated Cryogenic Engine Manufacturing Facility (ICMF) in Bengaluru.

Evolution of Cryogenic Technology:

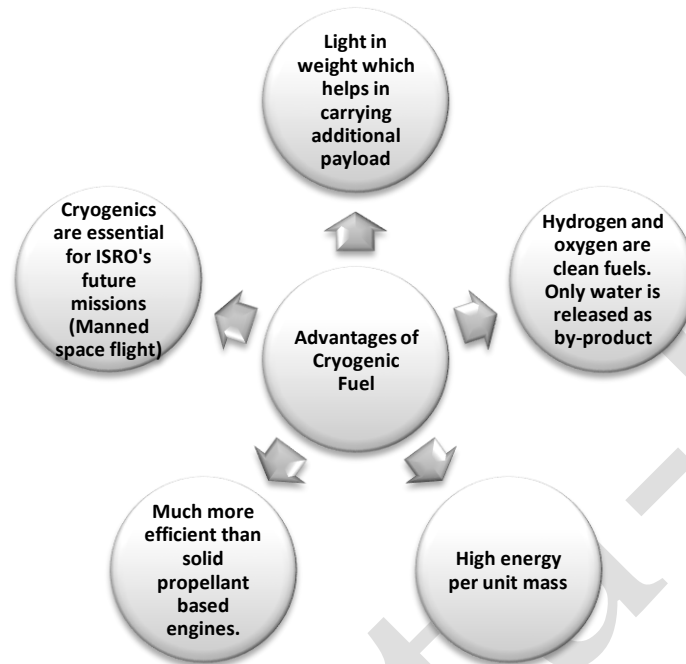


What is a Cryogenic Engine?

- Cryogenics is the study of the production and behavior of materials at extremely low temperatures (below -150 degree centigrade) to lift and place heavier objects in space.
- A cryogenic engine provides more force with each kilogram of cryogenic propellant it uses compared to other propellants, such as solid and liquid propellant rocket engines, and is more efficient.
- Cryogenic engine makes use of Liquid Oxygen (LOX) and Liquid Hydrogen (LH2) as propellants which liquefy at minus 183 degree Celsius and minus 253 degrees Celsius respectively.

What is Cryogenic fuel?

- The fuels which are to be required to store at extremely low temperatures in order to maintain them in liquid state are cryogenic fuels. They are used in machinery that operates in space (rocket ships and satellites) because ordinary fuels cannot be used because of the very low temperatures encountered in space, and due to absence of an environment that supports combustion.



Disadvantages:

- Due to temperature difference, heat transfer is very high. Thus, lot of insulation is needed.
- Boiling causes sudden pressure rise in tanks. So proper venting is required.
- Material properties vary at low temperatures. Most materials become brittle. So if valve seats or seals become brittle and break, it causes leaks.

Flex Fuel Car

News: India's first 'flex fuel' car, a Toyota sedan that can run on one or multiple fuel types and developed as part of a new pilot aimed at deleveraging the country's dependence on imported fossil fuels for transportation, is set for an unveiling this month.

About:

- A flex fuel, or flexible fuel, vehicle has an internal combustion engine (ICE), but unlike a regular petrol or diesel vehicle, this can run on more than one type of fuel, or even a mixture of fuels.
- The most common versions **use a blend of petrol and ethanol or methanol**, but these engines are **also equipped** to run on **100 per cent petrol or ethanol as well**.
- This is made possible by equipping the engine with a **fuel mix sensor** and an **engine control module (ECM) programming that senses and automatically adjusts** for any ratio of designated fuels.
- It was first developed in the early 1990s and used in the mass-produced 1994 Ford Taurus, according to Car Bibles. By 2017, there were approximately 21 million flex-fuel vehicles on the road.

How do they work?

- Flex fuel vehicles have one fuel system, and most components are the same as those found in a conventional petrol-only car.
- Some special ethanol-compatible components are required to adjust to the different chemical properties and energy content in ethanol or methanol, such as modifications to the fuel pump and fuel injection system.

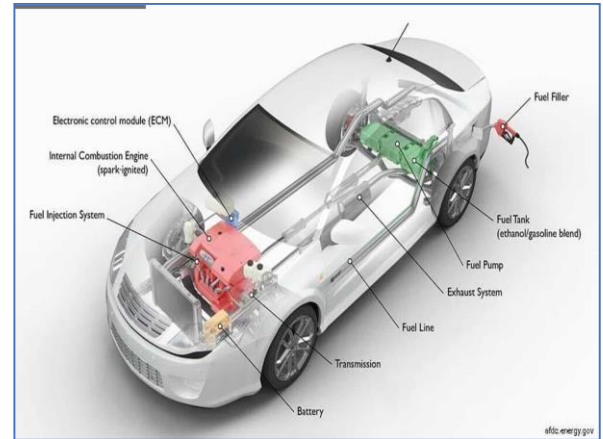
- The Electronic Control Module (ECM) is also calibrated to accommodate the higher oxygen content of ethanol.

Advantages:

- Cleaner fuel, low import dependence on fossil fuels, farmers will stand to benefit, similar performance as pure petrol cars.

Disadvantages:

- Cost of vehicles will increase as they need to adapt to newer technologies.
- High infrastructure investment is required to make the switch.
- Current engines will not be fully compatible with flex-fuels, which means fuel stations will need to cater to both pure petrol and flex-fuel cars by adding the appropriate infrastructure.
- While the engines will be designed to adjust to the blend of fuel used, the **ethanol component** in the flex-fuel will cause **greater wear** and **stress on the engines**. This might translate to **higher maintenance costs** during the time the technology matures and improves reliability.
- Ethanol contains less energy than pure petrol.



NASA's DART Mission

News: NASA's DART (double asteroid redirection test) will be hitting an Asteroid, Dimorphos.

About:

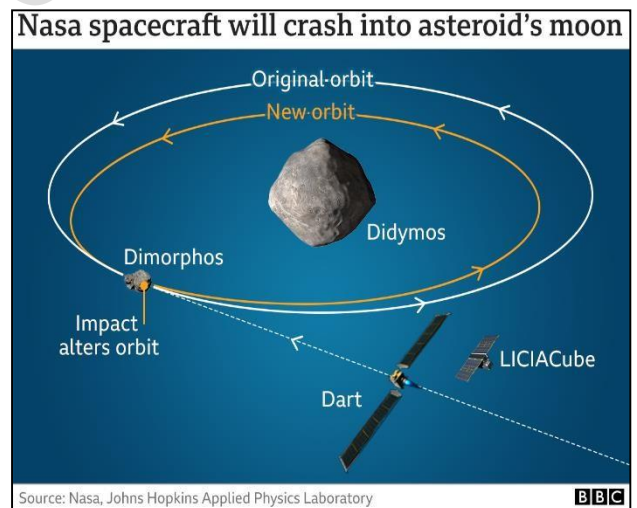
- Dimorphos, an Asteroid, is the size of a football field. DART will clash with Dimorphos 11 million kms away from the Earth.
- The clash will be a test of NASA's Planetary defence capability.
- Dimorphos orbits a larger asteroid called Didymos.
- The clash with DART will reduce Dimorphos' speed. It is important to know that neither Dimorphos, nor Didymos is currently a threat to life on Earth.

Purpose of the Mission:

- First to showcase that NASA has the planetary defence capability. A way to show that NASA has the capability of defending the earth in the near future.
- Second, it intends to change the velocity of Dimorphos as a result of which rock's path will change.
- At the time of DART's impact, Didymos will be visible enough to be a good candidate for study and distant enough to be no danger.

Additional points:

- The mission addresses the long-standing nightmare of mass extinction. It is known that approximately 66 million years ago, a very large meteorite crashed into the Yucatan region of Mexico and caused the extinction of a large number of animal and plant species.
- Even a large meteorite burning up in the lower atmosphere could damage the ozone layer, or release enough energy to cause damage similar to a nuclear explosion.
- On average about 17 meteorites of substantial size hit the Earth every day (smaller ones burn up due to friction in the atmosphere).



- But **until DART** there **was absolutely nothing** that people could do to safeguard the planet from a large flying rock that could trigger another extinction event.
- Dimorphos (the rock targeted) is so small in celestial terms that it was visible only when DART was around 4 hours' flight time away. **The onboard AI** had to make late course corrections to ensure that it hit the rock. It did so, successfully. The kinetic energy imparted by the collision should be enough to slightly alter the orbit of this dual-asteroid system.
- Since DART appears to have worked, scientists can now conceive a **similar mission possibly involving a large nuclear warhead** if there's a future emergency. However, it must be noted that DART was planned for several years, and the vehicle was launched in November 2021 in order to intersect Dimorphos ten months later.

Possible misuse of technology:

- As with most technology demonstrations, there is a dark side to this. The equipment and technologies tested by DART could save the Earth from meteors. It could also be **used for military purposes**. Given mankind's propensity for weaponizing everything, it probably will be, at some stage in the not too distant future.

Environment & Bio-diversity

Climate Reparations

News: Facing the worst flooding disaster in its history, Pakistan has begun demanding reparations, or compensation, from the rich countries that are mainly responsible for causing climate change.

What is Climate reparations?

- Climate reparations refer to a call for money to be paid by the Global North to the Global South as a means of addressing the historical contributions that the Global North has made (and continues to make) toward climate change.
- It is important that the Global North own up to that responsibility of paying what they are due to the Global South.
- Climate reparations are also about the need for acknowledgment and accountability for the loss of land and culture and how that has affected us in the Global South as a result of climate change.

Who owns the responsibility for Climate Change?

- In the climate change framework, the burden of responsibility falls on those **rich countries** that have contributed most of the **greenhouse gas emissions since 1850**, generally considered to be the beginning of the industrial age.
- The **United States and the European Union**, including the UK, account for over **50% of all emissions** during this time.
- If Russia, Canada, Japan, and Australia too are included, the combined contribution goes past 65%, or almost two-thirds of all emissions.
- **Historical responsibility** is important because **carbon dioxide remains in the atmosphere for hundreds of years**, and it is the cumulative accumulation of carbon dioxide that causes global warming.
- A country like **India**, currently the third largest emitter, **accounts for only 3%** of historical emissions.
- China, which is the world's biggest emitter for over 15 years now, has contributed about 11% to total emissions since 1850.

Why do Climate reparations matter?

- While the impact of climate change is global, it is much more severe on the poorer nations because of their geographical locations and weaker capacity to cope.
- Countries that have had negligible contributions to historical emissions and have severe limitations of resources are the ones that face the most devastating impacts of climate change.

National Clean Air Programme

News: An analysis by the environmental think tank, Centre for Science and Environment (CSE) reported limited improvement in PM2.5 for the cities under the National Clean Air Programme (NCAP).

Key Findings:

- Only 14 of 43 NCAP cities registered a 10% or more reduction in their PM2.5 while only 43 cities had adequate data to be considered.
- Cities in Punjab, Rajasthan and Maharashtra dominated the list of cities which registered a significant increase in PM2.5 levels between 2019 and 2021

What is NCAP?

- The NCAP launched in 2019 aims to bring a **20%-30%** reduction in pollution levels from **PM2.5 and PM10 particles by 2024**, using **2017** pollution levels as a **base**.
- Cities are required to quantify improvement starting 2020-21, which requires a 15% and more reduction in the annual average PM10 concentration and a concurrent increase in "good air" days to at least 200.
- Anything fewer will be considered 'low' and the funding consequently reduced.
- It is coordinated by Central Pollution Control Board.

Issues with NCAP:

- For monitoring, CPCB only considers levels of PM10, the relatively larger, coarser particles.
- However, PM2.5, the smaller, more dangerous particles, aren't monitored as robustly in all cities, mostly due to the lack of equipment.

To know more about NCAP do click on the following link - https://youtu.be/UXCEmF9r_kg

Ecotax

News: Recently, there has been growing awareness of the imposition of environmental taxes, and a very large basket has already been designed in different countries.

What is an Ecotax?

- An ecotax is a tax whose tax base is defined so as to internalize the negative externality generated either from the production/consumption/extraction behavior in an economy.
- Such taxes are intended to discourage the overuse of natural resources that damage the ecology.
- According to the OECD (2006), there are about 375 environmentally related taxes in the OECD countries. The evolution of these taxes has shown that most revenue comes from energy, motor vehicle and transport taxes

How Fiscal instruments can be used to support Ecological issues?

- **Carbon taxes** are the most contentious fiscal instruments widely discussed which serve the dual purpose of acting as deterrent and raising resources from activities that impact sustainable economic development.
- **Landfill tax** in the UK was introduced to encourage recycling so that fewer waste can be sent for landfilling.
- **Taxes introduced in plastic bags** in Ireland (2002) helped reduce the plastic litter from 5% to 0.13% in 2015.
- **Tax on nitrogen emissions** in Sweden was introduced in 1992 to discourage activities with nitrogen emissions which resulted in a reduction in nitrogen emissions by 30-40%.

Ecotax in India

- **Clean energy Tax by GOI imposed on coal, peat and lignite**
- **Vehicle entry tax in Himachal Pradesh (2004)**
- **Cess on non-biodegradable substances, introduced by Sikkim State in 2005**
- **Gujarat Green Cess imposed on electricity, presently stayed by the courts.**

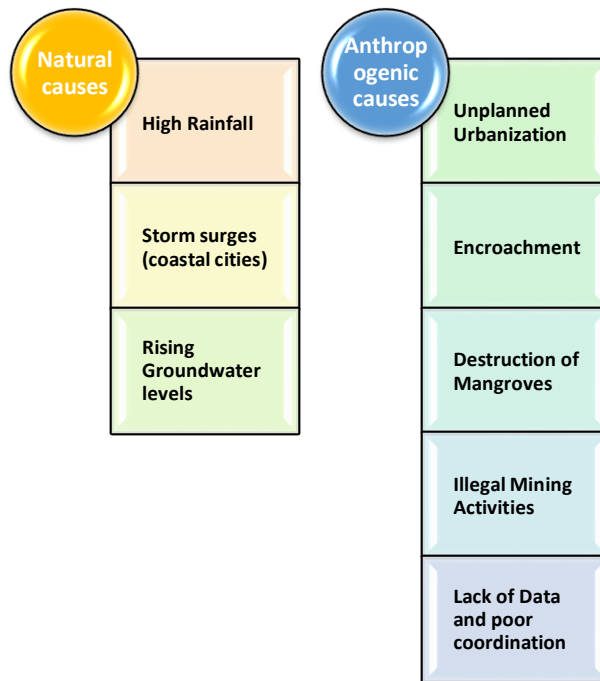
The menace of Urban Flooding

News: There was unprecedented flooding in India's tech capital Bengaluru. Cities such as Kochi, Hyderabad, Mumbai and Chennai have already faced the havoc caused by Urban flooding in the recent past.

What is Urban Flooding?

- Urban Flooding is an inundation of land in a constructed setting, particularly in densely populated areas.

What are the causes of Urban Flooding?



- **High Rainfall** – According to IMD, monsoon pattern is observing changes. It has become frequent and unpredictable.
- **Rising Groundwater levels** – For example in Chennai, the replenished groundwater table across the city after rains becomes a challenge for several buildings with basements.
- **Encroachment** – A large number of wetlands that soaked up the rainwater have been encroached upon. Bengaluru had around 262 lakes in the early 1960's but now only 10 hold water.
- **Lack of Data and poor coordination** – The CAG had highlighted that the Bengaluru municipality didn't maintain proper records of funds provided to it to manage stormwater management. It also noted poor coordination between municipality and the Bengaluru development authority on drainage related matters.
- **Destruction of Mangroves** – One of the prime reasons why Mumbai floods almost every year. Mumbai has lost around 40% of its mangroves between 1995 and 2005.
- **Climate Change** - The climate change has caused an increase in the frequency of short duration heavy rainfall leading to higher water run-off.
- **Urban Heat Island** - NASA studies indicate that the urban heat island effect also results in increased rainfall over urban areas that in turn leads to flooding. Whenever the rain bearing clouds pass over the urban heat island, the hot air pushes the clouds up, resulting in highly localised rainfall which may sometimes be of high intensity.
- **Uninformed release of water from Dams** - Unplanned and sudden release of water from dams and lakes lead to floods in an urban area, without giving the public enough time to respond. For example, Chennai Floods in 2015 due to release of water from Chembarambakkam Lake.

What are the steps to mitigate Urban flooding?

- **Flood Vulnerability mapping** - Identification of the vulnerable areas can be done by analysing topography and historical data of inundations at city level.
- **Effective water-shed management** - Construction of **flood walls**, **raised platforms** along flood prone river basins, **timely cleaning** and **deepening of drainage channels** should be taken up along the whole river basin instead of just the urban areas.
- **Bioswales** – Also referred as 'rain garden' in New York are landscape features that collect polluted stormwater runoff, soak it into the ground, and filter out pollution.
- **Sponge Cities** - The term "sponge cities" is used to describe urban areas with abundant natural areas such as trees, lakes and parks or other good design intended to absorb rain and prevent flooding. Interest in harnessing nature – or using "nature-based solutions" – to tackle climate shocks has grown in popularity in

recent years. Cities as diverse as Shanghai, New York and Cardiff are embracing their “sponginess” through inner-city gardens, improved river drainage and plant-edged sidewalks.

- **Public facilities like hospitals and schools** and basic services such as food, water, health and sanitation should be made **disaster resilient**. They should be located or relocated such that they are able to **function without hindrance during inundations**.

One Water Approach

News: The United Nations has estimated that by the year 2050, four billion people will be seriously affected by water shortages, pushing the One Water approach towards all sources of water.

What is OWA?

- One water is an integrated planning and implementation approach for managing finite water resources for long-term resilience and reliability.
- It recognizes all urban water supplies (surface water, groundwater, storm water, waste water) as connected resources.
- It is a recognition that all water has value, regardless of its source. It can be used, recycled and reused.



Why do we need to follow the OWA?

- At the global level, 31 countries are already facing a shortage of water and by 2025, there will be 48 countries facing serious water shortages.
- Differences in regional water availability, pricing and affordability, the seasonal and inter-annual variation in supply, water quality and quantity, and unreliability of the resource poses great challenges.
- Aged infrastructure, supply-centric management, polluted waterbodies, agricultural and industrial expansion following changes in consumption and production patterns, a changing climate and disproportionate distribution of the water also push for new water techniques.
- Recognizing, measuring and expressing water’s worth and incorporating that into decision-making is still a challenge, apart from the water scarcity.

How is OWA superior to conventional water management approach?

Conventional Water Management Approach	One Water Approach
One way route from supply to use, treatment and disposal.	Water is recycled and reused several times.
Drinking water, wastewater and storm water are managed separately.	All the water systems, regardless of their source, are managed in a connected way and given equal worth.
Grey infrastructure in conventional water management.	It involves a mix of grey and green infrastructure which forms a hybrid system.
Grey infrastructure refers to structures such as dams, seawalls, roads, pipes or water treatment plants.	Green infrastructure refers to natural systems including forests, floodplains, wetlands and soils.
Use of Stormwater not considered.	Stormwater is utilised as a valuable resource to fight against water scarcity, recharge groundwater and support natural vegetation
Collaboration is need-based.	Active collaborations with all stakeholders, including communities.

Way forward:

- Failure to value water in all its forms is considered a prime cause of the mismanagement of water, according to the UN World Water Development Report 2021. Therefore, shifting the attention from a single-minded and linear water management to a multi-dimensional integrated water management approach is the need of the hour.

Sand Mining

News: Recently, sand mining has attracted attention in Haryana's part of Yamuna stretch. Sand Mining and Human activities near River has deteriorated its health and is threat to the river's Biodiversity.

About:

- Sand is a granular material composed of finely divided rock and mineral.
- Sand is classified as a "minor mineral", as per The Mines and Minerals (Development and Regulations) Act, 1957 (MMDR Act).
- Sand mining is the extraction of sand, mainly through an open pit (or sand pit) but sometimes mined from beaches and inland dunes or dredged from ocean and river beds.
- Natural sources of sand – rock quarries, terrestrial sand deposits, the riverine and lacustrine environment, beach systems and marine environments.

UNEP in its report titled 'Sand and sustainability: 10 strategic recommendations to avert crisis' stated that the demand and use of sand resources has tripled in the last two decades driven by shifting consumption patterns, growing populations, increasing urbanization and rapid infrastructure development.

Sand management in India:

- The MMDR Act empowers state governments to frame rules to prevent illegal mining, transportation, and storage of minerals (both major and minor)
- The **National Green Tribunal** in August 2013 passed an order banning sand mining without proper environment clearance.
- The Ministry of Environment, Forest and Climate Change (MoEFCC) has released "**Sustainable Sand Mining Management Guidelines 2016**" to promote scientific mining of sand and encourage environmental friendly management practices.

- Ministry of Mines has also developed a Mining Surveillance System (MSS) to use space technology for facilitating State governments in curbing illegal mining activities in the country.
- Under Sections 120B read with Section 34 of Indian Penal Code, 1860, extraction of sand without a legal permit is a 'punishable offence'.

What are the reasons behind unsustainable management of sand?

- Low valuation of sand as a mineral.
- Adoption of alternate sand is quite low.
- High demand.
- Unregulated and illegal mining.
- Lack of detailed studies regarding the sand extraction quantities, uses.

Impacts of unsustainable extraction and use of sand:

- **Environmental impacts**
 - Coastal and river erosion. It may also lead to changed morphology of the river.
 - Shrinking deltas.
 - Threats to freshwater and marine fisheries and biodiversity.
 - Lowering of ground water and river water level table.
 - Reduced resilience to climate change as sand is an important barrier in the face of sea level rise and frequent extreme weather events.
- **Socio-economic impacts**
 - Soil infertility and increased food insecurity owing to salt water intrusion, removal of rich sediments.
 - Water scarcity.
 - Health and safety risks to miners and communities from risk of drowning, subsidence and landslides.
 - Increased criminal activities by sand mafia, goons through illegal mining.
- **Contributes to Climate change**
 - Extraction of marine sand releases GHG trapped in sediments.
 - Reduced carbon sink due to destruction of marine plants.
 - Process of transporting sand and producing concrete releases Carbon dioxide.

HOW CAN WE STOP THE SAND THEFT?

Reusing construction materials, such as cement.



Mixing sand from beaches and rivers with sand from the desert.

Using mining and quarry waste as an alternative to sand.



If we use a 40% ash mix with sand, we increase the compressive strength of cement.

Shoonya Campaign

News: NITI Aayog to commemorate the one-year anniversary of Shoonya, India's zero pollution e-mobility campaign.

About:

- The Shoonya campaign aims to improve air quality in India by accelerating the deployment of electric vehicles (EVs) for ride hailing and deliveries.
- The Shoonya campaign brings together consumers and industry, to reduce emissions from the commercial passenger and urban freight sector by promoting EV adoption.
- The campaign is administered by **NITI Aayog** and **RMI** in partnership with leading industry players.
- The goal of the campaign is to **raise awareness about EVs** among consumers and recognize industry efforts through an integrated combination of corporate branding, impact assessment and consumer awareness.



Key components of the campaign:

- **Corporate Branding Programme** - Rides and deliveries carried out in EVs are branded with the Shoonya logo.
- **Consumer Awareness Drive** - The campaign seeks to build awareness and demand for zero-pollution rides and deliveries among consumers, solidifying Shoonya as a slogan across every household in India.
- **Resource toolkit** - It provides EV users with **online tools** to assess the costs and impact of electric vehicle adoption. These toolkits include an **impact tracking dashboard** that shares the progress and impact of the campaign to date, a **calculator** that shows a **cost and emissions comparison** between EVs and their petrol, diesel, and CNG counterparts and a **list of financing resources** and **policy incentives** to support EV procurement.

International Day for Preservation of Ozone Layer

News: September 16th is celebrated as International Ozone Day.

- 2022 marks the 35th year of implementation of the Montreal Protocol. UN is observing the day with the theme "**Montreal Protocol @35**".

About Ozone Layer:

- Ozone (O₃) is a highly reactive gas composed of three oxygen atoms. It is both a natural and a man-made product that occurs in the Earth's upper atmosphere. (the stratosphere) and lower atmosphere (the troposphere).
- Stratospheric ozone is not harmful, but its presence in troposphere is harmful.
- Substances like Chlorofluorocarbons, Halons, Carbon-tetrachloride are considered as Ozone Depleting Substances (ODSs)
- **Dobson unit** is a unit which is used to measure the ozone in the atmosphere at a standard temperature and pressure.
- While the entire UV-C and some of UV-B are absorbed by the ozone layer and the atmosphere, UV-A makes its way to our planet. Humans require UV-B to generate Vitamin D but an excess of these radiations can cause serious illness and also impacts through reduced crop yield.

Background:

- A number of commonly used chemicals have been found to be extremely damaging to the ozone layer.

- **Halocarbons** are chemicals in which one or more carbon atoms are linked to one or more halogen atoms (fluorine, chlorine, bromine or iodine). Halocarbons **containing bromine** usually **have much higher ozone-depleting potential (ODP) than those containing chlorine**.
- The man-made chemicals that have provided most of the chlorine and bromine for ozone depletion are **methyl bromide, methyl chloroform, carbon tetrachloride** and families of chemicals known as halons, chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).

Vienna Convention for the Protection of the Ozone Layer:

- The scientific confirmation of the depletion of the ozone layer prompted the international community to establish a mechanism for cooperation to take action to protect the ozone layer.
- This was formalized in the Vienna Convention for the Protection of the Ozone Layer, which was adopted and signed by 28 countries, on 22 March 1985.
- In September 1987, this led to the drafting of The Montreal Protocol on Substances that Deplete the Ozone Layer.

Montreal Protocol:

- The principal aim of the Montreal Protocol is to protect the ozone layer by taking measures to control total global production and consumption of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge and technological information.
- On 16th September 2009, the Vienna Convention and the Montreal Protocol became the first treaties in the history of the United Nations to achieve universal ratification.
- Today, more than 99% of ozone-depleting substances have been phased out and the ozone layer is on a path to recovery.

Kigali Amendment:

- The Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer reached agreement at their 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda to phase-down hydrofluorocarbons (HFCs).
- India had ratified the Kigali amendment in 2021.



The Big Seven – Know your Big Cats

News: The Cheetah will be the fifth of the world's seven big cats – members of the genres **Panthera, Puma, and Acinonyx** - to have a home in India. The tiger, lion, leopard and snow leopard are the other four.

About 7 Big Cats:

Lion (Panthera Leo)

- Native to Africa and Asia, the Lion is the most social cat, and lives in groups called 'prides'.
- They prefer open forests such as scrubland, and adult males have a prominent mane.
- There are two broad types of lions - The African lion and the Asiatic lion.
- **Asiatic Lion – IUCN Status → Endangered**
- **African Lion – IUCN Status → Vulnerable**

Tiger (Panthera Tigris)

- Tiger, (Panthera tigris) is the largest member of the cat family (Felidae) and also the earliest Panthera member to exist.
- Primarily a forest animal, they range from the Siberian taiga to the Sunderban delta.
- In the wild, tigers are found in India, Nepal, China, Russia, Bhutan, Myanmar, Cambodia, Laos, Vietnam, Thailand, Sumatra (Indonesia) and Malaysia.
- It is the national animal of India, Bangladesh, Malaysia, and South Korea.

- **IUCN Status – Endangered**

Jaguar (*Panthera Onca*)

- The largest cat in the Americas, the Jaguar has the strongest bite force of all wild cats, enabling it to bite directly through the skull of its prey.
- Melanistic (black) Jaguars are common and are often called black panthers.
- **IUCN Status – Near Threatened**

Snow Leopard (*Panthera Uncia*)

- Ghost of the mountains, this smokey-grey cat lives above the snow line in Central and South Asia.
- It cannot roar, and has the longest tail of all which comes in handy while hunting along cliffs.
- It is the **state animal of Ladakh and Himachal**.
- **IUCN Status – Vulnerable**

Leopard (*Panthera Pardus*)

- The leopard is similar in appearance to the jaguar but has a smaller and lighter physique.
- The spots on its coat are smaller and more densely packed than those of the jaguar.
- The leopard has the widest distribution range of all wild cats.
- **IUCN status – Vulnerable**

Cougar (*Puma concolor*)

- The cougar is the second-largest cat in the Americas. (The Jaguar is the largest.)
- Cougars are also called ‘mountain lion’ and ‘panther’ across their range from the Canadian Yukon to the Southern Andes.
- **IUCN Status – Near Threatened**

Cheetah (*Acinonyx Jubatus*)

- It is one of the oldest of the big cat species, with ancestors that can be traced back more than five million years to the Miocene era.
- It is the only cat without retractable claws.
- The cheetah is also the world’s fastest land mammal.
- **IUCN Status – Vulnerable**
- **However, Asiatic Cheetah (surviving only in Iran) is classified as Critically endangered.**

How did Cheetah’s go extinct in India?

- Over-hunting was a major contributing factor for its extinction.
- Decimation of its relatively narrow prey base species was other one.
- While, loss of grassland and forest habitat also played a role.

Why are they being brought back?

- To develop ‘cheetah metapopulation’ which will help in global conservation of the animal.
- Being a flagship species, its conservation will also revive grassland-forests and its biome and habitat just as how it has worked under Project Tiger.
- Such translocation project has helped in Africa continent, particularly in South Africa which alone is home to 4,500 of the world’s 7,000 cheetah’s.

Why Kuno?

- The Kuno National park was found to be ready to receive the cheetah immediately.
- It has a healthy prey base (Chital, sambhar, neelgai, wild pig, gazelle, langur, peafowl)
- Sheopur district where Kuno is located has rainfall level, temperatures and altitude similar to that observed in South Africa and Namibia.

Reintroducing cheetahs

- **8** African cheetahs
- **3** males and **5** females
- will arrive this week!
- India had declared cheetahs extinct in **1952**

Sept 16
HOSEA KUTAKO INTERNATIONAL AIRPORT, NAMIBIA

Boeing 747 "Jumbo Jet" (Modified)

JAIPUR

Sept 17
KUNO NATIONAL PARK, MADHYA PRADESH

PM PRANAM

News: To reduce the use of chemical fertilizers the Government is Planning to Launch the PM PRANAM (Promotion of Alternate Nutrients for Agriculture Management Yojana) Scheme.

About:

- The scheme intends to reduce the use of chemical fertilizers and to bring down subsidy burden on chemical fertilizers.
- The subsidy burden is estimated to reach Rs 2.25 lakh crore in 2022-23 — 39 per cent higher than last year's figure of Rs 1.62 lakh crore.
- The scheme will have no separate budget and will be financed through the "savings of existing fertiliser subsidy" under schemes run by the Department of Fertilizers.

Indian Fertilizer sector:

- Indian soils are generally deficient in nitrogen, phosphorus, and potassium and do not give high yields. Hence, the need for fertilizers.
- India is among the world's largest buyers of fertilizer, besides China, Brazil, and the US.
- We import 4 types of fertilizers – Urea, muriate of potash (MAP), diammonium phosphate (DAP) and nitrogen-phosphorous-potash (NPK).

Important government schemes in the sector:

- **New Urea Policy 2015** – It focused to maximize indigenous urea production, promote energy efficiency in urea units.
- **One Nation One Fertilizer** - The scheme would be done by introducing a "Single Brand for Fertilizers and Logo" under the fertilizer subsidy scheme named "Pradhanmantri Bhartiya Janurvarak Pariyojna" (PMBJP). It will be extended to all 4 types as mentioned above.
- **Neem Coating of Urea** - The Department of Fertilizers (DoF) has made it mandatory for all the domestic producers to produce 100% urea as Neem Coated Urea (NCU).
- **Liquid Nano Urea** – Country's first liquid nano urea plant was recently inaugurated at Kalol, Gujarat. Liquid nano urea is essentially urea in the form of a nanoparticle. It is cheaper as compared to other options, will reduce fertilizer subsidy bill of the government and gives better efficiency.

Global Registry of Fossil Fuels

News: A first-of-its-kind database for tracking the world's fossil fuel production, reserves and emissions was launched on 19th September, 2022.

Background:

- The Global Registry of Fossil Fuels includes data from over 50,000 oil, gas and coal fields in 89 countries. That covers 75% of global reserves, production and emissions, and is available for public use, a first for a collection of this size.
- Until now there has been private data available for purchase, and analysis of the world's fossil fuel usage and reserves. The International Energy Agency also maintains public data on oil, gas and coal, but it focuses on the demand for those fossil fuels, whereas this new database looks at what is yet to be burned.

Who has developed the registry?

- It was developed by **Carbon Tracker**, a nonprofit think tank that researches the energy transition's effect on financial markets, and the **Global Energy Monitor**, an organization that tracks a variety of energy projects around the globe.

Key Details:

- The Global Registry of Fossil Fuels is an open, transparent repository of data on fossil fuel production worldwide, expressed in terms of its embedded carbon dioxide emissions.
- Important features of the Registry – It aggregates data into a comprehensive open-source database, drawing from government and private-sector sources. It includes both country-level and project level data and it integrates reserves, production, and emissions data with third-party scenarios to provide essential data for policymakers and others to make 1.5°C aligned production decisions; and

- It Includes life-cycle emissions from fossil fuel projects for both carbon dioxide and methane.
- It ranks countries based on absolute emissions and emissions intensities and establishes an evolving database to serve as a trusted, policy-neutral tool to manage carbon budgets.
- According to this inventory, burning of the world’s remaining fossil fuels would release 3.5 trillion tonnes of greenhouse gas emissions. This is seven times the remaining carbon budget to keep global temperature at 1.5 °C.
- The United States and Russia have enough fossil fuel underground and untapped to exhaust the remaining carbon budget.

Breakthrough Agenda Report 2022

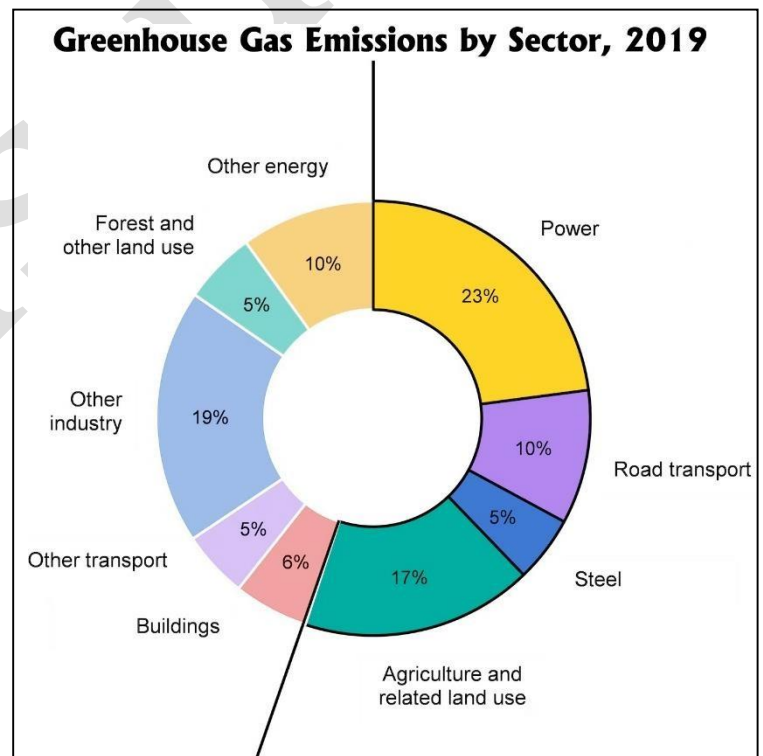
News: Recently, The Breakthrough Agenda Report 2022 was released by the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA) and the UN Climate Change High-Level Champions, focusing on international collaboration to drive faster reductions in greenhouse gas emissions.

Details:

- It assesses progress on reducing emissions in five key sectors – power, hydrogen, road transport, steel and agriculture. It is a first-of-its-kind annual progress report, requested by world leaders at the UN Climate Change Conference COP26 in November 2021 as part of the launch of the Breakthrough Agenda.
- The Breakthrough Agenda currently covers more than two-thirds of the global economy, with endorsement from 45 world leaders, including those of the G7, China and India.

Highlights:

- There is an increase in practical international cooperation in recent years, and progress in deploying the technologies needed, including a forecast increase in global renewable capacity of 8% in 2022 – pushing through the 300GW mark for the first time and equivalent to powering approximately 225 million homes.
- The five sectors analyzed in the report together account for nearly 60% of global greenhouse gas (GHG) emissions, and may deliver the bulk of the emission reductions needed by 2030 in a pathway that would make a significant contribution to limiting global warming to a maximum of 1.5°C, in line with the Paris Agreement goals.
- World is in the midst of the first truly global energy crisis, with devastating knock-on consequences across the world economy, especially in developing countries.
- The energy crisis has emerged in oil, gas and electricity markets and aggravated by Pandemic, Oil Prices and Russia-Ukraine conflict.
- The energy and climate crisis has exposed the weaknesses and vulnerabilities of a system heavily reliant on fuels of the 20th century.



Way Forward:

- Demonstrate and test flexible low-carbon power systems to expand the range of solutions and increase the share of variable renewables. Create new cross-border supergrids this decade to increase trade in low-carbon power, reduce emissions, improve energy security and enhance system flexibility.

- Set up new international centres of expertise to channel finance and technical assistance to help coal-producing countries' transition. Agree a common definition and target dates by which all new road vehicles will be net zero, targeting 2035 for cars and vans and the 2040s for heavy duty vehicles.
- Mobilise investment in charging infrastructure, including prioritised assistance for developing countries and harmonise international charging standards to drive investment and accelerate adoption globally
- Standards to boost the recyclability of batteries and supercharging research into alternative chemistries for batteries to reduce reliance on precious metals, such as cobalt and lithium.
- Government policies and private-sector purchase commitments to drive demand and deployment of low-carbon and renewable hydrogen alongside standards to enable global trade
- Investment for agriculture technologies and farming practices that can cut emissions from livestock and fertilisers, expand availability of alternative proteins and accelerate the development of climate resilient crops.

Fly-Ash

News: Recently, the National Green Tribunal (NGT) made an urgent need to augment the utilisation and disposal of fly ash in Chhattisgarh. The situation in Chhattisgarh is even more critical because Korba is the hub of coal thermal power plants containing 15 state, central and private-owned electricity generating plants.

What is Fly Ash?

- Fly ash is a by-product of burning pulverized coal in thermal power plants. During combustion, mineral impurities in the coal (clay, feldspar, quartz, and shale) fuse in suspension and float out of the combustion chamber with the exhaust gases. As the fused material rises, it cools and solidifies into spherical glassy particles called fly ash.
- Low-grade coal used in thermal power generation carries 30-45% ash content. The high-grade imported coal has a low ash content of 10-15%. Since most of the coal used in thermal plants is low-grade, it generates a large quantity of ash which requires a large area as landfill or ponds for disposal.
- All fly ashes exhibit cementitious properties to varying degrees depending on the chemical and physical properties of both the fly ash and cement. Fly ash includes substantial amounts of silicon dioxide (SiO₂), aluminium oxide (Al₂O₃), ferric oxide (Fe₂O₃) and calcium oxide (CaO).
- It is an excellent material for making construction materials such as bricks, mosaic tiles and hollow blocks.
- Bricks made of fly ash can help conserve soil to a great extent. There are several eco-friendly ways to utilize fly ash so that it does not pollute air and water. It includes the use of fly ash in the manufacturing of cement, ready-mix concrete; constructing roads, dams and embankment, and filling of low-lying areas and mines.
- All the heavy metals found in fly ash like nickel, cadmium, arsenic, chromium, lead, etc—are toxic in nature. They leech into the surrounding soil and can enter food-chains, asthma and respiratory ailments due to direct exposure, destruction of mangroves, drastic reduction in crop yields, and the pollution of groundwater etc.

Utilization:

- Fly ash can be used as a replacement for some of the Portland cement contents of concrete. It is environmentally beneficial because it reduces the Portland cement, a major contributor of CO₂, required in concrete.
- Fly ash is a proven resource material for many applications of construction industries and currently is being utilized in manufacturing of bricks/blocks/tiles. Union Government has made it mandatory for use of fly ash bricks in construction activities happening 500 km around thermal power plants.

Utilization for Thermal Power Plants (TPPs)

- It is mandatory for Thermal Power Plants (TPPs) to ensure 100% utilisation of fly ash within three to five years.
- Existing provisions allow TPPs to fully utilise fly ash in a four-year cycle in a staggered manner.
- It also introduced fines of Rs 1,000 on non-compliant plants under the 'polluter pays principle', taking into account utilisation targets from April 1 next year.
- The 'polluter pays' principle is the commonly accepted practice that those who produce pollution should bear the costs of managing it to prevent damage to human health or the environment.

- Under this, the collected fines will be deposited in the designated account of the Central Pollution Control Board (CPCB).

Steps Taken

- To facilitate 100% ash utilization by all coal based thermal power plants, a web portal for monitoring of fly ash generation and utilization data of Thermal Power Plants and a mobile based application titled “ASHTRACK” has been launched by the Government.
- Ash-park has developed, and awareness programme for utilisation of fly ash and its products conducted at various platforms.
- National Thermal Power Corporation (NTPC) has developed an infrastructure to transport fly ash from power plants in bulk to cement plants, at a cheaper cost.
- NTPC intends to transform the fly ash it produces into a revenue-generating by-product.
- It has developed geopolymers and nano aggregates from residual fly ash for use in the construction of roads and houses is a manifestation of this.

Way forward

- NGT directed that awareness programmes needed to be organised for common people in Chhattisgarh about the utilisation of fly ash for its own use.
- The state authority must instruct all transporters to comply with guidelines issued by the central and state governments for safe transportation of fly ash and bottom ash.
- Every fly ash transporter must write on their vehicles that if any illegal dumping of fly ash by this vehicle is seen, please inform the collector.
- Strict action should be taken if any complaint regarding illegal disposal was received by the authorities.
- The thermal power plants should supply pond ash for road construction projects and brick manufacturers.
- Promoting R&D for increasing the efficiency of power plants will also help in reducing ash generation.

Security & Disaster Management

Gorkha recruitment suspended by Nepal

News: Nepal has stalled the recruitment of Gorkhas in the Indian Army under the Agnipath scheme, as it feels that it does not conform with provisions of the tripartite agreement signed by Nepal, India and Britain on November 9, 1947.

Who are Gorkhas?

- The name “Gurkha” comes from the hill town of Gorkha from which the Nepalese kingdom had expanded. It has been dominated by four ethnic groups- **Gurungs** and **Magars** from central Nepal, the **Rais** and **Limbus** from the east.

History around Gorkhas and concerns raised by them:

- Recruitment of Gorkhas from Nepal began in the British Indian army after the **Treaty of Sagauli** was signed in 1816 between the government of Nepal and the British East India Company.
- It became a tripartite arrangement in November 1947 after India became independent and Gorkhas in Nepal were given a choice to serve in the Indian Army or go to the UK.
- India currently has **43 Gorkha battalions** serving in seven regiments
- Apart from India, the UK also recruit soldiers from Gorkhas.
- The concerns raised regarding the scheme were mainly around the future of Gorkha recruits, what will happen once they retire after 4 years and the impact of these out of jobs young men and their role in the extended society.
- It is important to note that remittances received by Nepal from the Gorkhas forms a significant number and in addition there are many retired officers in Nepal who continue to receive pension for the services offered by them in the Indian army.

INS Vikrant

News: Recently, India’s first indigenous aircraft carrier, INS Vikrant was commissioned.



Background:

- From the **first indigenous warship INS Ajay** in 1960, to the **first indigenous frigate INS Nilgiri** in 1968, the commissioning of the first indigenously designed and built aircraft carrier, INS Vikrant, is a significant punctuation in India's pursuit of self-reliance (Aatmanirbhar Bharat).

About:

- Vikrant (which means courageous) is named after India's first aircraft carrier, bought from the UK and commissioned in 1961.
- At 43,000 tonnes, Vikrant is the largest naval ship to be designed and built in India.
- India joins the United States (US), the United Kingdom (UK), France, Russia, Italy, and China, which have similar capabilities.
- Technologies used - STOBAR (short take-off but assisted recovery)
- 76% indigenous material was used.
- It was made at Cochin Shipyard Limited in Kochi.

Importance of INS Vikrant:

- It will help in the Indian navy to establish itself as Blue water force, one with the ability to project its power on distant seas.
- Help in India's bid to be a net security provider in the Indian Ocean region
- Bolster the maritime security of the nation as now India has two operational aircraft carriers (alongwith INS Vikramaditya)

Other aircraft carriers across the world – Russia (Admiral Kuznetsov), Italy (Cavour), France (Charles de Gaulle), China (Fujian), USA (USS Gerald R Ford Class), UK (Queen Elizabeth Class)

Challenges present to Indigenization for Indian navy:

- **Import dependence still continues** – Any warship has 3 components to it. Float, move and Fight. We have achieved 90% indigenization in Float category but only 60% in move and meagre 30% in fight category. Therefore, work still needs to be done.
- **Use of old technology** - Currently, the Navy employs 15 conventional submarines, each of which requires breaking surfaces to charge its batteries, making them prone to detection every time they are launched.
- **Cost and Time overrun** - INS Vikrant was to be inducted by 2017. INS Vikramaditya was inducted into service more than 10 years after it was purchased.
- **Parliamentary committee on Defense** and other experts have cited the need for a third Aircraft carrier for India.

Government initiatives:

- Development cum Production Partner Initiative (by DRDO, it ensures involvement of industries from the beginning of the development cycle and leads to a reduction in the time frame of the development-to-induction cycle)
- SRIJAN Portal - monitor the status of progress of indigenization.
- Increased the FDI limit from 49% to 74%.
- Innovations for Defence Excellence (iDEX)
- Positive Indigenization List under new Defence Procurement Policy.

Way Forward:

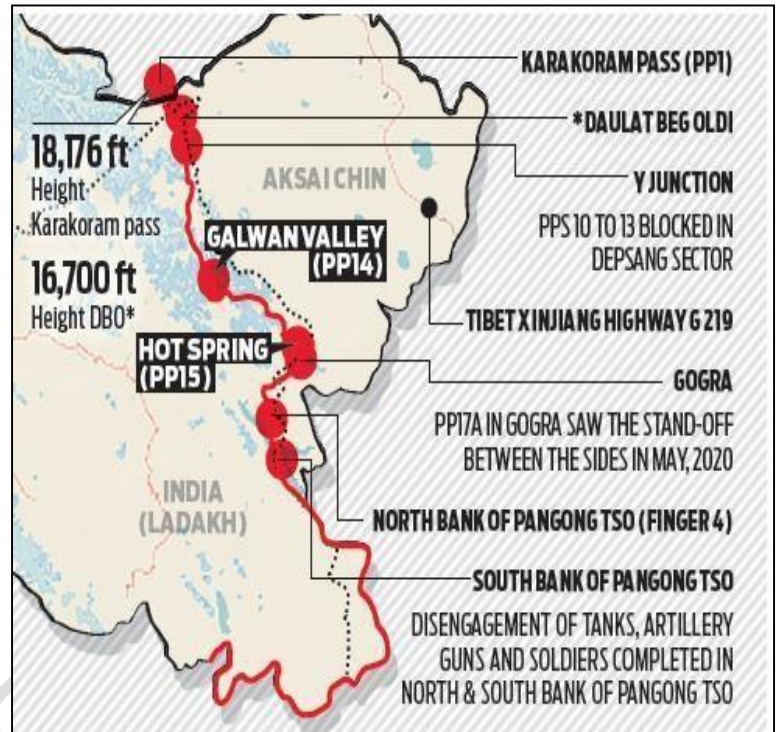
- Development of core military technologies indigenously will significantly enhance naval capabilities.
- All the stakeholders involved in the industry – Defense public sector units, MSME's, private companies need to join hands to achieve the goal of self-reliance of the Indian navy.
- Our shipyards infrastructure needs to be aligned with the world's best.

India-China disengagement at crucial points

News: Recently, the Indian and Chinese troops have begun disengaging at Patrolling Pillar-15 (PP-15) in the Gogra-Hot spring region of Eastern Ladakh. The move comes ahead of Shanghai Cooperation Organization summit.

Key Highlights:

- PP-15 is one of the 65 patrolling points in Ladakh along the LAC. The recent disengagement has begun in planned and coordinated way which marks a way forward to maintain peace and status quo in the border areas.
- A buffer zone is to be created at the friction points once troops are withdrawn by both sides and new patrolling norms are to be worked out after complete disengagement and de-escalation.
- Since the stand-off began in May 2020, the two sides have so far held 16 rounds of talks with disengagement undertaken from both sides of Pangong Tso.
- With disengagement at PP-15, forces of the two countries have disengaged at all friction points in the region which included the North and South banks of the Pangong Tso, PP-14, PP-15 and PP-17A.
- The friction points that remain now are Demchok and Depsang, which China has constantly refused to accept, maintaining that they are not a part of the current stand-off.



Significance of the location:

- Hot Springs is just north of the **Chang Chenmo river** and Gogra Post is east of the point where the river takes a hairpin bend coming southeast from Galwan Valley and turning southwest.
- The area lies close to **Kongka Pass**, one of the main passes, which, according to China, marks the boundary between India and China.
- **India's claim** of the international boundary lies significantly east, as it includes **the entire Aksai Chin area** as well.
- Hot Springs and Gogra Post are close to the boundary between two of the most historically disturbed provinces (Xinjiang and Tibet) of China.

Note – From prelims perspective, you need to know the exact location of Depsang plains, Demchok area, Pangong Tso, identify whether River Indus passes through these places. Pick up your Atlas, find the locations and make a note of them on your physical map of India!

Taragiri

News: Mazagon Dock Shipbuilders Ltd (MDL) recently launched the third Stealth Frigate of Project 17A “Taragiri”.

About:

- Taragiri is the **indigenously-designed Nilgiri-class** stealth guided-missile frigate constructed by Mazgaon Dock Shipbuilders Limited (MDL).

- Taragiri is the third stealth frigate built as part of Project 17A under which a series of such guided-missile frigates are being constructed for the Navy.
- The 149-metre-long and 17.8-metre-wide ship is propelled by a combination of two **gas turbines** and two main **diesel engines** which are designed to achieve a speed of more than 28 knots at a displacement of as much as 6,670 tonnes
- The steel used in the hull construction of P17A frigates is indigenously developed DMR 249A, which is a low carbon micro-alloy grade steel manufactured by the Steel Authority of India Limited.
- The ship has been built using **Integrated construction methodology**. Under it, several modules of the vessel are pre-constructed and later fitted on the ship.

Important Features that we must know:

- The two key features of the Taragiri ship are expected to be **stealth** and **modular profile**. The vessel has been constructed using **composite materials** which can **decrease its infrared signal** and **maintain a low radar cross-section**, making it almost **undetactable**.
- The ship will be fitted with **supersonic surface-to-surface missile system**.
- Indigenously developed triple tube light weight torpedo launchers and rocket launchers will add punch to the ship's anti-submarine capability.

Tripartite Agreement

News: The Centre and Assam Government recently signed a tripartite agreement with eight armed tribal groups in Assam to bring them into the mainstream and give them political and economic rights.

About Tribal Groups:

- The groups that signed the agreement are Birsas Commando Force (BCF), Adivasi People's Army (APA), All Adivasi National Liberation Army (AANLA), Adivasi Cobra Military of Assam (ACMA) and Santhali Tiger Force (STF).
- The remaining three outfits are splinter groups of BCF, AANLA, and ACMA.
- Except the hardline faction of the banned ULFA and the Kamatapur Liberation Organisation, all other rebel groups active in the state have entered into peace agreements with the government.
- In January 2022, all cadres belonging to the Tiwa Liberation Army and the United Gurkha People's Organizations surrendered with arms and ammunition and in August 2022, the Kuki Tribal Union militants laid down their arms.

What settlement was agreed upon?

- The major provisions of the agreement included fulfilling political, economic, and educational aspirations.
- The agreement provides for the establishment of a Tribal Welfare and Development Council with a view to ensure speedy and focused development of tea gardens.
- To provide for rehabilitation and resettlement of armed cadres and measures for the welfare of tea garden workers.
- A special development package of Rs.1000 crore will be provided over a period of five years for infrastructure development in villages/areas with tribal population.
- The other objective is protecting, preserving and promoting social, cultural, linguistic and ethnic identities.

Efforts of Government to maintain peace in North-East India:

- The government of India, in April 2022, partially withdrew the AFSPA, 1958 from parts of three Northeast states namely Assam, Nagaland and Manipur.
- Assam-Meghalaya Inter-state boundary agreement reached in March 2022 to settle inter-state boundary dispute in 6 out of 12 areas.
- Karbi Anglong agreement in 2021 resulted in more than 1000 armed cadres giving up on violence and agreeing to be part of mainstream society.
- To resolve the five-decade-old Bodo issue in Assam, Bodo Accord was signed in January, 2020 resulting in the surrender of 1615 cadres with a huge cache of arms and ammunition.
- Bru-Reang refugee crisis was solved when it was agreed to give refuge to 37,000 displaced people in Tripura.

Very Short Range Air Defence System (VSHORADS) Missile

News: DRDO conducted two successful test flight of Very Short Range Air Defence System (VSHORADS) missile recently from a ground based portable launcher at the Integrated Test Range, Chandipur, off the coast of Odisha.

About:

- A group of MANPAD & anti-aircraft weapons and techniques called Very Short Range Air Defence System (VSHORADS) missiles are used to defend against **low-altitude** air threats, notably helicopters and low-flying aircraft.
- It is a **Man Portable Air Defence System (MANPAD)** designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad in collaboration with other DRDO laboratories and Indian Industry Partners.
- The last line of defence for soldiers against hostile combat helicopters and aircraft is VSHORADS.
- Medium to Low Air Defense divides the battlespace into domes of responsibility for air defence based on altitude and defensive weapon ranges.



Key Features:

- Numerous unique technologies, including **integrated avionics** and a **miniaturised Reaction Control System (RCS)**, have been successfully tested and are included in the VSHORADS missile.
- The missile is propelled by a **dual thrust solid motor** and is designed to eliminate low altitude aerial threats at close ranges.
- The missile's design, including the launcher, has undergone extensive optimization to ensure portability. The mission objectives have been fully satisfied by both flight tests.
- VSHORAD is the **soldier's last line of defence** against enemy combat aircraft and helicopters in the multi-layered air defence network.
- These Very Short Range Air Defence Missiles are seen to be absolutely essential for the defence of any significant city or any important strategic area.
- The Air Defense Guns L-70 and ZU-23 in the Indian Army's current stock are more than 40 years old and hence completely out of date.

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

Mental Health issues in Armed forces

News: Court of Inquiry's findings about a case of fratricide (killing of one's brother or sister) at a Border Security Force (BSF) camp in Amritsar highlighted that the person who shot his colleagues had shown signs of mental stress but these signs were not given enough attention.

Why do we observe mental health issues in armed forces?

- **Tightly structured hierarchy**
 - Uniformed forces are tightly structured with a command-and-control hierarchy system. A senior officer is the reporting authority for his immediate junior and this junior has to fulfil their tasks with manpower under his/her command.
 - While the hierarchy is rarely breached and it brings discipline. However, it often tends to become inhuman especially for those who cannot communicate their grievances in an appropriate forum.
- **Stress issue not addressed**
 - Uniformed forces showing signs of mental stress are not given enough attention. Those who express the problem are termed as weak and are seen as shying away from the rigors of life.
- **Urge for alcoholism and drugs**

- To cope with the difficulty of the types of setups, personnel often resort to alcoholism and drug abuse.
- In the latter cases, defaulters are punished as per the law and suitable departmental action is also taken.
- **Less credit being given for carrying out duties**
 - The constabulary accounts for around 85 per cent of state police and CAPFs. These personnel perform their duties as directed by their seniors.
 - They mostly remain in the background of the organization with little recognition for their achievements.

What should be done?

- Police leaders must increase communication with all the ranks. The enforcement of discipline has to go hand-in-hand with concern for staff well-being.
- Regular **sampark sabhas** need to be conducted where personnel can air their grievances and proper follow-up action must be taken on all possible issues.
- Police personnel should be made aware of mental issues and related concerns so that stigma surrounding it is gradually removed.
- Allowing their family members regular visits or even making efforts to ensure close family members live with these personnel can do a lot of good to mental health of our armed personnel. The government can help with finances in this area.
- Reward and recognition act as big motivators. Often, the incentive system is at the whims and fancy of the head of the organisation. It has to be formalised in every setup.
- Regular team meetings, sports and cultural activities help build good relations amongst armed personnel which can bring them closer.
- Lastly, good working conditions, leave, allowances and housing can be provided as entitlements.

Soft Policing

News: An IPS officer used soft policing to crack down on illegal hooch distilleries in Solapur.

What is Soft Policing?

- Soft policing, also known as community policing, means to increase the uniformed patrol on the streets and to give the communities a real say in police priorities.
- Soft policing focuses on problem-solving and social work within the community rather than strictly fighting crime. In recent years, soft policing increased in popularity as it has been discovered that most of the work performed by police officers involves social-work-type jobs rather than crime fighting.



What is Operation Parivartan?

- When **Tejaswi Satpute**, a 2012-batch IPS officer was posted in Solapur (Rural) as Superintendent of Police in October 2020, the region had acquired a reputation as the primary supplier of hooch to at least nine districts in the state.
- Satpute launched 'Operation Parivartan', a four-point action plan that combined soft policing methods such as counselling with a concerted crackdown on the hand-operated illicit liquor distilleries in the police district.
- A year later, nearly 80 per cent of the hand-operated illicit liquor distilleries in Solapur (Rural) have shut down and over 650 families involved in the trade have been rehabilitated.
- Satpute was awarded the FICCI (Federation of Indian Chambers of Commerce & Industry) Smart Policing Special Jury Award for Operation Parivartan.

Challenges faced by them:

- The families involved in the illegal trade traditionally belonged to the Banjara community which were notified as 'criminal tribes' by the British. Stigmatized under the tag, it made it difficult for their men and women and youngsters to get any normal job.
- The families were unskilled and thus reluctant to give up hooch production.
- The police started Parivartan Udyog, under which for close to 45 days, women were trained to operate sewing machines and thereby be eligible for gainful employment.

Media Ethics

News: Expressing its anguish and displeasure over hate speeches via debates on TV channels, the Supreme Court called the "visual media" the "chief medium of hate speech" and questioned the government why it is "standing by as a mute witness when all this is happening" and treating it as "a trivial matter".

Details:

- The bench underlined that "hate drives TRPs, drives profit" basically going against media ethics and said it will consider laying down some guidelines which will hold the field until the legislature comes up with a law on the matter.
- Pointing out that "hate speech can be in different forms... sort of ridicule a community" and its spread through the visual media can have a "devastating effect", the bench of Justices K M Joseph and Hrishikesh Roy, inclined to regulate such debates, asked the Centre to state whether it proposed to come up with any law on the subject.
- The bench was hearing a clutch of petitions on alleged hate speech via some TV shows. The petitioners have sought directions from the court to the Centre to take steps to curb incidents of such speech.

Hate Speech:

- The United Nations Strategy and Plan of Action on Hate Speech defines hate speech as "any kind of communication in speech, writing or behaviour, that attacks or uses pejorative or discriminatory language with reference to a person or a group on the basis of who they are, in other words, based on their religion, ethnicity, nationality, race, colour, descent, gender or other identity factors."

Five Core Principles of Ethical Journalism

- **Truth & Accuracy**
 - Journalists cannot always guarantee 'truth', but getting the facts right is the cardinal principle of journalism. Always strive for accuracy, give all the relevant facts we have and ensure that they have been checked.
- **Independence**
 - Journalists must be independent voices; should not act, formally or informally, on behalf of special interests whether political, corporate or cultural.
- **Fairness and Impartiality**
 - Objectivity is not always possible, and may not always be desirable (in the face for example of brutality or inhumanity), but impartial reporting builds trust and confidence.
- **Humanity**
 - Journalists should do no harm. What is published or broadcast may be hurtful, but should be aware of the impact of our words and images on the lives of others.
- **Accountability**
 - A sure sign of professionalism and responsible journalism is the ability to hold themselves accountable.

Short News for Prelims

Atal Bridge

News: PM Narendra Modi recently inaugurated the iconic 'Atal Bridge' in Ahmedabad.

About:

- This bridge is built on the banks of the Sabarmati Riverfront, Sabarmati River which flows through the city of Ahmedabad.
- Equipped with an attractive design and LED lights, this bridge is about 300 meters long and 14 meters wide.
- The pedestrian only bridge has been built by the Ahmedabad Municipal Corporation.
- Sabarmati River is a monsoon-fed river originating in Aravalli hills (Udaipur) and draining in the Gulf of Cambay in the Arabian Sea.
- The right bank tributaries of Sabarmati river are Sei, siri and Dhamni.
- The left bank tributaries are Wakal, Harnav, Hathmati, Khari and Watrak.
- Dharoi Dam is one of the major dams on the river.

Forensic Evidence

News: Delhi Police has become the first police force in the country to make the collection of forensic evidence mandatory in crimes punishable by more than six years.

About:

- A forensic mobile van will be allotted to each district to provide scientific and forensic assistance on the spot whenever any need arises.
- These forensic mobile vans shall not be under the administrative control of the police but shall be an independent entity responsible to the court of law.

- The recently released NCRB report showed a 40% increase in crimes against women in Delhi, the highest among all metropolitan cities in the country.
- Some major categories of forensic evidence are DNA, fingerprints, and bloodstain pattern analysis.

Grievance redressal Index

News: Unique Identification Authority of India (UIDAI) has topped amongst all Ministries/Departments for resolving Public Grievances in the ranking report published by **Department of Administrative Reforms and Public Grievances (DARPG)** for the month of August 2022.

About:

- It is a statutory authority established in 2009.
- It works under the jurisdiction of the Ministry of Electronics and Information Technology.
- The UIDAI is mandated to assign a 12-digit unique identification (UID) number (Aadhaar) to all the residents of India.
- UIDAI has been a top performer in the resolution of cases received through the Centralized Public Grievance Redress and Monitoring System (CPGRAMS).

Jigyasa 2.0

News: Ministry of S&T recently organized Jigyasa 2.0 for the renewable fuel program.

About:

- Jigyasa, a student-scientist connect programme by CSIR in collaboration with Kendriya Vidyalaya and is aimed at connecting school students and scientists so

as to extend students' classroom learning with that of a very well-planned research laboratory-based learning.

- It would inculcate the culture of inquisitiveness on one hand and scientific temper on the other, amongst the school students and their teachers. The program will also enable the students and teachers to visit CSIR laboratories and participate in mini-science projects.

Bulk Drug Parks

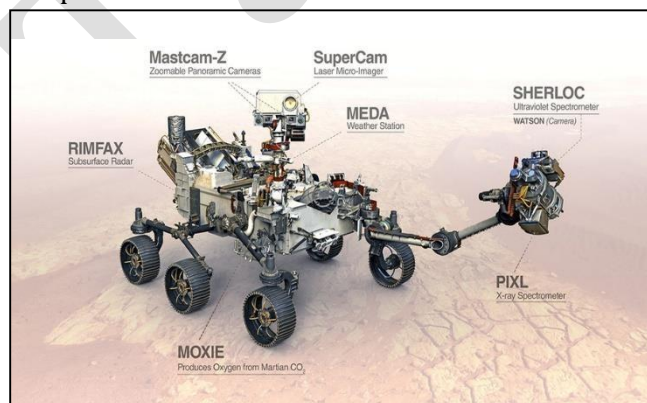
News: Centre has approved BDPs for Himachal Pradesh, Gujarat and Andhra Pradesh.

What are Bulk Drugs and Bulk Drug Parks?

- A bulk drug (or active pharmaceutical ingredient (API)) is the key ingredient of a drug or medicine, which lends it the desired therapeutic effect or produces the intended pharmacological activity.
- Example, Paracetamol.
- BDP - Launched in 2020 by the Union Ministry of Chemicals and Fertilizers, with the aim to develop 3 mega BDPs and reduce India's dependence on China for APIs.
- The grant-in-aid will be 90% of the project cost in the case of North-East and hilly States and 70% in the case of other States (up to a maximum of Rs 1000 crore per BDP).

MOXIE

News: Mars Oxygen In-Situ Resource Utilization Experiment (MOXIE) has produced the 1st instance of the utilization of resources in a planet's atmosphere to meet human needs.



About:

- It was sent by NASA on the Perseverance and made by the Massachusetts Institute of Technology (MIT).
- It works like a tree, splitting carbon dioxide absorbed from the atmosphere to produce pure oxygen.
- The instrument produced 6 grams of oxygen per hour, similar to a moderate-sized tree.
- The project can be scaled up ahead of human missions to continuously produce oxygen at the rate of several hundred trees. On this scale, it can also fuel the rocket to bring the astronauts back home.

Dark sky reserve

News: A part of Changthang Wildlife Sanctuary at Hanle, Ladakh is all set to become India's first Dark Sky Reserve.

What is dark sky reserve?

- A Dark Sky Reserve is a designation given to a place that has policies in place to ensure that a tract of land or region has minimal artificial light interference. Several such reserves exist around the world but none so far in India.
- The site will host activities to promote astronomy-tourism, giving a boost to local tourism and economy through science. The Hanle Dark Sky Reserve (HDSR) will be an area spanning 22 km in radius centred on the Hanle observatory.

Why Hanle?

- Being a cold desert region, Ladakh holds great potential for undertaking uninterrupted astronomical observations.
- Dry weather and clear sky conditions prevail during most months of the year, making Hanle a naturally perfect setup for sky gazing and setting up astronomical observatories.
- At a height of 4,500 metres, Hanle is already home to an optical, a gamma ray and an infrared telescope at the Indian Astronomical Observatory complex operated by the IIA.
- These telescopes have been used to study stars, galaxies, exoplanets and the evolution of our Universe.

Freshwater Crab Species

News: A distinctively coloured crab species has been discovered in the Western Ghats by a forest guard and a group of researchers.



About:

- The crab has been named *Ghatiana dvivarna* sp nov. It is 14th freshwater crab to have been discovered.
- The freshwater species was first spotted in Uttara Kannada district in Karnataka.
- The crab's name is derived from the Sanskrit word 'dvivarna', which means bicolour, as the crustacean has a white body and claws and "red-violet" legs.
- The species was first sighted in June, 2021 in **Anshi wildlife** range, **Kali Tiger Reserve** in Karnataka.
- These crabs usually inhabit the holes in laterite rocks on the elevated mountains of central Western Ghats (south of Goa-Nilgiris) region. They feed on mosses growing on laterite rocks and play a key role in ensuring ecological balance.
- In India, there are about 125 species of crabs and 13 have been recorded so far under *Ghatiana* genus.

Project Zorawar

News: With the "increased threat" from China along India's northern borders "likely to remain in the foreseeable future", the Army is launching Project Zorawar - the induction of indigenous light tanks for

quicker deployment and movement in high altitude areas.



About:

- The project has been named 'Zorawar' after Zorawar Singh Kahluria, a military general who served under Jammu's Raja Gulab Singh, known as the 'conquerer of Ladakh'.
- The Army is looking at a light tank with a maximum weight of 25 tons.
- The tank should be armed with Artificial Intelligence (AI), integration of tactical surveillance drones to provide a high degree of situational awareness and loitering munition, along with an active protection system.
- An active protection system is designed to protect vehicles from anti-tank guided missiles and projectiles away from combat vehicles.
- It has been designed in such a way that it will be able to operate in varying terrain from High Altitude Area, island territories as well as marginal terrain.
- The Army also wants the light tank to be amphibious, so it can be deployed across riverine regions and even the Pangong Tso Lake in Eastern Ladakh.

Legionellosis Disease

News: Argentina's mystery pneumonia outbreak, where 11 people have been infected has finally been identified as Legionellosis by the country's health ministry.

About:

- Legionellosis is a "pneumonia-like illness that varies in severity from mild febrile illness to a serious and sometimes fatal form of pneumonia," according to the WHO.

- The disease **typically spreads** via **inhalation of contaminated aerosols** from contaminated water, which could come from air conditioning cooling towers, evaporative condensers associated with air conditioning and industrial cooling, hot and cold water systems, humidifiers and whirlpool spas.
- **Direct human-to-human transmission** of this disease **has not yet been** reported, according to the WHO.
- There is concern that it could contribute to the spread of these highly disease-causing strains by linking modern man-made water systems through human transmission.”

Red-Eared Slider Turtles

News: Recently, experts have expressed the concern that the presence of **invasive and non-native** south Red-Eared Slider Turtles would lead to the extinction of native species of their own kind.



About:

- It is primarily aquatic.
- Red-eared slider turtles are classified as controlled pest animals under the Victorian Catchment and Land Protection Act 1994
- They can tolerate a wide range of habitats and are sometimes found in estuaries and coastal wetlands with brackish water. The red-eared slider is native to South-Eastern USA and Mexico.
- IUCN Red list – Least concern

Why is there presence in India a concern?

- In India, keeping indigenous turtles as pets is prohibited under the Wildlife Protection Act. But the foreign breeds are not restricted and are kept as pets in many families across India. They are small and easy-to-maintain species and therefore a hit in the pet market. The

species breeds faster compared to other local turtle varieties. As their size increases, they no longer fit in small tanks or ponds. The owners release them in the wild or nearby waterbodies and once released, they become a threat to the local fauna.

- As they mature fast, grow larger, and produce more offspring, and are very aggressive, they can out-compete native turtles for food, nesting, and basking sites. They eat plants and animals and can finish off a wide range of aquatic species, including fish and rare frogs. They can also transfer diseases and parasites to native reptile species.

Indian Navy's new ensign

News: In a bid to do away the “colonial past”, the Saint George’s Cross has been removed from the Indian Navy’s new flag. Instead, it now features the national emblem with the Tricolor on the upper canton.



About:

- The national emblem is encompassed by an octagonal shield and sits atop an anchor. Beneath it is the Navy’s motto ‘Sam No Varunah’.
- The **golden border** surrounding the national emblem **draws inspiration** from the seal of Indian emperor **Chhatrapati Shivaji Maharaj** and **depicts steadfastness**.
- The octagonal shape of the national emblem has been designed to represent eight directions, symbolizing the multi-directional reach and multi-dimensional operational capability of the Indian Navy.
- The new ensign is a successor to the pre-Independence ensign of the Indian Navy,

featuring the Saint George's Cross on a white background with the Tricolor in the canton.

Tarantula Nebula

News: NASA's James Webb Space Telescope captured the image of a large Magellanic cloud galaxy nicknamed the Tarantula Nebula.



About:

- It is the largest and brightest star-forming region in the galaxies closest to the Milky Way.
- Scientists say it got that nickname because it resembles a burrowing tarantula's home line with its silk.
- The nebula sits 161,000 light years away from Earth. NASA says it also houses the hottest and most massive stars currently known to astronomers.

Qimingxing-50

News: China's first near-space solar-powered large unmanned aerial vehicle completed its maiden flight. It is seen as a step towards green development.

About:

- China has built its first solar-powered large unmanned aerial vehicle called '**Qimingxing-50 (Morning Star)**.'
- It can be used for time-sensitive operations and during war and one of its kinds of technology where drone will use solar energy for its operations.
- It has a wingspan of 164 feet and it is also the first high-altitude, low-speed drone with an ultrahigh aspect ratio produced by the Chinese aviation sector.

- The successful flight of the Qimingxing-50 will encourage China to develop larger solar-powered unmanned aerial vehicles, thus increasing its ability to perform tasks in near space and over far oceans and seas.

Kirit Parikh Committee

News: The Ministry of Petroleum and Natural Gas has set up a committee under noted energy expert Kirit Parikh to review the current gas pricing formula.

About:

- The panel has been asked to recommend a fair price to end consumers and also suggest a "market-oriented, transparent and reliable pricing regime for India's long-term vision for ensuring a gas-based economy".
- A representative each from private companies involved in city gas distribution, public gas company GAIL India Limited, Indian Oil Corporation and the Ministry of Fertilizers has been included in this committee.
- It will decide the formula for better pricing for domestic gas production. The report is expected to be submitted by the end of this month.
- It will also review the formula for fixing the price of gas produced by companies like ONGC and Reliance.

Swachh Vayu Diwas

News: Union Ministry of Environment, Forest and Climate Change organized 3rd International Day of Clean Air for blue skies as 'Swachh Vayu Diwas ("Swachh Vayu Neel Gagan")' to raise awareness and facilitate actions to improve air quality under National Clean Air Programme (NCAP).

About:

- In 2019, UN General Assembly decided to designate **7 September** as the



International Day of Clean Air for blue skies, to be observed starting in 2020.

- The resolution also prompted the United Nations Environment Programme (UNEP) to promote the day's observance in collaboration with other appropriate stakeholders.
- The 2022 theme of "The Air We Share" focuses on the transboundary nature of air pollution, stressing the need for collective accountability and action.
- It also highlights the need for immediate and strategic international and regional cooperation for more efficient implementation of mitigation policies and actions to tackle air pollution.

SFIO

News: The Serious Frauds Investigation Office (SFIO) has arrested the alleged mastermind of a widespread racket involving the setting up of shell companies with Chinese links and supply of dummy directors.



About:

- SFIO is a multi-disciplinary organization under the **Ministry of Corporate Affairs**, consisting of experts in the field of accountancy, forensic auditing, law, information technology, investigation, company law, capital market and taxation for detecting and prosecuting or recommending for prosecution white-collar crimes/frauds.
- Section 211 of the Companies Act, 2013, has accorded **statutory status** to the Serious Fraud Investigation Office (SFIO). SFIO also

has powers to arrest people for the violation of the Company law.

- SFIO is headed by a Director as Head of Department in the rank of **Joint Secretary** to the Government of India.

Objectives:

- Take up for investigation cases characterized by complexity and having inter-departmental and multi-disciplinary ramifications, substantial involvement of public interest to be judged by size, either in terms of monetary and the possibility of investigation leading to or contributing towards a clear improvement in systems, laws or procedures.

Fintech Incentive Scheme 2022

News: International Financial Services centres Authority (IFSCA) has launched a scheme to provide financial support to FinTech activities.

About:

- To promote the establishment of world-class fintech centres at GIFT city (Gujarat)
- Incentives - Grants for start-ups, proof of concept, sandbox, green FinTech, Accelerator.
- FinTech is a term used to describe any new technology that aims to improve and automate the use and delivery of financial services.

What is an IFSC?

- IFSC caters to customers outside the jurisdiction of the domestic economy.
- Such centers deal with flows of finance, financial products and services across borders.
- Currently, GIFT-IFSC is the maiden international financial services center in India.

Hindi Diwas

News: On the occasion of Hindi Diwas, Prime Minister of India has said that the Hindi language has brought India special honour globally and its simplicity and sensitivity always attracts people.

About:

- Hindi Diwas is celebrated every year in India on September 14 to mark the day of adoption of Hindi as the official language by the Constituent Assembly of India in 1949.
- The decision of using Hindi as an official language of India was legalized by the Constitution of India on January 26, 1950. India's first prime minister Jawaharlal Nehru decided to celebrate Hindi Diwas on this day.
- Hindi is an eighth schedule language however; Hindi is not a classical language.
- Article 351 pertains to the 'Directive for development of the Hindi language'.

Government initiatives to promote Hindi:

- The Central Hindi Directorate was established in 1960 by the Government of India under the Ministry of Education to promote and propagate Hindi.
- Indian council for cultural relations (ICCR) has established 'hindi chairs' abroad to promote Hindi in foreign countries.
- LILA-Rajbhasha (Learn Indian Languages through Artificial Intelligence) is a multimedia based intelligent self-tutoring application for learning Hindi.
- E-Saral Hindi Vakya Kosh and E-MahashabdKosh Mobile App, both initiatives of the Department of Official Language, aim to harness information technology for the growth of Hindi.
- Rajbhasha Gaurav Puraskar and Rajbhasha Kirti Puraskar recognise contributions to Hindi.

Scheduled Tribes

News: The Union Cabinet under the chairmanship of Prime Minister Narendra Modi has approved the addition of four tribes to the list of Scheduled Tribes.

Which are the newly added tribes?

- Himachal Pradesh - **Hatti tribe**
- Tamil Nadu - **Narikoravan** and **Kurivikkaran** hill tribes
- Chhattisgarh - **Binjhia** (They were listed as ST in Jharkhand and Odisha but not in Chhattisgarh)

How are modifications made?

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

National Commission for ST:

- The National Commission for Scheduled Tribes (STs) is also a constitutional body in the sense that it is directly established by Article 338-A of the Constitution.
- The Commission was established under Article 338 of the Constitution with the objective of monitoring all the safeguards provided for the SCs and STs under the Constitution or other laws.
- It consists of a chairperson, a vice-chairperson and three other members.
 - They are appointed by the President by warrant.
 - Their conditions of service and tenure of office are also determined by the President.
 - The Commission presents an annual report to the President.

Sea Cucumbers

News: Sea cucumbers were the most frequently trafficked marine species in India between 2015 and 2021, a new analysis by the Wildlife Conservation Society-India (WCS-India) has shown.



About:

- Sea cucumbers are part of a larger animal group called echinoderms, which also contain starfish and sea urchins.

- Their body shape is similar to a cucumber, but they have small tentacle-like tube feet that are used for locomotion and feeding.
- IUCN Status – **Brown Sea Cucumber** (Endangered) and **Black Spotted Sea cucumber** (Least Concern)
- Listed under **Schedule I** of Wildlife Protection Act, 1972.

Key Details:

- **Tamil Nadu** recorded the highest number of marine wildlife seizures during this period, the analysis added.
- The analysis, titled **Illegal trade in marine species in India 2015-2021** is based on the assessment of 187 media reports about marine wildlife seizures in India between 2015 and 2021. It recorded illegal marine trade in seven species groups — sea cucumber, coral, seahorse and pipefish, shark and ray, seashell, sea fan and sea turtle.

Tricolored Bat

News: US officials have announced recently to list the tricolored bat as **endangered**.



About:

- The tricolored bat, formerly known as the eastern pipistrelle, is one of the **smallest bats in North America**.
- Tricolored bats are a hibernating species and **have the longest hibernation period** of any bat species in their range.
- When not hunkering down for the winter, they may be found in a wide variety of habitats to roost and forage.
- When feeding, these bats can catch insects in the air as often as every 2 seconds and increase their body mass by 25 percent in only half an hour.

Why was it announced as endangered?

- A fungal disease that attacks while bats are hibernating has brought the tricolored bat to the brink of extinction.
- **White-nose syndrome** caused by a fungus that develops on cave-dwelling bats during hibernation is decimating the bat's population in North America at unprecedented rates. White-nose syndrome has killed off millions of bats across the continent, wiping out 90% to 100% of colonies in some sites.

Green Fins Hub

News: The United Nations Environmental Programme (UNEP), along with UK-based charity Reef-World Foundation, recently launched the Green Fins Hub, a global digital platform they said would give sustainable marine tourism a 'major boost'.

About:

- Green Fins is a proven conservation management approach which leads to a measurable reduction in the negative environmental impacts associated with the marine tourism industry.
- The initiative aims to **protect and conserve coral reefs** through environmentally friendly guidelines that promote a **sustainable diving and snorkeling tourism industry**.
- It provides the only internationally recognized environmental standards for the diving and snorkeling industry and has a robust assessment system to measure compliance.

More details about Green Fins Hub:

- The platform will help diving and snorkeling operators worldwide to make simple, cost-efficient changes to their daily practices by utilizing tried and tested solutions. It would also help them keep track of their annual improvements and communicate with their communities and customers.
- Throughout every year of membership, operators will receive environmental scores based on a detailed online self-evaluation and progress made on their action plans.
- The Green Fins Hub is intended to catalyze a seismic shift towards sustainability in the

marine tourism sector, by hosting two types of Green Fins membership – Digital membership and Green Fins Certified membership.

Indo-Pacific Trilateral Development Fund

News: India and France have agreed to work on the establishment of this fund to support India-based innovators and start-ups in taking their innovation to third countries primarily in Indo-Pacific region.

Other areas where both nations work together:

- India and France have signed an agreement for the cooperation on Gaganyaan Mission.
- Different exercises – Exercise Garuda (Air force), Exercise Shakti (Army), Exercise Varuna (Navy)
- Six nuclear power reactors will be setup with technical cooperation from France at Jaitapur plant (Maharashtra). It will be the country's largest nuclear power generating site with a total capacity of 9,900 MW.
- The India-France Administrative Economic and Trade Committee (AETC)

Swachhta Pakhwara

News: Recently, the Ministry of Railways has launched "Swachhta Pakhwara" across Indian Railways.

About:

- The exercise was first carried out in April 2016. It aims to bring a fortnight of intense focus on the issues and practices of Swachhta by engaging GOI Ministries/Departments in their jurisdictions.
- The Ministry of Railways is observing Swachhta Pakhwara from 16th September 2022 to 30th September 2022.
- Special focus will be given on cleanliness of tracks at stations, approach to major stations and elimination of plastic waste in Railway premises.
- During the Pakhwara, intensive cleaning and sanitization of stations, trains, tracks, colonies and other railway establishments is being

carried out with special focus on plastic waste management.

SOVA virus

News: The Indian Computer Emergency Response Team (CERT-In) has issued a detailed safety advisory against a new mobile banking 'Trojan' virus, SOVA, which stealthily encrypts an android phone for ransom.

About:

- SOVA can add false overlays to a range of apps and "mimic" over 200 banking and payment applications in order to con the Android user
- The latest version of this malware hides itself within fake Android applications that show up with the logo of a few famous legitimate apps like Chrome, Amazon, NFT (non-fungible token linked to crypto currency) platform to deceive users into installing them.
- CERT-In said the malware is distributed via smishing (phishing via SMS) attacks, like most Android banking Trojans.
- The lethality of the virus can be gauged from the fact that it can collect keystrokes, steal cookies, intercept multi-factor authentication (MFA) tokens, take screenshots and record video from a webcam and can perform gestures like screen click, swipe etc. using android accessibility service.
- It can jeopardize the privacy and security of sensitive customer data and result in "large-scale" attacks and financial frauds.

Caracal

News: The caracal is on the verge of extinction in India and it is essential to find suitable areas to conserve it.

Background:

- The cheetah is returning to India today after seven decades. But the caracal, which was used by India's nobility in the sport of coursing like the cheetah, is struggling to survive, although both species had a similar distribution in the past.

- A team of researchers have now mapped out the most suitable areas for the species to survive in India.



About:

- The Asiatic caracal (*Caracal caracal schmitzi*) is an elusive medium-sized and locally threatened felid (cat) species, which has been widely reported to be on the brink of extinction in India.
- The reasons are large-scale hunting, illegal trading and loss of natural habitats are considered significant threats to the species.
- The animal was known to be in India through its Persian name of 'Siyahgosh' or 'black ears'.

Protection Status:

- The caracal is currently included in **Schedule I** of the Wild Life (Protection) Act, 1972; and
- The **Near Threatened** category by the Conservation Assessment and Management Plan and International Union for Conservation of Nature Red list assessment in India.

Where can they be safe?

- The most suitable habitat for caracals in Rajasthan, Gujarat and Madhya Pradesh is located in Kutch, the Malwa Plateau, the Aravalli hill range and the Bundelkhand region, according to the researchers.

KRITAGYA 3.0

News: Indian Council of Agricultural Research with its National Agricultural Higher Education Project and Crop Science Division is organizing Hackathon 3.0 "KRITAGYA" on promoting 'speed breeding for crop improvement'.

About:

- The definition of KRITAGYA is KRI for Krishi meaning Agriculture, TA for Taknik meaning Technology and GYA for Gyan meaning Knowledge.
- In this competition, students, faculty and innovators/entrepreneurs from any university/technical institute across the country can apply and participate in the program as a group.
- During 2020-21 and 2021-22 NAHEP in association with Agricultural Engineering and Animal Science Divisions of ICAR organized Hackathon 1.0 and 2.0 to promote the innovation in Farm Mechanization and in Animal Science, respectively.
- ICAR commenced NAHEP with the assistance of World Bank (WB) in November 2017. The overall objective of NAHEP is to support participating Agricultural Universities (AUs) and ICAR in providing more relevant and higher quality education to the students.

Seed Treaty

News: India will host the 9th session of governing body of the Seed treaty.

About:

- Seed treaty or also known as the International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA) is a major **legally binding** international agreement to conserve, use and manage plant genetic resources.
- Adopted by FAO in 2001, the treaty came into force in 2004 and India is a party to it.
- The treaty recognizes the contribution of farmers to the diversity of crops, provides access to plant genetic materials and ensures sharing of most important crops.

Corporate Social Responsibility

News: Information and Broadcasting Minister Anurag Thakur has said that Indian companies have spent more than **one trillion rupees** in Corporate Social Responsibility (CSR) till March 2022.

About:

- He said, the areas of investment are poverty alleviation, healthcare, education and the environment among other.
- On April 1, 2014, India became **the first country to legally mandate** corporate social responsibility.
- The rules in Section 135 of India's Companies Act make it mandatory for companies of a certain turnover and profitability to spend **2% of their average net profit for the past three years** on CSR.

Note - You can make note of such data and use it in your answers wherever possible.

Typhoon Nanmadol

News: Typhoon Nanmadol, one of the biggest storms to hit **Japan** in years, killed at least two people and brought ferocious winds and record rainfall to the west of the country, causing transport disruptions and forcing manufacturers to suspend operations.

About:

- Nanmadol made landfall near Kagoshima city late on Sunday before battering the western island of Kyushu and roaring onto the main island of Honshu on Monday morning.
- A typhoon is a mature tropical cyclone that develops between 180° and 100°E in the Northern Hemisphere.
- This region is referred to as the Northwestern Pacific Basin, and is the most active tropical cyclone basin on Earth, accounting for almost one-third of the world's annual tropical cyclones.

Government e-Marketplace

News: Government e-Marketplace (GeM) surpassed milestone of One Lakh Crore rupees of procurement value in last fiscal.

About:

- The GeM Seller Samvad has been held in Mumbai wherein numerous beneficiaries spoke about how their business has grown overwhelmingly with the help of the online portal.

- It is an online platform for public procurement in India. The initiative was launched in 2016 by the **Ministry of Commerce and Industry**.
- GeM has facilitated **over one crore transactions** valued at over 3.02 Lakh Crore Rupees. Notably, the portal had surpassed the milestone of One Lakh Crore rupees of procurement value in the last fiscal.
- The portal has **62 thousand registered government buyers** and **50.90 lakh sellers**, from large conglomerates to MSMEs and women Self Help groups. Currently, GeM has about 300 service categories and over ten thousand product categories.

Note - Please note down some statistics from this topic in your notes. It will help you somewhere in answers.

India - Saudi Arabia Strategic Partnership Council

News: Union Minister of Commerce and Industry, Shri Piyush Goyal visited Saudi Arabia from 18th to 19th September 2022 to attend the Ministerial meeting of the India-Saudi Arabia Strategic Partnership Council.

About:

- The Strategic Partnership Council was instituted in October, 2019 during the visit of the Prime Minister of India to the Kingdom of Saudi Arabia and has two main pillars i.e. Political, Security, Social and Cultural Committee and the Committee on Economy and Investments.

Key outcomes:

- Endorsement of the 41 areas of cooperation identified by the technical teams under the 4 broad domains of Agriculture & Food Security; Energy; Technology & IT; and Industry & Infrastructure.
- Collaboration in digital fintech sector through operationalization of UPI and Rupay Card in the Kingdom of Saudi Arabia.
- Re-affirmation of continued cooperation in joint projects including the West coast refinery, LNG infrastructure investment and

development of strategic petroleum storage facilities in India

Moon Wobble

News: In a new study published in **Science Advances**, scientists have found that the oscillation of the moon's orbit or 'moon wobble' has a significant impact on the mangrove canopy cover of the world.

About:

- A moon wobble describes the fluctuations in the moon's orbit, with wobbles occurring as a result of **changes in the moon's elliptical orbit and their resulting gravitational pull on the Earth.**
- Such changes are part of the moon's natural cycle, in which its 18.6 year span is split down the middle, with half of its cycle seeing more suppressed daily tide levels and the other half amplifying tide levels.
- It is a regular oscillation that humans have known about for centuries, and it is one of many factors that can either exacerbate rising sea levels or counteract them, alongside other variables like weather and geography.

Impacts of Moon Wobble:

- The moon plays an important role when it comes to regulating the Earth's oceans.
- Its gravitational pull forms tides that maintain the health of the oceans, coastal areas and biodiversity.
- The new study has found that these long-phase tidal cycles play an important role in the regulation of tidal wetland ecosystem such as the growth of mangrove forests.
- When the lunar wobble is in its minimum phase, the researchers figured that mangrove ecosystems would be sucked dry, experiencing fewer days where their roots were saturated and greater water stress, leading to thinner canopy cover.
- At its maximum, the lunar wobble might thrust tides higher, boosting mangrove growth.
- The synchronicity between the lunar wobble and mangrove canopy cover stood out against a backdrop of steady climate change, whereby higher air temperatures, sea levels, and CO₂

levels are associated with mangrove expansion and canopy thickening.

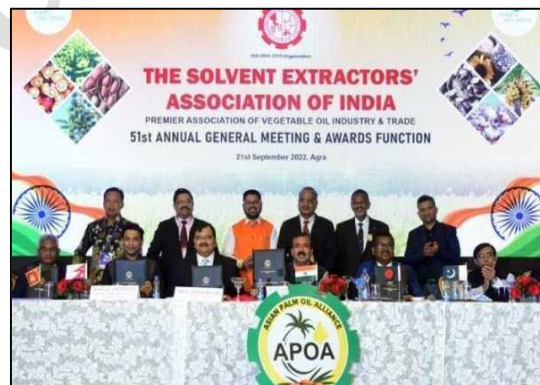
- The new research has also discovered these factors of lunar cycles and daily tides also interact with other climatic events such as the ENSO, which influences alternating periods of heavy rainfall and prolonged droughts in eastern Australia and the western coasts of North and South America.

Note - To know more about Moon wobble do refer the following link
<https://youtu.be/eVzlozhrAY>

Asian Palm Oil alliance

News: The apex edible oil industry associations from five major palm oil importing countries of Asia - India, Pakistan, Sri Lanka, Bangladesh and Nepal have come together to form the Asian Palm Oil Alliance (APOA).

Background:



- APOA held its first general body meeting on the sidelines of the **Globoil Summit** being held at Agra, India.
- Globoil Summit is one of the World's Leading Edible Oils and Agri Trade Conference, Exhibitions & Awards. 2022 also marks the 25th year celebration of Globoil India.

About:

- The APOA aims to safeguard the economic and business interests of the palm oil consuming countries and will work towards increasing the consumption of palm oil in member countries.
- The alliance would work towards ensuring that palm oil is recognized as a high-quality,

economical, and healthy vegetable oil and to change the negative image of palm oil.

- Membership of APOA would be further expanded to include companies or industry bodies associated with production or refining of palm oil across the continent.

Rural Electrification Corporation

News: Rural Electrification Corporation (REC) has been accorded the status of a 'Maharatna' Central Public Sector Enterprise (CPSE).

About:

- REC is a Non-Banking Financial Company (NBFC), incorporated in 1969, focusing on Power Sector Financing and Development across India which comes under the purview of the Ministry of Power.
- It has been appointed as a Nodal Agency for Government of India's flagship schemes such as Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGAYA), Deen Dayal Upadhaya Gram Jyoti Yojana (DDUGJY) and National Electricity Fund (NEF)

Advantages of Maharatna companies:

- The Board of a 'Maharatna' CPSE can make equity investments to undertake financial joint ventures and wholly-owned subsidiaries and undertake mergers and acquisitions in India and abroad, subject to certain conditions.
- The Board can also structure and implement schemes relating to personnel and Human Resource Management and Training.
- They can now enter into technology Joint Ventures or other strategic alliances among others.

World Rabies Day

News: World Rabies Day is observed every year on 28th September to raise awareness about the world's deadliest infectious disease.

About:

- The date marks the anniversary of Louis Pasteur's death who developed the first rabies vaccine.

- The theme for this year is "One Health, Zero Death"
- Rabies is a vaccine-preventable, zoonotic, viral disease.
- It is caused by a RNA virus that is present in the saliva of a rabid animal (dog, cat, monkey).
- 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.

What should be the treatment?

- Most important thing is to remove virus from the wound. It should be done as early as possible by cleaning the wound with water and soap and later using antiseptics that reduce or eliminates chances of nerve infection.
- It can be prevented by vaccinating the pets and seeking medical care after potential exposures before symptoms start.

Symptoms:

- Fever, Headache, Nausea, Vomiting, Anxiety, Confusion, Hyperactivity, Difficulty swallowing, Excessive salivation, Hallucinations, Insomnia.

Operation Megh Chakra

News: The Central Bureau of Investigation (CBI) conducted searches across 20 States and one Union Territory, as part of a **pan-India** drive against the circulation and sharing of **Child Sexual Abuse Material** (CSAM).

About:

- The operation code named "Megh Chakra" is being carried out following the inputs received from Interpol's Singapore special unit based on the information received from the authorities in New Zealand.
- Operation Carbon was a similar exercise by CBI, in which the suspects in 13 States and one Union Territory were raided.

AVGAS 100 LL

News: The Centre on Monday launched indigenously-developed AVGAS 100 LL, a **special aviation fuel** meant for piston engine aircraft and unmanned aerial vehicles. The fuel has been developed by **Indian Oil Corporation**.



About:

- Avgas or aviation gasoline is an aviation fuel that powers spark-ignited combustion engines in aircraft. It is different from conventional gasoline (petrol) used in motor vehicles as it contains tetraethyl lead, which is a highly toxic substance used to prevent engine knocking (premature detonation).
- It is a higher-octane Aviation fuel meeting the product specifications with superior performance quality standards, as compared to imported grades.
- The indigenous availability of AV GAS 100 LL will help reduce dependence on imports and address the associated logistical challenges. We will be able to save precious foreign exchange with the in-house availability of this product.

Carbon Dating

News: Varanasi district court issued notice to the Anjuman Intezamia Masjid Committee on an application which sought carbon-dating of the disputed structure known to have been found inside the premises of the Gyanvapi mosque.

Carbon Dating:

- Carbon dating is one of archaeology's mainstream methods for dating organic objects up to 50,000 years old. This method was developed by the American physicist Willard F. Libby in 1946.
- This method is based on the idea of radiative decay of Carbon-14 isotopes over thousands of years.

- Radioactive molecules decay at a specific rate dependent on the atomic number and mass of the decaying atoms. This constant can be used to determine the approximate age of the decaying material through the ratio of radioactive isotopes to the estimated initial concentration of these isotopes at the time of the organism's death.
- Scientists have concluded that very little change has occurred in the ratio of Carbon-12 to Carbon-14 isotopes in the atmosphere meaning that the relationship between these two should be very similar to how they remain today.