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India's Trade deficit with China Crosses \$100 Billion: Reasons & Solutions

India's National Geospatial Policy

Impact Of Hate Speech In India
& The Need Of Its Regulation

Rising Preparedness to
Combat Money
Laundering In India:
Challenges & Solutions

Joshimath Landslide:
A Question Mark On
India's Disaster
Management Strategy

Increasing Crime Against
Women In India: Need
Of Effective Policy
Measures

Principle Of Basic
Structure & Controversy
Between Judiciary
and Executive

Prelims Special 2023: Environment & Ecology

Why Perfect-7 Current Affairs Magazine?

1. First of all, Perfect-7 Current Affairs Magazine is published **every 15 days** to keep students up-to-date with current affairs, while other coaching institutes have monthly magazines which aggregate the current affairs of the month. Due to large number of current affairs, students are often unable to read all the articles. Eventually they become dependent on annual and half yearly magazines.
2. Perfect-7 magazine has been created keeping in mind the **UPSC and State PCS centric exams**, whereas the magazines of other coaching institutes include unnecessary and extra material in the name of UPSC and State PCS exams, causing confusion among the students.
3. **Perfect-7 magazine has 7 editorial articles by subject experts on important events during 15 days, 42 articles on important events, 7 brain-boosters in creative style, current affairs, one liner, preliminary and mains exam related questions etc.** are given. Along with this there is also a section on eminent personality which shows the contribution of the historical personality towards the country and society. In this way, no important information and news is missed in the period of 15 days for UPSC and State PCS exams.
4. Along with this, through the **case study section**, students learn about the situations, an officer has to face during his tenure and what could be the possible solution.
5. Perfect-7 Current Affairs Magazine, helps students to prepare well for DhyeyaIAS's most important exam program **PMI (Pre + Mains + Interview)**.
6. In current affairs based classes, preparation is done through Perfect-7 Magazine, which enables quality preparation of the students.
7. Perfect-7 magazine becomes available to students on **10th and 25th of every month**, whereas current affairs magazine provided by other institutes are of the previous month and they create confusion in the minds of students by mentioning the current month of publication.
8. Perfect-7 Magazine contains prelims and mains exam focused mock questions through which students can make their preparation more precise.

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Message



Vinay Kumar Singh

**Founder
Dhyeya IAS**

Current Affairs has an important role in the examinations conducted by Union Public Service Commission and State Public Service Commissions. It is necessary for the candidate to have knowledge of relevant information on issues of national and international importance. Perfect 7 Magazine is being presented fortnightly to the students to fulfill this requirement. Preparation of civil services exam is only completed when candidates have holistic knowledge and analysis of the dynamic nature of the current affairs. 'Perfect7' keeps this vision and approach and understands the multidimensional need of students at the content level, so this magazine has presented the current affairs with relevant issues of general studies. Keeping in mind the needs of mains exam, current articles on 7 burning issues, Ethics Case Studies, Biographies of important personalities, coverage of most useful topics of various sections of General Studies and the most important current affairs issues are being covered for Preliminary Examination in which emphasis is being given on national, international, environment, ecology, art and culture, science and technology, economic issues.

Brain boosters with 7 themes based graphics are being presented in a concise form to enhance the conceptual understanding of the students. Apart from this, updated information on Global Initiatives, Global Institutions, Structure of Organizations, Functioning, Important Reports, and Indices will be included in this magazine, which is asked prominently in the Civil Services Examination. To give emphasis on facts and analysis, keeping in view the trends of new nature of questions in Preliminary and Main Examination of Civil Services, an inclusive magazine is being provided to the students so that they can give the right direction to their preparation by understanding the new requirements of Civil Services Examination. Columns have been included in the format of the magazine keeping in mind the factual needs of the candidates, mental development, developing writing technique etc. Along with this, we have been introducing new segments according to the changing needs of the candidates and these initiatives will continue in future also. Hope this issue will prove useful for all of you. Your suggestions are always welcome.

Best wishes.

International **India's Trade Deficit With China Crosses \$100 Billion: Reasons & Solutions**

New data related to India-China bilateral trade in January, 2023 has been released by the Customs Department of China. These statistics show that in the year 2022, with an increase of 8.4 percent, the annual bilateral trade between the two countries reached \$ 135.98 billion and with this India's trade deficit has also crossed the new level of \$ 100 billion for the first time. Whereas in 2021, the bilateral between the two countries was \$125.62 billion.

The report released by the Customs Department of China says that the export of Chinese goods to India has increased by 21.7 percent in the year 2022 and it has become \$ 118.5 billion. This also shows that trade between India and China is continuously increasing at a record level despite pressures to reduce imports from China amid tension on the border. In the year 2022, there has been a huge decline of 37.9 percent in exports from India to China and it has reached \$ 17.48 billion.

Nature of India-China trade and reason for trade imbalance:

- India and China revived their economic relations at the official level in 1978 after the 1962 war. In 1984 the two countries signed the Most Favoured Nation Agreement to promote free trade and non-discrimination in trade under the General Agreement on Trade and Tariffs (GATS). In 1994, the Double Taxation Avoidance Agreement was concluded between the two countries. It is noteworthy that in the year 2018, India and China have signed an MoU to amend the Double Taxation Avoidance Agreement (DTAA) for the avoidance of double taxation and the prevention of financial irregularities with respect to income taxes. Among other changes, this MoU updates existing provisions for exchange of information to the latest international standards. In addition, the MoU has incorporated changes required to implement the minimum norms related to the treaty, under the working report of the Base Erosion and Profit Sifting (BEPS) project, in which India was an equal participant. Several changes have been made in this treaty based on the consent of both the parties as per the BEPS Action Report.
- Bilateral trade in goods and services between the two countries was just \$2.92 billion in 2000, which increased to \$61.7 billion in 2010, with China becoming India's largest trading partner in terms of trade in goods. Earlier in 2008, with a trade of \$51.8 billion, China had replaced the US as India's largest trading partner in goods trade. The global economic recession in 2008 had a negative impact on bilateral trade between the two countries, and by 2009, bilateral trade between the two had declined by nearly 17 percent to \$43.27 billion.
- Bilateral trade between India and China historically increased to \$95.54 billion in 2018, while in 2009 both countries had decided to cross the \$100 billion mark by 2015. The biggest problem in relation to trade between India and China is the trade deficit. In this bilateral trade, India is facing a trade deficit, which means that the balance of payments is in favour of China. The deficit was \$57.86 billion in 2018 and in 2019 it was \$56.77 billion. Earlier in 2017 the trade imbalance was \$51.72 billion. This means that Chinese goods have been imported more into India and India's exports have been less in Chinese markets. In the year 2019, China exported \$ 74.72 billion to India while imports were only \$ 17.5 billion. It is clear from this that the trade deficit continues to exist as a challenge in the economic relations between India and China. China has recently said that it welcomes high-quality products from India in the Chinese markets.
- China has also said that the India-China Informal Summit, 2019 which took place in Chennai has played an important role in giving a new direction to economic relations. In this sequence, the representative of the General Administration of Customs of China said that strengthening economic relations and promoting cooperation would lead to balanced trade development. The trade deficit or trade imbalance remains the biggest challenge in the economic relations between India and China. India does not have such a huge trade deficit with any other country in the world as it has with China. Although the size of the deficit is a big challenge, the bigger challenge is the increase of this deficit year after year. Therefore, both the countries have agreed to carry out comprehensive reforms on the issue of trade investment and services.
- If we look at the economic relations between India and China, it is known that the items that India imports from China include power plants and related equipment, sound recorders and televisions, machinery and mechanical equipment, boilers, organic chemicals, plastics and related articles, ships, boats and other floating structures, iron and steel, opticals, photographic and cinematographic goods.

While the major items exported by India to China include cotton, ore, residues of metallic rocks, ash, organic chemicals, mineral fuels, mineral oils, salts, sulphur and earth and stone, plastering materials, lime and cement, boilers, animal and vegetable fats, plastics, etc.

- One of the major reasons for India's trade deficit with China is that many of India's agricultural products, animal feed, oil seeds, milk and milk products, and pharmaceuticals products do not have access to the Chinese market in China. In recent times, protocols have been signed as well for the purpose of exporting Indian rice, rapeseed meal, fishmeal, fish oil and tobacco to China. On March 2018, the 11th session of the India-China Joint Group on Economic Relations had discussions regarding measures to reduce India's trade deficit. The items on which China has imposed heavy tariffs due to which India has been facing a trade deficit for a long time include: tobacco (about 30 per cent), sugar and sugar products (25.17 per cent), coarse cereals (about 22 percent), fertilizers (14.4 percent).
- India has also discussed with China about its trade deficit and has made it clear to China that it want more access to the Chinese market for certain items. Since medicines are made on a large scale in India and India has a prestigious place in the world in this field, therefore if China allows India, it can sell medicines, provide IT services, and engineering services to China. Apart from this, rice, sugar, many types of fruits and vegetables, meat products, cotton yarn, and cloth can also be sold. China imports electrical machinery worth \$450 billion, medical equipment worth \$97 billion, and iron ore worth \$125 billion. India must seek to lay emphasis on the production of these commodities and their export.
- India has to put more emphasis on manufacturing as it has an army of skilled professionals. India's institutions are also excellent in the economic and financial sector. All these have to be linked to China. To compete with China, India must be recognized as a country which produces quality at low cost. If India has to become a five trillion economy country by 2024, then the Indian export rate must reach at rate of 20 percent, this rate is currently negative.
- If we look at the reasons for India's continuous trade deficit in the trade relations between India and China, it will be known that India sells raw materials to China, whereas India buys most of the ready-made products in imports from there. Apart from electrical and mechanical machinery, India buys many types of chemicals

from China. These chemicals are very important for the Indian pharma industry. Although, the medicines are made in India but their original material comes from China itself which we call Active Pharmaceutical Ingredients (API).

- About 70 per cent of the APIs (raw materials used to make medicines) for the manufacture of medicines in India are imported from China, while India's dependence on China is about 90 per cent for some life-saving antibiotics like cephalosporins, azithromycin, and penicillin. Due to this, China receives Indian foreign exchange on a large scale, however, this health purchase increases India's import bill. On the other hand, India sells cotton, iron and steel, artificial flowers, ore, slag, ash, and organic chemicals to China on a large scale, but fails to earn as much foreign exchange from China in return.
- In the year 2021-22, India bought electronic goods worth about 3 thousand crore US dollars from China. This included electrical machinery, equipment, spare parts, sound recorders, televisions, and many more. If India's manufacturing capacity in the electronics sector gets strengthened and its technical prowess increases, then it can help India in dealing with large trade deficits.

Need to reduce business dependence on China and strengthen indigenous industry:

- From the financial year 2014-15, efforts are being made to reduce imports from China by promoting indigenous products in every possible way. In this regard, as tensions with China in the years 2019 and 2020 increased and China's aggression and expansionist policy towards India came to the fore, the wave of use of local products has been increasing across the country. Strong boycott of Chinese goods across the country and ban on various Chinese apps including Tik-Tok by the government, increase in duty on many goods to control the import of Chinese goods, the trend of continuous incentives for using local products as far as possible in place of Chinese products in government departments has resulted a comparative decrease in demand for Chinese goods in India.
- Prime Minister Modi's repeated endorsement of the local economy and the spread of the Vocal for Local campaign had seen more support for buying local products on Diwali and other festivals than before, yet Chinese import of festive products have increased. As a result, the festive months of September to November 2022 has seen China's dominance in the Indian markets.
- According to data from the Ministry of Commerce

Social Issues

Increasing Crime Against Women In India: Need Of Effective Policy Measures

"If all men are Born Free, how is it that all women are born slaves" - Mary Astell

The gruesome incident on the eve of new year in Delhi reminded the December 2012 Nirbhaya case. The way 20-year-old woman was dragged by the car for 12 kilometers without being noticed by Police Personnel is testimony to the fact not much has changed on the ground. In yet another crime against women, a female Uber driver was attacked by two men who pelted stones at her car and attempted to rob her in Delhi.

The irony is that while ministers, parliamentarians, bureaucrats, and judicial officers are provided with the best security, ordinary women in the National capital or elsewhere in India feel unsafe and are extremely vulnerable to horrific crimes. Such incidents raise serious concerns about women's safety not only in urban areas but also in India's vast rural hinterlands, where patriarchy and misogyny are still deep rooted. Violence against women is prevalent among all social and economic strata of the society

Female Feticide, Domestic Violence, Rape, Sexual Harassment, Acid Attack, Honor Killings have become norm in our society. This patriarchal mindset has its origin in 'harmful gender social norms, which define how women should behave in society'. Even urban way of living and education has not been successful in eradicating patriarchal norms. Amid such a grim situation, the goal of eliminating all forms of violence against women and girls by 2030 (SDG-5) remains a far cry.

Globally Accepted Definition of Gender Violence:

The United Nations defines violence against women



as any act of gender-based violence that results in physical, sexual, or mental suffering to women in both public and private life.

Consequences of Gender Violence:

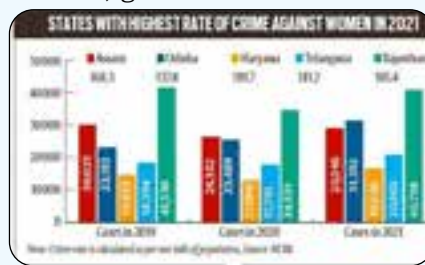
- Violence against women constitute a large share of human rights violations. It affects women's health and stops them from effectively executing their social roles which, in turn, results in loss of opportunities.
- As per WHO, the social and economic costs of any kind of violence against women are enormous. As a consequence, women suffer not

only psychological and physiological trauma but also isolation, inability to work, lack of participation in regular activities. Further, violence can negatively affect women's physical, mental, sexual, and reproductive health.

- IMF data also establish that Violence against women and girls has a multi-dimensional effect on the overall health of an economy.
- Such women are likely to be less productive. can decrease the number of women in the workforce, minimize women's acquisition of skills and education.
- Moreover, crime against women further impede the women's empowerment efforts and make it difficult for educated young women to step out to work, with families concerned about their safety and security. Therein lies the bigger tragedy.

Statistical Evidence:

In India, gender-based violence is a dark and bitter reality. In 2021, the National Crime Research Bureau (NCRB) recorded the highest number of crimes against women in six years.



- As per the data released by NCRB, crime against women rose by 15.3 per cent in 2021 (increased from 56.5 per cent in 2020 to 64.5 per cent in 2021).
- According to the National Family Health Survey (NFHS-5), two in five women have experienced physical or sexual violence. The National Capital Delhi, had the highest percentage of crime against women (47.6 per cent) in 2021.
- According to NCW data, the total number of complaints received in 2022 is also the highest since 2014. Of these, 54.5% complaints were from Uttar Pradesh, followed by Delhi (10%)

Reasons behind Gender Violence:

- Gender-based violence is one of the most pronounced expressions of the unequal power relations between women and men.
- There is no single factor that can explain gender-based violence in our societies, but rather a myriad of factors contributes to it, and the interplay of these factors lies at the root of the problem.

	<u>Factors</u>	<u>CHARACTERISTICS</u>
1.	Cultural factors	Patriarchal and sexist views legitimise violence to ensure the dominance and superiority of men.
2.	Legal factors	Being a victim of gender-based violence is perceived in many societies as shameful, with many women still being considered guilty of attracting violence against themselves through their behaviour. This partly accounts for enduring low levels of reporting and investigation.
3.	Economic factors	The lack of economic resources generally makes women, particularly vulnerable to violence. It creates patterns of violence and poverty that become self-perpetuating.
4.	Political factors	The under-representation of women in power and politics means that they have fewer opportunities to shape the discussion and to affect changes in policy, or to adopt measures to combat gender-based violence and support equality

- Along with these factors various societal norms and patterns which have their own perception of gender and sexuality are responsible for such atrocities against women. There is male chauvinism and domination in relationships. Women who refuse to accept it are often at the receiving end of hatred from their partners.
- Again, low socioeconomic status, poverty, and unemployment have also been identified as causes of hate crimes. Alcohol and substance abuse and personality traits are also contributing factors.
- In a way, Gender violence has become well entrenched in the cultural and institutional social structures. Discriminatory rules, customs, traditions, laws, and misogynistic language are examples of structural violence against women. These structures influence both conscious and subconscious behaviour. People grow up in these structures, preserve them, leading to perpetuation of sexism and its expressions in the form of gender discrimination and violence.
- Moreover, inefficient management of Law-and-Order conditions also lead to crime against women. People to police ratio in the National Capital and elsewhere in India is dismal, which has been highlighted even by CAG's report.
- The lack of police' presence on desolate stretches of roads makes it easy for criminals to operate with impunity. As a result, women are not safe in public spaces, especially after dark. Harassment and abuse are common in such places. Inadequate and unsafe public transport makes it more challenging for women to step out of their homes

Legal Remedies available:

In such a scenario, various laws were enacted to act as a deterrent and prevent crime against women. Some of the prominent laws are as follows.

- The Immoral Traffic (Prevention) Act, 1956
- Dowry Prohibition Act, 1961
- The Indecent Representation of Women (Prohibition) Act, 1986
- Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) Act 1994
- Protection of Women from Domestic Violence Act, 2005
- The Prohibition of Child Marriage Act, 2006
- The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013

- The Criminal Law (Amendment) Act, 2013
- Acid Attacks were put under a separate section 326 of IPC and made punishable.

Despite the availability of legal deterrence, violence against women still continues unabated. A need was felt to strengthen these laws.

- Aftermath the Nirbhaya Case, a three-member committee led by former Chief Justice of the Supreme Court Justice J.S. Verma was formed on December 23, 2012 to recommend changes to the Criminal Law that would allow criminals convicted of sexual assault against women to be tried more quickly and receive harsher penalty.
- This committee made suggestions on rape laws, sexual harassment laws, human trafficking laws, child sexual abuse laws, medical examinations of victims, police, electoral, and educational changes

Policy measures taken by Government to prevent gender violence by empowering women socially and economically



Sakhi- One stop Centre- is a centrally sponsored scheme of Ministry of Women and Child Development, for addressing the problem of violence against women. One Stop Center are to be established across the country to provide integrated support and assistance to women affected by violence, both in private and public spaces.



Mission Shakti provide immediate and comprehensive support and assistance to women affected by violence and for those in distress. It has two components.

1. S A M B A L -

For safety and security of women (Include

Women Helpline, Nari Adalat etc)

2. SAMARTHYA- For Empowerment of women (Include Ujjwala, Swadhar Greh, etc)

- Initiative of **Gender Champions** helps students build an understanding of gender equality and prevent them from acting in ways detrimental to women.
- Many women feel hesitant to directly approach the police. In view of this a nationwide network of 182 **one stop centers under the Nirbhaya fund** has been set up one stop centers offer a single window to services for women facing violence such as police medical legal and psychological assistance along with a secure place to stay for a few days.
- Woman can report violence to the **181-woman helpline** which is a universal toll-free number providing emergency and non-emergency response to women in distress. Women can call this number to report an emergency situation, access counselling or find out information about legal, police, psychological and other options available.
- A significant step of **33% reservation for women in the police force** has also been taken to improve the overall police responsiveness to gender sensitive cases and to bring visibility to more women in the police force
- An easy-to-use online portal **She-Box** has been launched for online complaints of sexual harassment at workplace for all women in the country.
- New Taxi Policy guidelines for improved woman safety have been issued with better safety measures for women such as mandatory GPS, panic devices/ buttons in all taxis. The feature of panic buttons is able to send a signal to the nearest PCR and selected family members and friends identifying the location through satellite-based GPS.
- Nirbhaya fund is also being used to roll out of comprehensive plans to make eight major cities in the country safer for women by focusing on different aspects such as street lighting, safer public transport, improved policing etc.
- Cyber Police stations manned by Police Women to report cases against women harassment online have been established.
- Pink Booths exclusively manned by police women by Uttar Pradesh Government to build a confidence among working women.

- Rehabilitation of survivors of sexual assault/ acid attack is also being done under the central victim compensation scheme under the Nirbhaya fund.
- Rights of persons with Disabilities Act 2016 has included acid attack as a kind of disability which allows acid attack victims to avail disability benefits.
- To ensure that governments protective mechanisms also reach rural women the Mahila Shakti Kendra scheme has been launched which provides support services to rural women at their doorstep through student volunteers in 115 most backward districts These students will educate women about government support for survivors of violence and help them contact with institution.

What needs to be done:

The Standing Committee on Home Affairs, chaired by Shri Anand Sharma submitted its report on the subject 'Atrocities and Crimes against Women' on March 15, 2021. Key observations and recommendations of the Committee include:

- **Registration of crimes:** Crimes against women are often not registered at police stations. (i) there is a need is to ensure that FIRs are registered timely, (ii) developing and promoting online registration of FIRs.
- **Conviction rate:** Conviction rate in crimes against women is low. Implementation of the Online Investigation Tracking System for Sexual Offences provided to law enforcement agencies to track police investigations, (ii) setting up at least one forensic laboratory in every state capital, (iii) setting up fast-track courts in a time-bound manner.
- **Measures for safety and prevention:** (i) establishing an integrated three-digit pan-India helpline number, (ii) publicising and promoting the use of the helpline. It also observed that state governments maintain post-incidence services such as shelter homes.
- **Cyber-crimes:** Identifying and permanently blocking virtual private networks used to bypass cyber security walls with the aid of Internet Service Providers. Adequate training must be imparted to law enforcement agencies to prevent online Harassment of women.
- **Representation of women:** The Committee highlighted that 10.3% of the police force is female despite repeated advisories issued by the Ministry of Home Affairs to ensure that 33% of police forces are women. It recommended conducting special recruitment drives for posts at all levels.
- **Nirbhaya Fund:** The Committee observed that only 39% of funds allocated for the fund have been disbursed. It recommended establishing a committee at the central level to oversee utilisation of the fund.

Effectiveness of the initiatives:

- While there are various laws in place to prevent sexual harassment and gender violence; numerous initiatives have been taken to empower women that have done little to protect women. Law and punishment have rather become ineffective. Reformatory approach along with deterrent is need of the hour. We need to inculcate an attitude of Gender Sensitivity not only among children but among the adults as well. In schools and colleges, gender sensitisation and awareness programmes must be given importance. Behavioural and attitudinal change can only generate sense of dignity and respect for women and can effectively counter the incidents of crime against women.

Way Forward:

- Now, to make earth a safe haven for women, not legal protection alone, but a strong social support system is needed, apart from leveraging education as a tool for removing gender bias against women and fostering a gender-equal ecosystem.
- Gender biasness should be tackled from the very roots, where we develop a society that recognizes the crucial role women play in the society. Although, there has been a paradigm shift of roles and the society is slowly excepting women in much greater roles. However this path to inclusivity is full of hurdles that include the misnomer of women being a weaker sex, prejudices of how a dignified woman should behave and society trying to conform them into that mold again.
- As Liberal and Utilitarian Philosopher James Mill once said among the rude people the women are generally degraded, among civilized people they are exalted. What is needed is to develop a generation of Civilized People, to create a better and gender sensitive society.

Governance

Impact Of Hate Speech In India & The Need Of Its Regulation

Hate speech has a pernicious effect on the socio-cultural system and also severely affects the fundamental right to freedom of thought and expression. This is the reason that the Supreme Court of the country has become serious about the regulation of hate speech this time and the court has shown a strict attitude regarding hate speeches. Since there is no clear definition of "hate speech" in the Indian Penal Code, the Reforms Committee on Criminal Laws set up by the Union Home Ministry is still working on attempts to define such language for the first time, suggesting reforms to the British-era code.

What this committee says and what will be implemented on it, only time will tell, but before that, expressing concern over hate speeches, the Supreme Court has recently said that without waiting for any complaint, action must be taken on its own in such cases. Fraternity cannot be maintained until the people of different religious communities live in harmony. The Supreme Court has given this direction to states like Delhi, Uttar Pradesh, and Uttarakhand. Also it has warned that any delay on the part of the administration would be viewed seriously and would amount to contempt of court.

The Supreme Court has termed hate speeches as a 'very serious issue' as it can destroy socio-cultural and communal harmony. This can lead to feelings of enmity between different sections of the society, with hate speech contaminating the political culture. Inflammatory speeches are given by the leaders of various parties on the basis of religion, caste, gender, dress etc. which increases the possibility of targeting a particular class by other particular class. Dissatisfaction, indignation is encouraged among the people and people also get inspired to walk on the path of agitation and violent revolution.

Therefore a bench of Supreme Court comprising Justice KM Joseph and Justice Hrishikesh Roy has issued notices to some state governments on a petition filed by Shaheen Abdullah. The Supreme Court has said that in order to maintain the secular fabric of the nation, strict action should be taken against those giving hate speeches. The direction given by the Supreme Court also matters because so far India lacks any concrete national law to deal with the crime of hate speech. Thus, the Supreme Court directed the governments of Uttar Pradesh, Delhi and Uttarakhand to take suo-motu cognizance of such incidents without

waiting for formal complaints to be filed.

Along with this, the Supreme Court directed the administrative authorities to immediately register a criminal case against the culprits without any formalities. One of the highlights of the instructions issued by the Supreme Court in the matter of hate speech is that while strongly criticizing the role of television channels in hate speech, the court has accepted that television channels are creating divisions in the society. It said that TV channels are driven by agendas that create divisiveness. Further, it has observed that TV channels compete for sensational news and work as per the orders of their financiers (owners).

The Supreme Court believes that, 'If the anchors are fined, they will know that they have to pay the price'. The central government, on the other hand, has reacted by saying that it plans to make comprehensive amendments to the Code of Criminal Procedure (CrPC) to deal with hate speech. On behalf of the Central Government, it has been clarified by Additional Solicitor General (ASG) KM Nataraj that the Central Government is considering an amendment to the Criminal Procedure Code. It is noteworthy that in the 267th report of the Law Commission of India, hate speech has been seen mainly as incitement to hatred against race, ethnicity, gender, sexual and religious belief etc.

Initiative by Central government for regulation of hate speech:

- In view of the negative effects of hate speech in the country, the Central Government, after a long consultation of 5 years, has started preparing to enact an anti-hate speech law to stop hateful content on social media. The draft of the law is being prepared keeping in mind the directions of the Supreme Court regarding hate speech, laws of other countries and all aspects of freedom of expression. It will soon be put up for public opinion. In this, the definition of hate speech will be clear, so that people also know whether what they are speaking or writing comes under the purview of the law or not.
- The central government has based the draft law on the observations of the Supreme Court in some other cases like *Pravasi Bhalai Sangathan vs. Union of India*. Apart from this, the Law Commission of India has also made it clear in its consultation paper on hate speech that it is not necessary that only speech that incites violence should be considered as hate speech.
- Lies and offensive views are being spread easily

on the internet under hidden identities. In such a situation, the language which increases discrimination should also be kept under the ambit of hate speech. Apart from this, when the definition of hate speech is clarified, social media platform users will not be able to escape the fake news or hate speech spread through them. Most misleading information in the country is spread through platforms like Facebook, Twitter, WhatsApp, and Koo. Now with the enactment of strict law against them, the way of legal action will be opened. On the other hand, the supporters of free speech in the country feel that the anti-hate speech law can also be used to suppress the voice of people or groups.

- Currently, action is taken under various sections of the Indian Penal Code to deal with hate speech. At present, there are 7 types of laws used in the country to deal with hate speech, but none of these has defined hate speech. Therefore, social media platforms are not stopping their users from speaking arbitrary language.

Prominent laws to deal with hate speech are:

- Section 124A (sedition) of the Indian Penal Code: This has been banned.
- Section 153A: Enmity on grounds of religion,

race etc.

- Section 153B: Statement against national unity.
- Section 295A and 298: Hurting religious feelings.
- Section 505(1) and (2) inciting rumour or hatred.

Two committees constituted for the regulation of hate speech have recommended some necessary changes in the Indian Penal Code to control hate speeches on different grounds. Vishwanathan Committee (2019) in this regard proposed Section 505A and Section 153C (B) in IPC for incitement to commit offense on grounds of religion, race, caste or community, sex, gender identity, place of birth, residence, language, disability or tribe. Apart from this, the committee has proposed a punishment of up to two years with a fine of Rs 5,000 for abetting such an offence.

The Bezbaruah Committee (2014) has also made some recommendations that can help in regulating hate speech. The Bezbarua committee has proposed to amend Section 153C (promoting or attempting to promote acts prejudicial to human dignity) of the Indian Penal Code with imprisonment of up to five years and fine, or both, and Section 509A (word, gesture, or act intended to promote or promote acts prejudicial to human dignity) with imprisonment of up to three years, or fine, or both.



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Technology

India's National Geospatial Policy

The ministry of science and technology of India recently issued the National Geospatial Policy. The term geospatial refers to a set of technologies that aid in the collection, analysis, storage, management, distribution, and integration of geographic information. Geospatial technologies in general include systems such as remote sensing, navigation satellite systems, surveying, 3D modeling, and geographic information systems. India represents a strong spatial system and departments like the Survey of India, ISRO, and National Informatics Center also use this technology. It is noteworthy that in 2021, guidelines were issued for Indians to de controlling of the geospatial sector.

National Geospatial Policy:

- The National Geospatial Policy has been issued by the Ministry of Science and Technology to fulfill the objectives after the announcement of liberalization of the local area in 2021 and the necessary discussion on the geospatial sector in the Union Budget 2022-23. While the 2021 guidelines liberalized and deregulated the geospatial data gathering/production/access, the policy 2022 aims to set a broad framework for the comprehensive development of the geospatial ecosystem.

The objective of the policy:

- Formulating a citizen-centric policy to address national development, economic prosperity, and an information-centric economy.
- To make India a global geospatial leader by developing a high-end innovation ecosystem in the geospatial sector of India.
- To promote the country's digital economy and delivery of public services through a strong national geospatial infrastructure.
- Development of Geospatial infrastructure, geospatial skills, knowledge, standards, and geospatial business.
- To ensure high-resolution topographic survey and mapping with an accurate digital elevation model by 2030.

Institutional Arrangements:

To achieve the aforementioned objectives the following institutions have been created.

- The Department of Science and Technology is the nodal department.
- Geospatial Data Promotion and Development Committee (GDPDC) has been constituted at the national level, which will be the apex

body to formulate and implement policies in this context. It is noteworthy that GDPDC was formed in 2021 and through this policy, GDPDC was given the powers of the National Spatial Data Committee.

- GDPDC will give recommendations relating to its functions to the Department of Science and Technology.

Phased targets:

To achieve the objectives mentioned in the policy, targets have been fixed in a phased manner, which are described below.

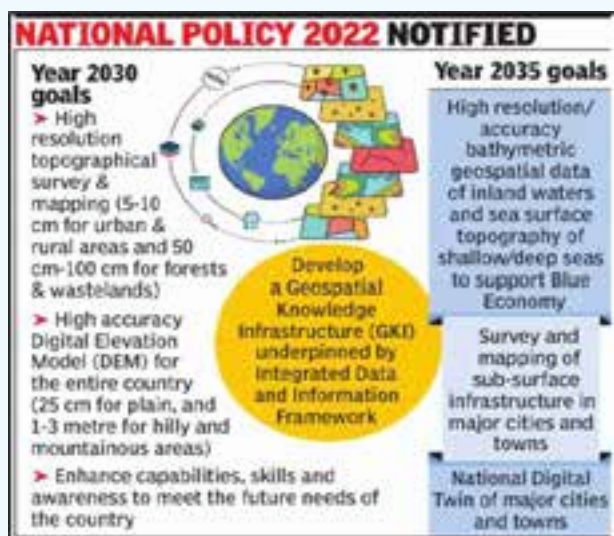
- By the year 2025, an enabling policy and legal framework will be made for the democratization of data and the liberalization and commercialization of local areas.
- By the year 2030, a high-resolution survey and mapping will be prepared. Its capacity will be 5 to 10 cm for urban and rural areas and 50 to 100 cm for forests and barren land.
- By 2035, spatial technology will be expanded to support the Blue Economy and a National Digital Twin (virtual replica of a service or physical asset).

Possible benefits of the implementation of the policy:

- Experts have predicted a 13% compound annual growth rate (CAGR) in the net worth of this sector by the year 2029 with an increase of around Rs 1 lakh crore. So it is an important sector for India's target of 10 trillion economies by 2030. It is also predicted that by 2025, this sector will cross the figure of about 60,000 crores in India and generate nearly 10 lakh employment.
- Globally, many private companies are working in these areas and contributing to the development of their country. In India too, there is a possibility of startups in these areas. To provide opportunities to startups, the government is running a geospatial hackathon which will end on March 10. In this, the top 4 winners will be selected and supported in their research and funding.
- The reduction of government control is pointing toward a citizen-centric administration which will make India's democracy more prosperous.
- It will promote technological inclusion in line with Prime Minister Narendra Modi's statement during the opening message at the United Nations World Geospatial Information Congress

2022 that “geospatial technology is promoting inclusiveness across nations and leaving no one out”.

- This policy will promote a wide range of geospatial experts in a big way. Whose innovative ideas and solutions can be imbibed by the Survey of India and other agencies providing geospatial data generation, solutions, and services to solve many problems.



The challenges that need to be addressed:

- **Data Protection:** The absence of any law related to data protection is a big problem. India will not be able to protect the localization of geospatial field data in the absence of legislation.
- **Cyber Attacks:** Protecting geospatial data from ever-increasing cyber attacks will be a big challenge. Because in this data, not only will there be information about India's economic resources, but this will also include information about strategic areas.
- **National security:** Geospatial data will give information about all the cities, villages, and towns of India. At present, because of the challenges that the eastern and western borders of India are currently facing, the disclosure of such data can become a factor in a big crisis.
- **Lack of skilled population:** There is a lack of skilled population in India. Therefore, it cannot be said to what extent the impact of liberalization of the geospatial sector will be felt by the public.
- **Unexplored market:** In a vast country like India, which is seventh-largest area in the world and where the world's second-largest population resides, the geospatial market is expected to

reach only 60 thousand crores (2025). Thus, when compared to India's capacity and size, the demand for geospatial services and products is rather too less.

Additionally, the lack of clarity on data sharing and the absence of ready-to-use solutions pose a major challenge.

Way Forward:

If India has to get a real advantage in this field, then the following initiatives might prove beneficial:

- A robust legal system should be enacted for data, in which a culture of data sharing, collaboration, and co-creation should be developed.
- India should emphasize the localization of data so that high-accuracy data is not stored in foreign web clouds. This requires building a robust web cloud. This step will address the concerns of national security to some extent.
- Along with this, India should strengthen CERT-in against cyber attacks. Because since some time, China has been continuously conducting cyber attacks on India. In the context of these attacks, India will have to build a strong cyber defense system.
- Along with this, skill development among the Indian public has to be strengthened. In this context, the government is making continuous efforts through Deendayal Kaushal Vikas Yojana.
- Apart from this, the government must take startups and civil societies into confidence and make them aware of the usage of geospatial services among the public.
- The government of India and big industrial houses need to support new startups, however, for this purpose, geospatial hacking has been started recently.
- A graduation course in geospatial technology should be included in India's engineering curriculum. Further, a dedicated geospatial university could be set up.

Conclusion:

To ensure social and economic justice for its people and for reducing the fiscal deficit, India needs to find new options for capital creation. The geospatial sector can prove to be an important option for this purpose. However, the most important requirement is to overcome the challenges arising in the implementation of this policy so that India can succeed in achieving all the phase change goals mentioned in this policy by 2035.

Economy

Rising Preparedness To Combat Money Laundering In India: Challenges & Solutions

Money laundering as a serious economic crime is affecting the internal and national security of the country. Since it is growing as an organized crime, it is a challenge to both Indian society and the economy. The mechanism of money laundering acts as a parallel economy that tarnishes the efforts of economic good governance. Presently there has been an increase in money laundering cases relating to people working in different sectors of India like the film industry, businessmen, political leaders, and mining sector, due to which the Income Tax Department and Enforcement Directorate of the country are compelled continuously to take disciplinary actions.

Money laundering cases involving Indian global businessmen, weapon dealers have also attracted the attention of enforcement units such as the Financial Intelligence Unit, as well as the need is being felt to make extradition treaties with various countries effective. In January this year, evidence has been found regarding the involvement of drug lords in money laundering. The Enforcement Directorate (ED) has attached assets worth Rs 7.90 crore under the Prevention of Money Laundering Act (PMLA), 2002 in two Narcotic Drugs and Psychotropic Substances Act (NDPS) cases. The attached properties include 16 immovable properties like land and buildings in Punjab belonging to drug lord Gurdeep Singh Rano and his family members. Many other such big cases have come to the fore which clearly show that money laundering is in full swing to convert black money into white money. There has been an increase in the tendency to buy immovable properties in cash in cases of money launderers. The trend of depositing the proceeds of crime in cash in bank accounts of unknown persons for purchase of immovable properties has also been exposed in a number of cases in recent times.

Due to a big case of money laundering, the extradition treaty between India and Britain has been successfully made effective. Britain's Home Minister Suella Braverman has approved the extradition of fugitive and the middleman of defence deals, Sanjay Bhandari. Bhandari's extradition has been ordered in a money laundering case that was being probed by the Enforcement Directorate (ED). The agency was fighting the case in the UK court on behalf of the Government of India. Money laundering charges have been framed against Sanjay Bhandari by the CBI and ED in India. He has been declared a fugitive offender as he fled to Britain. Therefore, the Government of India appealed to Britain for

Bhandari's extradition.

Money Laundering: Meaning and Dimensions:

Money laundering is the process where money obtained through terror is converted into legitimate money. This is done with the aim of concealing the source of the illegal origin of such money. According to Interpol, any act or attempt of act that hides or conceals the identity of illegally acquired money so that it appears to have originated from legitimate sources is called money laundering. Article 1 of India's Enforcement Directorate guidelines defines money laundering as the process of making black money into white by the act of hiding or concealing the illegal source of such money, knowing that money has been obtained from serious crimes, or engaging in aiding a person in any such act. There are three stages in the process of money laundering:

- **Placement Phase:** This is the first phase of the money laundering process in which the proceeds of criminal activity enter the financial system. At this stage the money launderer deposits the black money, usually in the form of cash bank deposits, into a statutory financial institution. Large scale cash manipulation characterizes this phase.
- **Layering Phase:** The second step in "money laundering" is known as 'layering'. This is the phase related to hiding money. In this, the money launderer hides his real income by manipulating the accounts or books of accounts and by doing other suspicious transactions. The money launderer diverts the money into investment instruments such as bonds, stocks, and traveler's checks or into their bank accounts abroad. This account is often opened in banks of countries that do not cooperate with anti-money laundering operations.
- **Integration Stage:** This is the third and final stage of the money laundering process. Through this process, money sent out or illegal money planted in the country comes back to the money launderer in the form of legal money. Such money often comes back through investing in a company, buying real estate, buying luxury goods, etc.

Activities Involved in Money Laundering:

- Money laundering is carried out by money launderers in different forms. One of the major methods in this is the creation of shell companies. Creating "shell companies", is considered an effective tool for money laundering. Shell companies are companies

similar to real companies but do not hold any assets and do not have any production activities. These companies exist only on paper and not in the real world but money launderers show huge transactions in the balance sheets of these companies. They take loans in the name of the company, tax exemption from the government, do not file income tax returns and through all these fraudulent activities, they accumulate a lot of black money. If a third party wishes to examine financial records, false documents are shown to the third party to confuse the investigation as to the source and location of the funds.

- Other methods of money laundering include; Buying a big house, shop, or mall but showing its value less on paper when the actual market value of the property purchased is much higher; This is done so that less tax has to be paid. Thus black money is also raised through tax evasion.



Money laundering challenges to the country's internal security:

- Money laundering is a major threat to the country's internal security as it affects the country's economy, formal financial system, banking regulations, and norms in a negative way. It promotes a parallel economy, black money, and hawala business in the country. Money laundering leads to illegal activities and corruption, and also serves as a tool for financing terrorist and separatist activities. This presents a challenge to India's law enforcement bodies and economic intelligence agencies.
- In present times money laundering has emerged as an organized crime. It promotes serious economic crimes, profiteering, and black marketing. It is the process of converting illegal or black money into legal money or the process in which efforts are made to show illegally

earned money as legitimate money. Thus it is a way of hiding the money earned through illegal activities like smuggling, kidnapping, extortion, illegal mining, etc. Through money laundering, the money earned from such activities is invested in activities that the investigating agencies are unable to trace the main source of the money. For example, the real estate sector i.e. large-scale purchase and sale of land, election funding, benami assets, investment in the excise sector, investing anonymously through Participatory Notes in the stock market, funding terror and insurgency, etc.

Tax haven and black money:

The term tax haven has been widely used since the 1950s. Although there is no precise definition of this term, the Organization of Economic Co-operation and Development (OECD) has defined it through the following characteristics:

- Financial entities offering low tax or zero tax facilities.
- Lack of effective exchange of information with regard to tax.
- Lack of adequate transparency regarding financial transaction activities.
- In the year 2000, 35 countries or entities were listed as tax havens. Tax havens are usually small countries or entities that offer low or zero taxation to foreigners who decide to come and live there, and they usually offer strict secrecy about money and accounts to protect unaccounted wealth. They offer a very liberal and non-transparent regulatory environment. This has led multinationals to look to tax havens as a safe haven to reduce their global tax liabilities. Any entity that wants to save tax, such as many corporate and non-corporate entities, and multinational companies, join this network keeping in mind the convenience of having low or zero taxes by creating artificial companies (conduits) in tax havens and artificially transferring their income in these conduits.

Offshore Banking Centre and Black Money:

Offshore Financial Centre has the following characteristics:

- These are entities whose business is primarily engaged in financial institutions with non-residents.
- Centres offering low or zero tax facilities.
- Providing banking secrecy and light financial regulation.
- Creation of an opaque system in the matter of financial transactions.

Measures to combat money laundering:

- Major institutions dealing with black money in India include: Central Board of Direct Taxes, Central Board of Excise Customs, Enforcement Directorate, Financial Intelligence Unit, Economic Offences Wings of State Police, Central Bureau of Investigation, Serious Fraud Investigation Office, Narcotics Control Bureau, Central Economic Intelligence Bureau, National Investigation Agency etc. The Enforcement Directorate is entrusted with the prosecution and investigation of money laundering offenses under the Prevention of Money Laundering Act, 2002 and seizure and attachment of goods involved in the crime of entities engaged in the operation of black money.
- The Enforcement Directorate is of an all India character which is spread across various states and territories in the form of regional offices. Similarly, the Financial Intelligence Unit was formed by the Government of India on 18 November 2004 to strengthen the coordination efforts of national and international intelligence agencies by investigative and enforcement agencies in combating money laundering and terrorist financing. It is responsible for receiving, analysing and disseminating information related to suspicious financial transactions.
- The Prevention of Money Laundering Act, 2002 is a criminal law designed to prevent money laundering and to provide for confiscation of property derived from or involving money laundering. The provisions of this Act apply to all financial institutions, banks (including RBI), mutual funds, insurance companies and their financial intermediaries. This law includes investigation of offenses of money laundering, attachment and confiscation of property and prosecution of persons involved in the offense of money laundering.
- Under section 3 of the PMLA law, a person will be charged with money laundering if that person is in any way directly or indirectly involved with the proceeds of crime such as concealment of income, owning, acquiring, using or offering as unblemished property, claiming as unblemished property.
- Apart from this, the Parliament of India has enacted the Fugitive Economic Offenders Act, 2018 which also deals with money laundering. The object of this Act is to confiscate the property of fugitive economic offenders who find ways to evade the process of law by staying outside the jurisdiction of Indian courts. Such property is entrusted to the Central Government.

Role of Enforcement Directorate in dealing with money laundering and other economic crimes:

- Enforcement Directorate mainly works under three laws. Foreign Exchange Management Act 1999, Prevention of Money Laundering Act 2002, Fugitive Economic Offenders Act 2018. The Enforcement Directorate under FEMA investigates violations in foreign exchange. The PMLA is designed to prevent money laundering or confiscate illegal assets involved in the case, while the Fugitive Economic Offenders Act 2018 is designed to prevent economic offenders from fleeing India.
- The CBI conducts investigations on orders from the Centre, the High Court or the Supreme Court, apart from this the permission of the state government is necessary in the case of a state, however this is not in the case of the Enforcement Directorate (ED). When a case of misappropriation of Rs 1 crore or more is registered in a police station, the police informs the ED about it. After this, the ED starts the investigation by taking a copy of the FIR or charge sheet from the police station. If the ED gets information about the case first, it can start the investigation as well.
- The ED investigates in cases of FEMA violations, hawala transactions, foreign exchange violations, action on any property abroad and purchase of property abroad. The agency has seizure and arrest powers against those accused of money laundering. ED has the right to act on illegal activities done financially. Under the PMLA, the ED has been empowered to seize property, conduct raids and arrest. The power of ED can also be gauged from the fact that the agency can confiscate property even without questioning. At the time of arrest, ED may or may not give reasons. Also, statement given in front of its investigating officer is considered as evidence in the court.
- It is noteworthy that it is difficult to get bail in ED arrest. In FEMA and PMLA cases, the ED can withhold the bail of the accused for three years. It can seize the property of fugitive criminals and attach it to the central government. In view of the difficulty in extraditing the fugitive, the ED has been empowered to attach the entire property of a fugitive. The ED further deals with cases of huge economic frauds of export and import. ED also investigates if someone has kept a huge amount of foreign currency with him or has done illegal business of foreign currency.

6 Disaster Management Joshimath Landslide: A Question Mark On India's Disaster Management Strategy

Mountainous regions have their possibilities and challenges as seen in India's newest state of Uttarakhand. Be it Joshimath of Chamoli, Rudrapur, Uttarkashi, or other areas of Pithoragarh, they have been affected by the issues of tourism and migration. Whenever there is a tourism development initiative taken to prevent migration in mountainous areas, and to generate livelihood for local people, it certainly has some negative impact on the mountain ecosystem, but by keeping such effects to a minimum, limited development can be achieved. There can be no turning back from working on the possibilities. In this regard, it becomes necessary to mention the challenge of land subsidence in Joshimath of Chamoli district of Uttarakhand. Joshimath, considered a unique centre of faith in Uttarakhand, is currently a victim of disaster. Some analysts say that it is a man-made disaster, while some believe that the nature of Himalayan ecosystem ecology is such that the development works started affecting the land structure there. It is believed that unplanned construction, population pressure, tourist infrastructure, obstruction of natural flow of water, hydropower projects, development activities have all contributed to the present situation. Recently Joshimath in Uttarakhand faced serious problem of land subsidence, cracks started appearing in the houses of its residents, and water seepage started. Environmentalists clearly said that the landslide situation in Joshimath is now out of control which cannot be stopped. The only option left is rescue, relief work and rehabilitation.

In some reports, this fact has come up that the soil of Joshimath is only 1 to 1.5 meters deep, which too is poor grade sandy soil. This land is not suitable for any city. In just 23 days in the month of January, about 2 crore 21 lakh 40 thousand litres of water has leaked inside the ground in Joshimath. This amount of water is equivalent to a big lake. Even for administrative officers and technical institutions, this water has still become an unexplainable puzzle. Water samples have also been taken by NIH. Teams of scientists from across the country are closely examining the changing geological structure of Joshimath, continuous seepage of water from unknown sources underground, the condition of soil and rocks in the ground, their load capacity, and the trends of the environment and mountain structures there. Most of the scientists investigating the Joshimath landslide believe that the possibilities of reconstruction are almost ending here.

Joshimath is a part of the Central Himalayas. The rocks here are of Precambrian age and this area comes under India's most severe seismic zone 4. The fundamental problem of Joshimath is that it is situated on very weak soil. In other words, Joshimath is situated on a mountain of debris about 500 meters high. That debris is from landslides that happened in

the past, which means that the ground here is hollow and its surface is not solid. Since the surface below the ground is hollow, whenever the ground slips, or there is movement under it, cracks start emerging. This is the reason why the Central Government has deployed teams of National Disaster Management Authority, National Institute of Disaster Management and National Disaster Response Force for the problem of Joshimath. At the same time, IIT Roorkee, Geological Survey of India, Wadia Institute of Himalayan Geology, National Institute of Hydrology and Central Building Research Institute are studying the conditions for making immediate and long-term plans for Joshimath.

The promotion of development works can be done keeping in mind the earthquake affected the area and the structure of the soil and the fragility of the ecosystem. Geologists believe that the Joshimath region was once under glaciers. That's why the soil here is not suitable for big construction work. Most of the villages and towns in the hills of Joshimath are built on landslide debris or slopes. The speed with which development work was being done in Joshimath had been a cause of problems for many years. The surface of Joshimath is less rock and more soil. Along with this, the foundation of Joshimath has become weak because of water seepage due to poor water management and sewer management.

Uttarakhand has been mainly dependent on tourism for its economy and revenue, due to which emphasis on development projects has been the need of Uttarakhand. The blasting in the tunnels during the Vishnu Garuda project of the National Thermal Power Corporation in Joshimath had a negative impact on the ground stability of Joshimath. The blasts carried out in the tunnels of the Vishnu Garuda Project have been so powerful that they are creating artificial earthquake-like conditions. In such a situation, cracks in the foundation of the city situated on the slope and subsidence of the land are natural and this is a major reason which is affecting the land stability of Joshimath.

Importance of the recommendations related to environmental protection:

- When the security of Joshimath and many other hilly areas of the country is in crisis today, it becomes necessary to assess why the report of Mishra Committee (1976) was not implemented in relation to Joshimath in Uttarakhand, which could have proved to be an effective solution. It was said in his report that there should not be big constructions in Joshimath. Despite this, NTPC and Helang-Malvadi bypass are being built here. An 18-member team headed by MC Mishra prepared a report in which the city's subsidence is mentioned. The construction of buildings due to the increasing population, people had complained

about landslides and cracks in the road even in the seventies, after which the committee was formed.

- According to the report, Joshimath is present in the ancient landslide area and this city is covered with broken pieces and soil from the mountains. It is built on unstable piles due to which the foundation is weak. The committee had advised fixing the areas prone to landslides and planting saplings there. It had also warned not to do big constructions. In the year 2001, MPS Bist and Piyush Rautela, director of the Uttarakhand Space Application Centre, had also submitted a similar research, in which it was written about Joshimath being in the Central Himalayan and earthquake zone, and instructions were given to be cautious. It has also been said by the scientists of the Indian National Science Academy that Joshimath should not have developed like a big city as it has become today.

Measures taken for the safety of Joshimath:

- Given the serious condition of land subsidence in Joshimath, the work on the Tapovan Vishnugad Hydropower Plant of National Thermal Power Corporation has been stopped in the city. Keeping in mind the suggestions of environmentalists, the construction of Helang Bypass Road in this area has been stopped. Apart from this, the operation of Asia's longest ropeway 'Auli Ropeway' has also been stopped.
- Since Joshimath falls in 'Zone-5' with a high risk of earthquake, a team of experts has also been formed to survey it. A committee has also been constituted by the state government under the leadership of Additional Chief Secretary, Uttarakhand for the relief and rescue work of the people. An amount of Rs 11 crore has been made available to the District Magistrate of Chamoli district for relief and rescue work.
- Principal Secretary to Prime Minister, Dr. P.K. Mishra on January 8, 2023, had made a high-level review of damage to buildings and cases of land subsidence in Joshimath. Principal Secretary to the Prime Minister to make a detailed assessment of the findings of the technical team (NDMA, NIDM, NDRF, GSI, NIH, Wadia Institute, IIT Roorkee) that returned from Joshimath and resolve the situation to the State Government immediately, giving advice on short-medium-term on actions. This has been clarified by the Central Government.
- Relief shelters have been identified at Joshimath and Pipalkoti to accommodate the affected families. Appropriate compensation and relief measures are being provided by the state government. The construction work in and around Joshimath Municipality area has also been stopped till further orders. NDRF and SDRF have been deployed to help the district administration in their relief and rehabilitation efforts.

- The Union Home Secretary has apprised the National Crisis Management Committee that a high-level Central team from the Ministry of Home Affairs led by the Secretary of Border Management has visited Joshimath to assess the situation. The Cabinet Secretary was of the opinion that the complete and safe evacuation of all residents in the affected area should be an immediate priority.
- Environmentalists say that the central as well as the state government has learned nothing from the disasters of 2013 - Kedarnath flood and 2021 - Rishi Ganga flood. The Himalayas are a very delicate ecosystem. Most parts of Uttarakhand are either in seismic zone V or IV. The danger has increased due to the weak surface of the Joshimath area and the heavy construction done there over time. The pressure on the population has increased continuously in this area. In such a situation, along with banning haphazard construction, it is necessary to assess the capacity of the land here. Since this entire area is highly susceptible to earthquakes, the geological movement will have a greater impact on the already weak surface. It has been suggested that after securing the citizens, a micro zonation plan of the area should be prepared. Also, there is a need to work on the drainage system with a different aspect.
- Teams of scientists from across the country are closely examining the changing geological structure of Joshimath, continuous seepage of water from unknown sources underground, the condition of soil and rocks in the ground, their load capacity, and the trends of the environment and mountain structures there. Since sharing of information is prohibited, facts are not coming out. Joshimath's land which is made up of a clay-boulder matrix is already overburdened. To reduce this weight, all the big buildings have to be removed one by one and it has to be ensured that no new burden is put on this land in the name of reconstruction.
- The state government has identified four places on the Badrinath Yatra route itself to set up a new Joshimath. The government will also have to make arrangements for permanent employment and land for the displaced people. It is not a difficult task. Old Tehri was submerged when Tehri Dam was built, but New Tehri today is an example of a modern township. The time has come for the central government to take a concrete decision regarding Joshimath and formulate a far-reaching policy, and along with this, most of the scientists investigating the Joshimath landslide believe that the possibilities of reconstruction are almost ending here. A new Joshimath should be established somewhere else along the lines of New Tehri.

Polity

Principle Of Basic Structure & Controversy Between Judiciary and Executive

Recently the Honorable Vice President has said that the Supreme Court uses the Basic Structure to stop the constitutional amendments by the Parliament. In this sequence, the current Chief Justice of Supreme Court has described it as a pole star, which shows the way in a situation of confusion. Earlier, when the Supreme Judiciary had declared the Judicial Appointments Commission related to the appointment of judges as unconstitutional, then a standoff had arisen between the executive and the judiciary.

About Basic Structure Doctrine:

- The term Basic Structure is not mentioned anywhere in the Constitution of India. This concept was given by the Supreme Court in Kesavananda Bharti case. According to the Supreme Court, the philosophy and ideals on the basis of which the framers of the Indian Constitution have made the Constitution cannot be changed by the Executive under Article 368. Although the court has not given any clear definition of basic structure, but basic structure has been mentioned in different judgments. According to the Court, the basic structure doctrine helps protect and preserve the spirit of the Constitution and the nature of Indian democracy and the rights and liberties of the people.

History of Origin of Basic Structure Theory:

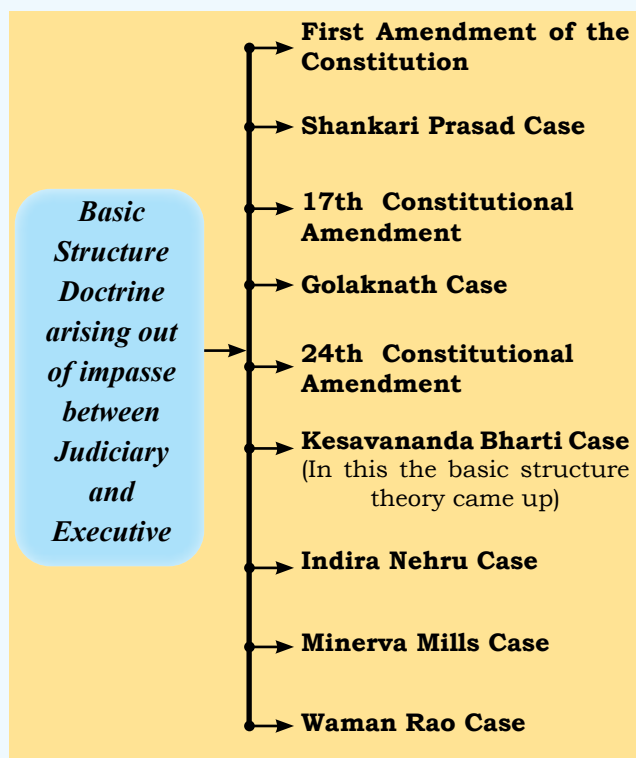
- Under Article 368 of the Constitution, whether the Parliament can amend the fundamental rights or not, this subject came up for consideration before the Supreme Court only after one year of the Constitution coming into force.
- The Shankari Prasad case (1951) challenged the constitutional validity of the First Amendment Act which curtailed the right to property. The Supreme Court held that the power to amend the fundamental rights is inherent in the Parliament within its power to amend Article 368. In Article 13, only general laws come under the word law and not constitutional amendment act. That's why the Parliament can curtail the fundamental rights or withdraw any fundamental right by passing the Constitutional Amendment Act. After this, in the Golaknath case (1967), the Supreme Court changed its earlier position. In this case, the constitutional validity of the 17th

Constitutional Amendment Act was challenged, which added certain functions to be performed by the state in the 9th Schedule.

- The Supreme Court said that the fundamental rights have a supranational and immutable status, therefore the Parliament can neither curtail the fundamental rights nor withdraw any fundamental right is a law within the meaning of Article 13 of the Constitutional Amendment Act and therefore not capable of infringing any fundamental right.
- After this, in Kesavananda Bharti (1973) case, the Supreme Court gave the concept of basic structure. Under this, the Supreme Court overruled its decision in the Golaknath case. In this, the validity of the 24th Amendment Act was restored and it was arranged that the Parliament can also limit the fundamental rights or withdraw any right. Along with this, the Supreme Court gave a new principle; the same principle was called the principle of basic structure of the constitution. In this, it was observed that the constitutional rights of the Parliament under Article 368 do not give it the power to change the basic structure of the Constitution. This means that the Parliament cannot limit the fundamental rights or withdraw such fundamental rights which are attached to the basic structure of the constitution. The doctrine of the basic structure of the Constitution was reaffirmed by the Supreme Court in the Indira Nehru case in 1975. In this case, the Supreme Court struck down a provision of the 39th Amendment Act which had excluded the jurisdiction of all courts in election disputes relating to the Prime Minister and the Speaker of the Lok Sabha. The Court said that this provision is outside the amending power of the Parliament as it strikes at the basic structure of the Constitution. In response to this, the 42nd Amendment Act was passed by the executive. Article 368 was amended in this Act and it was declared that there is no limit to the legislative powers of the Parliament and any constitutional amendment cannot be challenged in the court. Even if it was based on violation of fundamental rights, the Supreme Court in Minerva Mills (1980) case later declared this provision invalid as it did not leave any room for judicial review

which is the basic structure of the constitution. Applying this basic structure principle relating to Article 368 to this case, the Court ruled.

- As the constitution has given limited amendment power to the parliament, therefore, while using the power, the parliament cannot increase it to extreme or arbitrary limits. In fact the limited amending power of the Parliament is one of the basic features of the Constitution. Limitation of this power cannot be destroyed because the giver or user of limited power cannot convert limited power into unlimited power by using that power. Thereafter, in the Waman Rao case (1981), the Supreme Court confirmed the basic structure principle and also clarified that this basic structure principle would apply to constitutional amendments enacted after April 24, 1973, i.e. the day of the Kesavananda Bharati case.



Elements of Basic Structure Theory:

- The current position is that Parliament can amend any part of the Constitution including fundamental rights under Article 368, provided it does not affect the basic structure of the Constitution. However, what are the components of the basic structure has to be defined or clarified by the Supreme Court. Based on various judgments given by the

Supreme Court the following can be identified as the basic structure or its elements:

1. Supremacy of the Constitution
 2. Universal democratic and republican nature of Indian polity
 3. Secular Character of the Constitution
 4. Clear division of power between the legislature, executive and judiciary
 5. Federal nature of the constitution
 6. Unity and integrity of the nation
 7. Welfare state
 8. Judicial Review
 9. Personal liberty and dignity
 10. Parliamentary System
 11. Rule of law
 12. Harmony and balance between the fundamental rights and the Directive Principles
 13. Free and fair elections
 14. Independence of Judiciary
 15. Limited power of Parliament to amend the Constitution
 16. Effective access to Justice
 17. Basic Principles of Fundamental Rights
 18. Powers of Supreme Court under Article 32, Article 136, Article 141 and 142
 19. Powers of High Court under Articles 226 and 227
 20. Principle of equality
- The basic structure doctrine emerged when there was a standoff between the judiciary and the executive. Some constitutional experts believe that the basic structure principle helps in preventing the excesses of the executive, which has also been proven during the Emergency, but some experts consider it against the constitutional spirit because constitutional amendment helps to keep the constitution alive. So it should include changing the basic structure as well.
 - In many cases, the judiciary directly interferes in the working of the executive through excessive judicial activism. Due to which a situation of confusion arises at the ground level. But many times the executive gets diverted from its welfare duty, then the task of controlling it is done by the judiciary itself. The constitution is meant to ensure the welfare of its citizens, therefore, under Article 50 of the Indian Constitution, the judiciary and the executive can establish a just and progressive democracy in India by motivating the public interest by a clear division of their functions.

National Issue

1 **CAMPA Steering Committee Approves Action Plan for 2023-24**

Why in News:

Odisha Government's State-level steering committee for CAMPA (Compensatory Afforestation Fund Management & Planning Authority) has approved an annual plan of Rs.1,086 crore for the 2023-24 fiscal year with a focus on reducing man-animal conflict.

CAMPA New Action Plan, 2023-24:

1. Wildlife Management and Conflict Reduction:

- The committee stressed the need for the relocation of villages from tiger reserve sanctuaries.
- The need to improve Very High Frequency (VHF) networking in all divisions was emphasised to ensure constant monitoring.
- It suggested the engagement of MGNREGS labour as forest labours.

2. Afforestation and Forest Preservation:

- The CAMPA annual plan of operations (APO) for 2023-24 mainly focuses on taking up plantations and other activities such as maintenance of old plantations, forest protection, simultaneous silviculture operations for bamboo forests, soil and moisture conservation activities, etc.

3. Monitoring and Verification:

- CAMPA tracker and satellite imagery will be used every six months for monitoring afforestation programs.
- Plan to upgrade forest roads to Grade-1 metalling, with the material-intensive components such as culverts and causeways to be covered under CAMPA funding.

About CAMPA:

- CAF Act 2016 established an independent body- the Compensatory Afforestation Fund Management and Planning Authority- to execute the fund.
- Compensatory Afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.
- As per the provisions, 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.
- CAMPA funds are part of long-pending dues of the Compensatory Afforestation Fund (CAF), collected as environmental compensation from industry, which has razed forest land for its business plans.
- The funds can be used for the treatment of catchment areas, assisted natural generation,

forest management, relocation of villages from protected areas, reducing human-animal conflicts, etc.

Way Forward:

The proposed objective of the CAMPA funds must be utilised appropriately and efficiently only for afforestation and wildlife conservation activities. The proposed action plan of the Odisha government is a torch-bearing step for other stakeholders to take the required actions.

2 **Hakku Patra Distributed by the PM in Karnataka**

Why in News:

The Prime Minister of India distributed hakku patra or land title deeds to about fifty thousand beneficiaries of the Banjara (Lambani) community in Kalaburagi, Karnataka.

About Hakku Patra:

- The literal meaning of hakku means 'the right' and the Patra means 'paper' or document.
- A hakku patra or title deed is a document that establishes the bearer as the owner of the land/property.
- It is a legal document that states an individual's rightful inheritance of property.
- Generally, it is issued to the country's disadvantaged sections including SCs, STs, slum dwellers, handicapped etc.
- Usually the land under Hakku Patra is government-owned with specific set of conditions attached.

Advantages of Hakku Patra:

- It makes an individual the legitimate owner of land/property by giving official and up-to-date record of who owns the land.
- It is a state-guaranteed document that helps in preventing any encroachment via trespassing on the boundaries.
- It resolves all types of disputes regarding ownership or rights over the land/property.
- It enables owners to avail bank loans with the said document.
- The title deed enables the owner to buy/sell the property/land.

Who are Banjaras?

- Also known as Lambadi, Gour Rajput, Labana, Banjaras are a historically nomadic trading caste who may have origins in the Mewar region of Rajasthan.
- As per the National Informatics Centre (NIC), the term Banjara comes from two sources: 'Banjiya'- trade or 'Banachara'- the forest dwellers.
- Their principal group's name Laban/Labana

is derived from the Sanskrit word 'lavanah' meaning salt as they were salt traders.

- Banjaras are a moving community in different parts of the country, especially during fairs and festivals.
- They are multi-lingual with mother-tongue as 'Banjari'.
- Although considered a tribal group given the life they lead, the Banjaras are a key scheduled caste sub-group in Karnataka.

Way Forward:

These unprivileged communities had to wage a long struggle for their rights and face many difficulties. Distribution of hakku patra is a step in the right direction to give the ownership of land to the rightful owners.

3

Women in Combat Roles

Why in News:

As many as 108 women officers in the Army are set to be cleared for the rank of Colonel S(selection grade) which will make them eligible to command units and troops in their respective arms and services for the first time.

Background:

- Women officers who were inducted in the Army were inducted as Short Service Commission (SSC) officers in 1992.
- They were not allowed to opt for permanent commission except for Army Education Corps and Judge Advocate General (JAG) branches in Army.
- In 2016, Flying officers Avani Chaturvedi, Bhawana Kanth, and Mohana Singh were the first female pilots to be accepted into the Air Force fighter squadron.
- Captain Abhilasha Barak became the first woman officer to join the Army Aviation Corps as a Combat Aviator (pilot).
- With the landmark Supreme Court judgement in 2020, a permanent commission was granted to women officers in Army's non-combat support units, with a retrospective effect.

Importance of the development:

- The presence of women officers in combat roles would grant them parity with their male counterparts.
- Earlier, there were no promotion avenues for women officers to become a Colonel and command a unit except in JAG and Army Education Corps branches.
- With a longer career, women officers can be considered for promotions including to the rank of Colonel and beyond.
- Once promoted to a Colonel, an officer is eligible

to command troops directly in the Army, which is an acknowledgement of the leadership qualities and the officer interacts directly with troops on the ground.

Arms & Services in which women officers command unit:

- Women will command units in streams such as Army Air Defence, Signals, Engineers, Army Aviation, Electronics and Mechanical Engineers, Army Service Corps, etc.
- They are still not eligible for core combat arms such as Infantry, Mechanised Infantry, and Armoured Corps.
- Much of the Army's resistance on this matter stems from past instances where male soldiers were taken prisoners of war and tortured by the enemy.
- However, the army has recently decided to open the Corps of Artillery, a combat support, to women.

Way Forward:

All the major countries including US, UK, Russia, and Israel allow women in command positions of their national armed forces. The selection for command assignments has to be merit-based irrespective of gender since equality is constitutionally guaranteed.

4

Active and Passive Euthanasia and "Living Will"

Why In News:

Recently the Supreme Court clarified that it will not review its 2008 judgement on passive euthanasia but will make the Leaving Will guidelines more practical. A 5 judgement constitution bench was considering a petition seeking amendment to the guidelines for living will advance medical directive issued in 2018. This petition was filed on behalf of the Indian society for critical care.

Background:

- The Supreme Court in its 2011 judgement recognising passive euthanasia in the case of Aruna Shanbaug allowed the removal of life saving equipment from such a patient.
- The law commission in its (August 2012)report recommended passive euthanasia with selective safeguards to the government.
- Decision taken by the Supreme Court in 2018 on a PIL filed by NGOs "Common Cause" to create a will made with a passive euthanasia as a living will.

Observation by the Court:

- The supreme court in its 2018 order on passive euthanasia recognised the 'right to die with dignity' as a fundamental right as an aspect of 'right to live life' under article 21.

- Apex code held that a bedridden patient or a person in a state of Persistent unconsciousness can issue a 'medical directive or living will' while retaining the 'right to die with dignity'.

What is "living will" and "euthanasia":

- A "Living will" is a document that sets out a patient's wishes regarding health care and what happens if they become seriously ill and need to make their choices or not, if unable to communicate then how they should be treated.
- "Living will" is also called active declaration.

The supreme court in its historical decision on 9 March 2018 allowed "passive euthanasia" and "living will" along with some guidelines -

Who can make a "living will":

- Any adult who is healthy and mentally stable and able to communicate.
- Should be able to understand the document and know its consequences.
- "Living will" should be voluntary.
- There should not be any coercion or coercion behind it.

What should be in the "living will":

- Circumstances under which medical treatment is to be withheld or withdrawn.
- The will can be revoked at any time.
- In this "guardian or next of kin" "relative" who will step in to initiate the process of involuntary death.
- If there is more than one "living will" the latest will prevail.

Efforts by the government:

- The draft of the 'passive euthanasia' and 'living will' was released by the 'union health ministry' in 2016 based on the report of the law commission report (August 2012) of India.

Way Forward:

Based on the guidelines given by the supreme court, various expert panels, law commission reports and other civil society suggestions, a law should be made by the government to achieve the process and objectives of "passive euthanasia" and "Living Will" to be.

5 Guidelines for Advertisements in Social Media

Why in News:

Recently, the Central Government has issued guidelines regarding advertisements through social media. According to the new guidelines, it will be necessary to make all kinds of information related to the product and its sale clearly public to the audience.

About the news:

- The Ministry of Consumer Affairs has issued guidelines for Influencers and Celebrities on Social Media under the Consumer Protection

Act, 2019.

- The Department of Consumer Affairs, under the Ministry of Consumer Affairs, Food and Public Distribution, has issued guidelines titled 'Endorsement Know-How!'. Directions have been issued in line with the guidelines laid down by the Consumer Protection Act of 2019.
- Companies, celebrities, internet media, and virtual media will come under the new rules set by the government.

Guidelines Issued:

- The description of the product in any advertisement should be clearly worded.
- Any well-known celebrity, influencer, and social media personality must disclose material or financial benefits from any product with the advertiser. This includes not only benefits and incentives, but also other benefits, including trips or hotel stays, media barter, coverage and prizes, free products with or without conditions, discounts, gifts, and any family or personal or employment relationships.
- There will be a provision of penalty under the Consumer Protection Act 2019 for violation of any kind of rules.
- In the guidelines issued by the Government of India regarding confusing facts on social media, it has been said that the information provided with the products should be in simple and clear language which is easily understood.
- The government has brought this rule with the aim of ensuring the protection of the interests of the consumer in view of the abundance of misleading advertisements on the internet media.

Way Forward:

It is clear that in an increasingly digital world, advertising is no longer limited to traditional media such as print, television, or radio. Therefore, it is very important to be clear about the rules. The income from advertisements on internet media is growing at a rate of 20 percent every year. It is likely to increase to Rs 2,800 crore by 2025. In such a situation, after the introduction of new guidelines, it can be expected that now the advertisements on social media that often confuse the audience will be curbed.

6 23 Tableaux Included in the Republic Day celebration 2023

Why in News:

Recently, total 23 tableaux 17 from various states and union territories like West Bengal, Assam, Arunachal Pradesh, Tripura, and Jammu & Kashmir, and six tableaux from various ministries and departments were displayed on the occasion of the Republic Day celebration across the country. The country's rich cultural heritage, economic

progress, and strong internal and external security were portrayed through this display.

The process to decide Tableaux:

- In September every year, the Ministry of Defence, which is responsible for the preparation of the Republic Day parade and celebrations, begins the process to decide the tableaux after all states, union territories and central government departments send their tableau proposals.

Guidelines for depiction of Tableaux:

- The participants have to display items related to their States/UTs/Departments within the broad theme. This year the themes given to the participants were 75 Years of India's Independence, International Year of Millets and 'Nari Shakti'.
- The tableaux of two different States/UTs should not be too similar, as the tableaux together have to represent the diversity of the country. It cannot contain any writing or logo other than the name of the State/UT/Department. In this exhibition, participants are advised to use eco-friendly materials for tableaux and avoid the use of plastic or plastic-based products.

Selection of the tableau:

- For the selection process, the Ministry of Defence constitutes a committee of eminent persons from the fields of art, culture, painting, sculpture, music, architecture, choreography, etc., who help in short-listing the tableau from the proposals.
- Firstly, the submitted sketches or designs of the proposals are scrutinized by this committee. The sketch should be simple, colourful, and easy to understand and avoid unnecessary details. It should be self-explanatory and should not require any written elaboration.
- If any traditional dance is included in the tableau, it should be a folk dance in which the costumes and musical instruments should be authentic. The proposal must include a video clip of the dance. Once it is approved, participants are required to present their proposals with three-dimensional models, which are then further scrutinized by an expert committee.
- The Ministry of Defence provides a tractor and a trailer to each participant as any other vehicle is prohibited from taking part. However, the participants may replace the tractor or trailer provided by the Ministry with other vehicles, but the total number should not exceed two vehicles.

Way Forward:

India is a country rich in diversity where the ancient heritage is linked deep-rooted with today's

modernity. Organizing such a remarkable exhibition on the occasion of a national festival inspires generations to come as well as the whole world.

7 ASER 2022

Why in News:

Recently, NGO Pratham released the Annual Status of Education Report (ASER) 2022 which is the first full report in 4 years. It is a household survey conducted across 616 rural districts which covers around 7 lakh children in the age group of 3 to 16 years to record their schooling status with respect to enrolment, attendance, and reading and arithmetic abilities.

Findings of the report:

- As schools reopened after almost 2 years, enrolment has touched a record high of 98.4% in the age group of 6 to 14 years. This has gone up from 96.7% in 2014 and 97.2% in 2018. There is also a considerable shift to government schools with rise in number of children enrolled from 65.6% in 2018 to 72.9% in 2022.
- Although there is an increment in enrolment levels, the learning outcomes has declined considerably with basic reading skills hitting harder than numeracy skills. The number of children in grade 3rd who are able to read at least a grade 2nd textbook and do subtraction of at least 2 digits with borrowing were 27.2% and 28.1% respectively in 2018. However, post-pandemic these gaps have widened to 20.5% and 25.9% respectively.
- This decline can be seen in every State, and for children in both government and private schools. States showing a decline of more than 10 percentage points from 2018 levels include those that had higher reading levels in 2018, such as Kerala, Himachal Pradesh, and Haryana.
- The report has highlighted that proportion of students taking paid tuition has gone up from 26.4% in 2018 to 30.5% in 2022. Bihar and Nagaland have shown the highest increment in the number of such children.
- The report has made a remarkable progress in reducing the proportion of girls aged 15-16 years who are not in school. It has declined from 13.5% in 2018 to 7.9% in 2022.

Way Forward:

India is in a phase of demographic dividend. To build a sustainable future and powerful human resource, we must leverage the increase in enrolments. Schemes like NIPUN Bharat should be strengthened to bridge the learning gaps. An integrated holistic approach must be adopted as envisaged by National Education Policy 2020.



International Issue

1 In China's First Population Fall since 1961

Why in News:

China's population has decreased for the first time in 60 years. This is the first fall in China's population since 1961 when the country battled the worst famine in its modern history, caused by Mao Zedong's disastrous agricultural policy known as the Great Leap Forward.

China's population decline:

- According to data published by the National Bureau of Statistics of China, the population of mainland China was 1.411 billion people at the end of 2022, a decrease of 850,000 over the previous year.
- The number of births in China was 9.56 million, a more than 10% drop from 2021. The number of deaths was 10.41 million.

India's Population:

- India has not conducted an official headcount Census since 2011. But going by the United Nations' projections, its population stood at 1,417.2 million in 2022 (more than China's) and is expected to reach 1,428.6 million in 2023.

Why is China's population declining?

One child policy(1980-2015)

- The policy legally restricted families from having more than one baby.
- The policy was intended to further limit China's population growth and help stimulate an economic boom. Ultimately it resulted in low fertility rates and a large ageing population.
- The impact of this was China's TFR, according to its 2020 Census, was 1.3 births per woman below the replacement level.

High-cost of child-rearing in China

- A survey carried out at the time of the introduction of the two-child policy found 70% of respondents cited financial reasons, including costs of education, healthcare and housing for not having many children.

Changing social values in China as families choose to have fewer children.

Impact on China:

Decline in working age population-

- The 16-59 working-age population, as of the end of 2022, was 875.56 million or 62%, down from over 950 million in 2010.
- The share of China's working-age population is projected to fall below 50% by 2045.

High population of dependents-

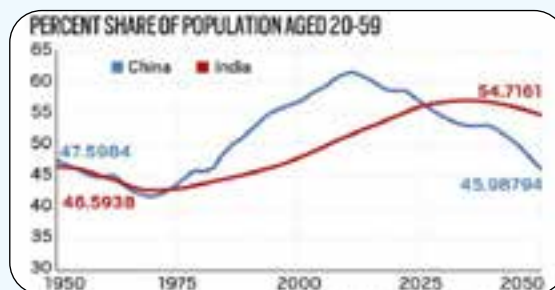
- The above-60 population accounted for 280 million or 19.8%, up from 249 million in 2010.

Skewed sex ratio-

- Men outnumbered women by 722.06 million to 689.7 million.

Opportunity for India:

- India has just begun seeing fertility rates fall to replacement levels, including in rural areas.
- It can leverage its demographic dividend to attract businesses shifting from China due to an increase in labour costs.



How can India utilize this opportunity?

- By creating meaningful employment opportunities for a young population.
- Investing in human capital i.e. in health, education, and skill development.
- Government policies that are directed to promote ease of doing business and attract foreign investment in India.

Way Forward:

The decline in China's population not only gives opportunities but also learning that forced policies for controlling the population can have disastrous consequences, therefore the policies should be based on informed consent.

2 Sri Lankan Debt Restructuring

Why in News:

Sri Lanka has "successfully" completed its debt restructuring talks with India, said President Ranil Wickremesinghe. India sent financing assurances to the International monetary fund (IMF), becoming the first of Sri Lanka's creditors to officially back the crisis-hit island nation's debt restructuring programme. This came days after the two-day visit of S.Jaishankar on January 19 to the island nation.

Debt restructuring talks:

- Sri Lanka, which is trying to secure a much-needed USD 2.9 billion bailout package from the International Monetary Fund (IMF), has been trying to get financing assurances from its major creditors - China, Japan, and India - which is the requisite for Colombo to get the bailout package.
- The IMF bailout has been put on a halt as Sri Lanka pursues talks with creditors to meet the

global lender's condition for the facility.

- Sri Lanka began debt restructuring talks with its creditors in September last year as warranted by its agreement with the IMF.
- Sri Lanka completed its debt restructuring talks with Japan and has also held talks with China's Exim Bank.
- The IMF facility would enable the island nation to obtain bridging finance from markets and other lending institutions such as the ADB and the World Bank.

Reason for Sri Lanka Crisis:

- The severe paucity of foreign exchange reserves due to a fall in exports, decline in tourist activities due to the Covid-19 Pandemic and 2019 Easter attack, and economic mismanagement.

What are other steps taken by India to help the nation?

- India handed financial assistance of nearly USD 4 billion to Colombo last year.
- In January 2022, India announced a USD 900 million loan to Sri Lanka to build up its depleted foreign reserves.
- Later, it offered a USD 500 million credit line to Sri Lanka to fund the country's fuel purchases, which was later expanded to USD 700 million.
- The Indian credit lines since early 2022 have been in use to import essential items and fuel after street protests erupted due to severe shortages of essentials.

Way forward:

India's assistance to Sri Lanka is in line with its tradition of being a good old friend. Further, this will help the Sri Lankan government's effort to revive the country's economy on track. With India getting on board, Sri Lanka's chances to negotiate with Japan and China increases.

3

Survival of the Richest Report: The India Story

Why in News:

Recently, during the annual meeting of the World Economic Forum in Davos (Switzerland), Oxfam International presented a detailed report on income inequality which states that between 2012 and 2021, the richest 1% of the people in India own more than 40% of the total wealth of the country while the poorest 50% of the population own just 3% of the total wealth.

Important points of the report:

- **Gender Inequality:** Highlighting the gender disparity in India, the report said that female workers get only 63 paise against 1 rupee earned by male workers. The situation is even worse for scheduled caste and rural workers, as they earned 55% and half of what the advantaged

social groups earned during 2018 and 2019 respectively.

- **Social Inequality:** According to the report, marginalized communities of the country such as Dalits, Adivasis, Muslims, women, and workers in the informal sector have been affected the most during the pandemic. The poor in India are paying disproportionately higher taxes and spending more on essential goods and services than the rich.

Taxing India's billionaires can help remove the inequality:

- The report says that taxing India's ten richest people at 5% could provide better education for children in school.
- Additionally, if India's billionaires are taxed once at 2% of their entire wealth, it would support the requirement of Rs 40,423 crore for the nutrition of malnourished in the country for the next three years.
- A one-time tax of 5% on the 10 richest billionaires in the country (Rs 1.37 lakh crore) is more than 1.5 times the funds estimated by the Health and Family Welfare Ministry (Rs 86,200 crore) and the Ministry of AYUSH (Rs 3,050 crore) for the year 2022-23.
- Oxfam International is a federation of 21 independent organizations working with partners and local communities in more than 90 countries with a mission to end the injustices that lead to poverty. It works to find practical, innovative ways to lift people out of poverty.

Way Forward:

Citing a nationwide survey by Fight Inequality Alliance India (FIA India) in 2021, Oxfam found that over 80% of people in India support a tax on the rich and corporations that have made record profits during the Covid-19 pandemic. Therefore, the private sector, along with the government, should help the people left behind in the race for development. After taking such steps, we will be able to achieve the concept of a welfare state and India can become a developed country by 2070.

4

India and Russia Begin Joint Manufacturing of AK 203 Rifles in UP

Why in News:

Indo-Russian joint venture Indo-Russia Rifle Private Limited (IRRPL) has started production at Korwa ordnance factory in Amethi Uttar Pradesh. India and Russia signed an agreement to produce 601427 AK-203 assault rifles in December 2021 through Korwa ordnance factory at a cost of Rs 5124 crore. Korwa ordnance joint venture plans to ensure 100% localisation of AK203 rifles production in India. In the past, SIG-716 assault rifles were procured from

the US under the fast track process due to delay in the agreement.

Highlights of the joint Venture:

- IRRPL is a joint venture of three companies.
- Ordnance Factory Board (OFB) which is now 'Advanced Weapon and Equipment India limited' (AWEIL) and 'Munitions India limited' (MIS) India and Kalashnikova of Russia.
- OFB has a 50.5% Kalashnikov 42% and Rosobornexport 7.5% stake in the joint venture.

According to the road map:

- First batch of 5000 AK 203 rifles to be handed over to the army by March.
- In 32 months 70000 rifles will be delivered to the army with 5% to 70% indigenous equipment .
- The entire contract will be executed within a period of 128 months or 10 years in which 100% indigenous equipment will be possible.

About AK 203 rifles:

- AK 203 assault rifle is considered to be the latest and advanced version of AK 47 rifle.
- This will replace the Indian small weapon system (INSAS) and the old AK 47 which has been in service for almost two decades and the INSAS rifles have been facing many technical problems during usage..

Other points:

- The capacity of factories makes it possible to fully equip the personnel of other law enforcement agencies with AK 203 assault rifles.
- The joint venture will be able to export to third friendly countries.
- According to Rosobornexport, in future also Kalashnikov can increase production for the manufacture of advanced rifles based on the assault rifle plate form and upgrade its production facilities .

India-Russia joint military production program:

1. BRAHMOS Cruise missile program.
2. Fifth generation fighter aircraft program.
3. Sukhoi 30 MKI (230 + by HAL)
4. Ilyushin HAL strategic transport aircraft
5. KA - 226 T utility helicopter

Way Forward:

Rosobornexport has said that Russia and India continue to implement schemes on military technical cooperation which will include licence, production, distribution as well as research and development.



Deep crisis in the Horn of Africa

Why in News:

Recently, the United Nations and many other organizations have claimed in their reports that the countries of the Horn of Africa are facing various types of disaster including climate change and drought,

which are being overlooked by the international community.

Regional situation in the Horn of Africa:

- The Horn of Africa is facing its the worst drought in more than four decades. Ethiopia, Kenya, Somalia and Eritrea have had five consecutive deficient rainy seasons. The Global Hunger Index estimates that approximately 52 million, 3.5 million, and 1.8 million people respectively in Ethiopia, Kenya, and Somalia, have difficulty in accessing food. This is the reason that the year 2022 was declared as the Year of Nutrition by the African Union (AU).
- According to the United Nations Office of Sustainable Development (OCHA), about 23.75 million people in the Horn do not have access to sufficient water for drinking, cooking, cleaning and sanitation. Diseases such as cholera and measles are on the rise, leading to fragile and overburdened health systems. In addition, the crisis of food insecurity has increased due to climate change, rising food prices and the impact of the COVID-19 pandemic.

Regional response to food crisis:

- Nearly 500 humanitarian organizations, most of them locally led and community-based, in Ethiopia, Kenya and Somalia are studying drought response. One of the primary ways resources are mobilized to respond to the crisis is through a consolidated appeal at the country level. The Ethiopian government implemented a drought response plan in July 2022, calling for US\$1.66 billion in funding to respond to the food crisis. A "flash appeal" has been on-going in Kenya since 2011 that requires US\$290 million to restart. The situation in neighbouring Somalia is similar to that of Kenya.

Response of the International Community:

- United Nations Food and Agriculture Organization, United Nations Refugee Agency, World Health Organization, World Food Program have also shown active participation for the betterment of this area. The United States has contributed to the humanitarian response in Ethiopia, Kenya, and Somalia. Most of this funding is through the United Nations and the United States Agency for International Development (USAID). The United Kingdom provided US\$156 million to East Africa to play a more active role in the continent. India led the proposal to declare 2023 as the International Year of Millets. Because millet requires less water and agricultural inputs, it could save millions of people from hunger in Africa.

Way Forward:

The effects of climate change are becoming more severe and frequent from few decades. Therefore, it is

the responsibility of the international community to save the Horn of Africa from famine in 2023. For this, adequate funds, social and human security, etc. are needed at the large level.

6

South Korea's Indo-Pacific Strategy

Why in News:

Recently, the Republic of Korea has unveiled its first comprehensive regional strategy, the Indo-Pacific strategy. It aims at reiterating the country's position as a sincere middle power while strengthening its alliance with the US, diversifying its diplomatic partnerships, and advocating a free, secured and prosperous Indo-Pacific.

What it is about?

➤ South Korea has been criticised as a mute spectator of global politics without taking an active part in it. This strategy envisages a dramatic shift from its earlier position which is in line with global expectations. It advocates nine core lines of effort to fulfil the vision of a free, peaceful, and prosperous Indo-Pacific region under the three cooperation principles of inclusiveness, trust, and reciprocity. Till recently, Seoul has found it difficult to balance between alliance and autonomy with the US as its security ally and China as its largest trading partner.

How it can gain leverage in the Indo-Pacific region?

- This strategy requires a larger strategic environment and a network of dynamic relationships in the region. For this, South Korea needs to enlarge its presence by associating with like-minded countries and regional organisations like Trans-Pacific Partnership (TPP), Regional Comprehensive Economic Partnership (RCEP), and ASEAN. It should also associate with the members of QUAD to propagate freedom of navigation and rule of law in the Indo-Pacific region. To counter China's presence, it should work closely with adversaries of China like Vietnam, Japan, India, etc. Moreover, it should diversify its economic partnerships with the Indo-Pacific countries.
- Seoul could leverage its core strengths and expertise in the field of emerging technologies, green growth, digital economy, cyber security, climate change, etc. to participate in the regional economic activities like Indo-Pacific Economic Framework and CHIP-4. Also, being the tenth largest economy in the world, Seoul can increase its trade Official Development Assistance (ODA) and aid within the region.
- The immediate threat for the country is the nuclear aspirations of North Korea. To combat this, it should undertake frequent military drills

with the US and Japan, deploy relevant weapons and develop strategic assets. It has to seek political support from like-minded countries to foster peace on the Korean peninsula. Even Seoul should extend support to promote peace, prosperity, and democracy in the world.

Way Forward:

It is hailed as a good step to augment and advance Seoul's position in the region. But this strategy needs constant revisions in the wake of changing geo-political paradigms.

7

Five Billion People unprotected from trans fat leading to heart disease

Why in News:

World Health Organization (WHO), in its fourth annual status report "Countdown to 2023: WHO report on global trans-fat elimination 2022", warns that Five billion people globally remain unprotected from harmful Trans fat, increasing their risk of heart disease and death. This report monitors global progress towards the 2023 target for the elimination of industrially produced Trans Fatty Acids (TFA). WHO first called for the global elimination of industrially produced trans fats in 2018 with an elimination target set for 2023.

- Trans fats, or trans-fatty acids, are a form of unsaturated fat. They come in both natural and artificial forms. Natural Trans fats occur in the meat and dairy product. They form naturally when bacteria in animals' stomach digest grass. The best known natural trans fat is Conjugated Linoleic Acid (LCA). It is considered beneficial for health.
- Artificial Trans Fats or Industrial Trans Fats are hazardous to health. These fats occur when vegetable oils are chemically altered to stay solid at room temperature, which gives them longer shelf life. Industrially produced trans fat is commonly found in packaged foods, baked goods, cooking oils etc.

WHO STANDARDS or Best Policy-Practices:

WHO established specific criteria to limit industrially produced trans fats.

- Mandatory national limit of 2 grams of industrially produced trans fat per 100 grams of total fat in all foods.
- Mandatory national ban on the production or use of partially hydrogenated oils as an ingredient in all foods.

Concern:

- Trans fat pose health risks that incur huge costs for health systems. Its intake is responsible for up to 5 lakh premature deaths from coronary heart disease each year around the world.
- Currently, 9 of the 16 countries with the highest estimated proportion of coronary heart disease deaths caused by trans fat intake do not have a best-practice policy.
- While Higher- Income countries (North America and Europe) have mostly implemented trans fat elimination policies, In Middle- Income countries, like India, the adoption of such policies is still in nascent stage. Further, no Low-Income countries have yet adopted such policies.

Way Forward:

However, despite substantial progress still 5 billion people worldwide are at risk from trans fat's devastating health impacts with the global goal for its total elimination in 2023 remaining unattainable at this time. In 2023, WHO recommends focusing on four areas for its complete elimination: (i) Best Practice Policy, (ii) Monitoring and Surveillance, (iii) Healthy Oil Replacements, (iv) Advocacy. Eliminating trans fat is cost-effective and has enormous benefits for the health and economy of the country. Every government should stop these preventable deaths by following best-practice policies.



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MAINS | Timing : GS Test : 9:00am-12:00Noon
Essay Test : 1:00pm-4:00pm

26 FEBRUARY 2023
INTERVIEW | Personality Test by a Panel of Retd. & Working Bureaucrats and Professors

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Environmental Issue



1

Neelakurinji Plant listed as a Protected species under WPA, 1972

Why in News:

The Ministry of Environment, Forest and Climate Change (MoEFCC) has listed Neelakurinji (*Strobilanthes kunthiana*) under Schedule III of the Wildlife Protection Act, 1972, including it on the list of protected plants.

About Neelakurinji:

- Neelakurinji is a tropical shrub, native to shola forests in the Western Ghats in South India.
- The plant has been named after the Kunthi River that flows through Silent Valley National Park in Kerala.
- The plant is endemic to a small stretch in the Western Ghats from the Mangladevi hills to the Nilgiris hills.
- It is also found in Shevroy Hills in the Eastern Ghats, Annamalai Hills in Kerala and Sanduru Hills in Karnataka.
- The Eravikulam National Park, near Munnar, is known for widespread blooming of the kurinji, with the next flowering season expected in 2030.
- It is peculiar that it blooms only once in twelve years and usually grows at an elevation of 1300-2400m.
- It is believed that the name Nilgiris (literally means Blue Mountains) itself came from the violet-blue flowers of Neelakurinji.
- The flower has no scent or medicinal value and is one of the rarest plant species, not found in other parts of the world.
- It has been categorised as endangered.

Wildlife Protection Act, 1972:

- The act provides for the protection of wild animals, birds, and plants and for the matters concerned with a view to ensuring the ecological and environmental security of the country.
- It has divided the protection status of various plants and animals into six schedules.
- India is a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which requires specific measures to be taken to enforce the provisions of CITES.

Significance of the new order

- The inclusion of Neelakurinji under Schedule III will invite a fine of Rs.25,000 and three years imprisonment for uprooting or destroying the plant.
- This will regulate the tourists' behaviour in the region.
- As per the order, the department will take action against those who uproot or destroy Neelakurinji

in forest areas, protected areas, and national parks.

Way Forward:

The listing under WPA, 1972 is a significant move that will help in the protection of plant species and their habitats. This will ensure preservation for future generations while ensuring that the tourists continue to enjoy the beauty of the blooming Neelakurinji.

2

Spot-Bellied Eagle Owl and Mottled Wood Owl

Why in News:

A wildlife team recently spotted a 'Spot Bellied Eagle Owl' for the first time in the Seshachalam forest and for the third time in Andhra Pradesh. It was earlier found at Nagarjunasagar Srisailem Tiger Reserve (NSTR).

About the Spot-Bellied Eagle Owl:

- It is a predatory bird that is known for its distinctive spots on the belly.
- The bird makes a strange scream similar to humans and it is hence called the 'Ghost of the Forest' in India and 'Devil Bird' in Sri Lanka.
- Distribution: India, Sri Lanka, Nepal, Bhutan, China, Myanmar, Thailand, Laos, Cambodia, Bangladesh, and Vietnam.
- Prey: prey on large birds and also on mammals like golden jackals, civets, and hares.
- The bird's habitat, found on large trees in thick forests, is spread across the Indian subcontinent.
- Under the IUCN Red List, it is labelled as 'least concern'.
- CITES Status: Appendix II.

Mottled Wood Owl:

- Also spotted in the fields abutting Chamala forest on the Tirupati-Annamayya inter-district border.
- The mottled wood owl is a species of large owl found in India.
- They are found in gardens and thin deciduous forests adjacent to dry thorn forests or farmland.
- Under IUCN Red List, they are also labelled as 'least concern'.

Seshachalam Hills:

- These are the hill ranges of the Eastern Ghats, Southern Andhra Pradesh and South-eastern India.
- The hills are bounded on the west and northwest by Rayalseema uplands and by Nandyal Valley in the northwest.
- Seshachalam hills contain seven peaks namely, Anjanadri, Garudadri, Narayanadri, Neeladri, Seshadri, Venkatadri, and Vrishabhadri.
- Tirupati is also located in this hill range.

Nagarjunasagar Srisailem Tiger Reserve

- Recognised under Project Tiger in 1983, it is the largest tiger reserve in the country.
- The reserve is spread over 5 districts of Andhra Pradesh and Telangana, consisting mostly of the Nallamala Hills.
- Two multipurpose reservoirs are located in the reserve- Srisailem and Nagarjunasagar.
- The Krishna River cuts the basin of this tiger reserve.
- In 1992, it was re-titled as Rajiv Gandhi Wildlife Sanctuary.

Way Forward:

The conservation of wildlife and their habitat should be the most essential agenda of government. Various studies and research of the scholars can be utilised to plan effective conservation methodologies.

3 National Program for Aquifer Mapping and Management (NAQUIM)

Why in News:

Recently, a conference on 'Water Reclamation and Reuse' was organized in Chennai by the Federation of Indian Chambers of Commerce and Industry (FICCI) and the International Water Association (IWA). During this conference, a discussion was also held on the National Aquifer being run by the Union Ministry of Jal Shakti whose objective is to identify the aquifer and availability of water.

About National Program for Aquifer Mapping and Management:

- National Program for Aquifer Mapping and Management (NAQUIM) is implemented by Central Ground Water Board (CGWB) for mapping of aquifers in India.
- It was launched in 2012 based on the recommendations of the 12th Plan Working Group on Sustainable Groundwater Management of the erstwhile Planning Commission (now NITI Aayog).
- Its primary objective is 'Know your Aquifer, Manage your Aquifer' with another major goal being to promote participatory groundwater management.
- Its three dimensions include the delineation and characterization of aquifers, identification, and quantification of issues, and development of management plans to ensure the sustainability of groundwater resources.
- In this collaboration, the support of many research institutes like IIT Kanpur, IISc Bengaluru, National Remote Sensing Agency Hyderabad, Geological Survey of India, and National Geophysical Research Institute Hyderabad are being taken.

What is aquifer mapping?

- Aquifers are permeable rocks or rock formations that hold underground water. According to Central Ground Water Board's 'Aquifer Information and Management System, aquifer mapping is important for our understanding of the geologic structure of aquifers, water levels in aquifers, hydrological characteristics of aquifers, and how water levels change over time.
- Aquifer mapping also helps us to study the occurrence of anthropogenic and natural pollutants that may affect the potability of groundwater.
- It will also help in policymaking in the formulation and monitoring of various groundwater management plans and programs which are essential to achieve drinking water security, improved irrigation facilities, and sustainability in the development of water resources in the country.

About Central Ground Water Board:

- It is a subordinate office of the Ministry of Jal Shakti and is the national apex agency entrusted with the responsibility of providing scientific inputs for the management, exploration, monitoring, evaluation, augmentation, and regulation of groundwater resources of the country. It was established in 1970 under the Ministry of Agriculture and was later merged with the Ground Water Wing of the Geological Survey of India in 1972.

Way Forward:

Such programs play a big role in assimilating the 'Har Ghar Jal Mission' being run by the Government of India and maintaining the groundwater level. Success can also be achieved in water conservation through the use of recycled water, drip and sprinkler irrigation, etc.

4 Rare Duck Species, Greater Scoop seen after 94 years

Why in News:

Recently, a rare species of duck, Greater Scoop, locally known as Sadangman, has been sighted in Loktak Lake in the Bishnupur district of Manipur.

Key Points:

- This rare species of duck was spotted by ornithologist Kumam Jugeshwar and wildlife explorer members from Manipur. Ornithologists said that after 94 years, this is the first incident of sighting of this duck in Loktak Lake.

About the Greater Scoop:

- The Greater Scoop is a medium-sized diving duck species belonging to the Anatidae family. It is the only circumpolar diving duck with the Greater Scoop breeding in the tundra regions

of North America and Europe. They congregate in thousands on the Pacific and Atlantic coasts during the winter.

- They look remarkably similar to the Lesser Scoop, with the only minor difference being the shape of the head, the Greater Scoop has a rounded head while the Lesser Scoop's head is pointed. These underwater divers feed on aquatic invertebrates and plants at the bottom of lakes and bays.
- Its conservation status in the IUCN Red List is the Least Concern. The IUCN Red List categories and criteria are intended to be an easily and widely understood system for classifying species at high risk of global extinction.

About Loktak Lake:

- Loktak Lake is the largest freshwater lake in North East India. This lake is also called the only floating lake in the world. There is a national park on the lake which is Kibul Lamjao National Park. It is the only floating national park in the world. The lake is designated as a wetland of international importance under the Ramsar Convention. Loktak Lake is an important source of drinking water, irrigation, and hydroelectric power for the surrounding area. The lake is also a popular spot for fishing and boating and is home to a variety of aquatic life, including the endangered Sangai deer.

5

Europe's largest known deposit of rare earth elements found in Sweden

Why in News:

Swedish state-owned mining company, LKAB, on January 12 announced that it has discovered more than one million tonnes of rare earth oxides in the Kiruna region located in the northern region of Sweden. This is the largest known deposit in Europe.

What is the significance of the news?

- **Self-sufficiency-** Currently, no rare earths are mined in Europe and according to a report in the BBC, 98 per cent of rare earths used by the European Union are imported from China.
- **Green Energy-** Rare earth materials will serve as a key for the shift to green energy thus reducing EU dependence on Russia.

What are rare earth elements?

- Rare earth elements or rare earth metals are a set of 17 chemical elements in the periodic table — the 15 lanthanides, plus scandium and yttrium, which tend to occur in the same ore deposits as the lanthanides and have similar chemical properties.

What are rare earths used for?

- These elements are important in technologies of consumer electronics, computers and networks, communications, clean energy, advanced

transportation, healthcare, environmental mitigation, and national defence.

- » Scandium is used in televisions and fluorescent lamps
- » Yttrium is used in drugs to treat rheumatoid arthritis and cancer.
- » Rare earth element Cerium, the most abundant rare earth element, is used in space shuttle components, jet engine turbines, and drones.
- **Green Energy-**
 - » Elements like neodymium and dysprosium are used in wind turbine motors.
 - » Rare earth magnets made from Neodymium, boron, and iron is used for making batteries of EVs.

China monopoly over rare earth elements:

- China has over time acquired global domination of rare earths, and produces 60% of the rare earths the world needs.
- China has repeatedly used its monopoly in the rare earths market for furthering its geopolitical agendas.
- To counter China's monopoly over rare earths, the US and 10 other nations formed the Minerals Security Partnership (MSP) in August 2022.

Rare Earth Elements in India

- India has 6% of the world's rare earth reserves, it only produces 1% of global output, and meets most of its requirements of such minerals from China.
- Indian Rare Earths Limited (IREL) is majorly responsible for mining and extraction of primary mineral that contains Rare Earth Elements: monazite beach sand, found in many coastal states.

Way Forward:

However, China's monopoly is likely to persist for the next few years, as experts suggest that it can take years to start operations at the Kiruna mine in Sweden, where the deposits have been found. However it will help in electrification, the EU's self-sufficiency and independence from Russia and China.

6

Artificial sky-glow: Growing light Pollution

Why in News:

According to a study, light pollution is growing rapidly and in some places, the number of stars visible to the naked eye in the night sky are being reduced by more than half in less than 20 years. This is happening because of the Artificial sky-glow.

What is an Artificial sky-glow?

- Artificial sky-glow is a phenomenon when artificial light scattered in the atmosphere raises night sky luminance.
- As the sky brightens up with artificial light, the

fainter objects are not visible to the unaided human eye and disappear.

- It is the most visible negative effect of light pollution.

What is light pollution?

Light pollution is the alteration of night natural lighting levels caused by anthropogenic sources of light. Natural lighting levels are governed by natural celestial sources- the Moon, natural atmospheric emission (airglow), the stars and the Milky Way, and zodiacal light.

What are the impacts of Artificial sky-glow?

As per the study-

- The non-natural light had increased the brightness of the artificial sky-glow by 9.2-10% every year between 2011 and 2022. Specifically, it had brightened annually by about 6.5% over Europe, 10.4% over North America, and 7.7% over the rest of the world.
- Due to this, the stars are disappearing right in front of our eyes at a startling rate and a large number of stars that were once visible to us are no longer visible to us.
- It hinders ground-based optical astronomical observations.

What is the situation in India on Artificial Sky-glow?

A 2016 study reported that 19.5% of India's population the lowest fraction among G20 countries — experiences a level of sky-glow that would at least keep the Milky Way galaxy out of sight and at most render dark adaptation for human eyes impossible. The effects include stimulating the cone cells (which activate in a well-lit environment/during the day) in human eyes.

What are the consequences of this artificial glow on flora and fauna?

Numerous studies have found that artificial light at night affects both people and wildlife in significant ways-

- It can confuse the migratory patterns of animals.
- It can alter their life pattern and make them prone to predators.
- Adverse effects on human health- It can disturb circadian rhythms and the production of melatonin, leading to sleep disorders and other health problems (increased risk of breast cancer).
- Energy wastage- Lighting is responsible for at least one-fourth of all electricity consumption worldwide.

Way Forward:

Light pollution can be reduced easily by shielding lights properly. Behavioural Change- Shifting to LiFE (Lifestyle for the Environment). Only using light when and where it is required and using necessary amount. Using energy-efficient bulbs, and Using bulbs with the right spectral power distributions. Creation of Dark Sky Reserve- Hanle Dark Sky Reserve (Ladakh) is the first International Dark Sky Reserve in India.

7

Importance of Wild Animals of Congo Rainforest

Why in News:

According to the research of Saint Louis University, the World's second-biggest rainforest could lose 6-9% of its carbon capture ability, if the forest elephant goes extinct. The African forest elephant (*Loxodonta cyclotis*) plays a key role in creating forests that store more atmospheric carbon and maintain the biodiversity of forests in Africa.

Forest elephant enhancing carbon capture:

- Each forest has low carbon density and high carbon density trees. The former has light wood while the latter has heavy wood.
- Low carbon density trees grow quickly, rising above other plants and trees to get to the sunlight.
- High carbon density trees grow slowly, needing 2/5 less sunlight and able to grow in shade.
- The African forest elephant strips away the low carbon density trees, which means that it removes the competitors of high carbon density trees. This also enables the sunlight to reach more high carbon density trees.
- The elephants also spread the seeds of the high carbon density trees across the forest through their droppings.
- The research found that these elephants acted as 'gardeners of the forest'. They plant the forest with high carbon density trees and get rid of the 'weeds', which are low carbon density trees.

About African Elephants:

- The African elephants, slightly larger than Asian elephants, are the largest land animals on Earth.
- They have two finger-like features on the end of their trunk while Asian elephants have just one.
- There are two species- Savannah (or bush) elephant and the Forest elephant.
 1. African Savannah Elephant (*Loxodonta africana*)- IUCN status: Endangered.
 2. African Forest Elephant (*Loxodonta cyclotis*)- IUCN status: Critically Endangered.

Congo Rainforests:

- These rainforests cover areas in six countries- Cameroon, the Central African Republic, the Republic of Congo, the Democratic Republic of Congo (DRC), Equatorial Guinea, and Gabon.
- Among these, DRC contains the largest area of rainforest. The rainforest is known for its high level of biodiversity including tree and animal species.

Way Forward:

The research concluded that elephants are directly tied to influencing carbon levels in the atmosphere. The importance of forest elephants for climate change mitigation must be taken seriously by policymakers to generate the support needed for elephant conservation.



1 Hybrid Immunity Most Effective Against Severe Covid

Why in News:

A recent study published in The Lancet Infectious Diseases revealed that hybrid immunity provides better protection against severe Covid infections as compared to immunity gained after vaccination or infection alone. It has applied the Meta-regression model to the dataset consisting of 11 studies reporting the protective effectiveness of previous infection and 15 studies reporting the protective effectiveness of hybrid immunity.

What is hybrid immunity?

- It is an immunity gained from the combination of previous infection and vaccination- either from the primary doses or from the primary and booster doses both. The study has reported that individuals having hybrid immunity have higher magnitude and durability of protection against severe Covid infections and even hospitalisations.
- The study has also recommended that with the fast spreading omicron variants resulting in higher number of people contacting the virus and thus gaining hybrid immunity, the booster doses may be delayed.

What are the findings?

- Protection against severe disease and hospitalisations from a Covid infection alone was found to be 82.5% at three months after the last dose or infection. This protection was found to be 74.6% at 12 months and 71.6% at 15 months. But the protection against reinfection wanes faster, standing at 65.2% at three months and falling to 24.7% at 12 months and 15.5% at 15 months.
- As compared to it, hybrid immunity with just the primary vaccine doses was found to be 96% at three months and 97.4% at 12 months. Also, when compared to protection against reinfection, it offered 69% protection at three months, dropping to 41.8% at 12 months. Moreover, its effectiveness against hospital admission or severe disease stood at 97.4% at 12 months and 95.3% at 6 months with infection coupled with primary series vaccination and booster doses. The same immunity was found to be 68.6% effective at three months and 46.5% at six months with infection or vaccination alone.

Way Forward:

The current Covid surge all over the world (especially in China) due to Omicron sub-variants is instilling

fear in the minds of the international community. Research on hybrid immunity provides necessary insights into the number and timing of vaccinations, especially booster doses.

2 Discovery of Solitary Webs around Mars by Indian Scientists

Why in News:

Recently, Indian scientists have made an important discovery on Mars. In a first-of-its-kind discovery, a team of Indian scientists from the Indian Institute of Geomagnetism (IIG) has reported the first evidence of the presence of solitary webs around Mars.

Main points:

- Solitary webs are specific electric field fluctuations primarily in the Martian magnetosphere that are responsible for controlling energy, plasma loss, and transport through wave-particle interactions.
- Scientists at IIG can discover these with the help of high-resolution electric field data recorded using the Langmuir Probe and the WAVES instrument aboard NASA's Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft.
- The magnetosphere is weak but highly dynamic and is formed by the direct interaction of the solar wind with the Martian atmosphere.
- As per the data collected by the scientists, the magnitude and duration of these pulses are found to be 1–25 mV/m and 0.2–1.7 mS, respectively. They are prominently seen in the morning and afternoon at an altitude of 1000–3500 km around Mars. These solitary waves, dominant in the morning and evening, are still a mystery to scientists in these regions. The findings are published in The Astrophysical Journal, which reports an analysis of 450 solitary wave pulses.

Conclusion:

With this discovery of solitary webs, researchers and scientists will be able to gain new insight into the behaviour of the Martian magnetosphere and can pave the way for studying similar phenomena in the magnetic fields of other planets.

3 Indigenous Mobile Operating System: BharOS

Why in News:

Keeping the Mission of “Made in India” and “Self-Reliant India” in mind, the Indian Institute of Technology Madras-incubated firm has developed an Indigenous Mobile Operating system ‘BharOS’ or ‘Bharat Operating System’ that can benefit India’s 100 crore cellphone users in India. The ‘BharOS’ was

developed by J and K Operations Pvt Ltd, incubated by Pravartak Technologies Foundation, a Not-for-Profit Company established by IIT Madras. The Foundation is funded by the Department of Science and Technology, Government of India, under its National Mission on Interdisciplinary Cyber-Physical Systems.

Features:

- 'BharOS' can be installed on Commercial Off-The-Shelf Handsets.
- It is currently available for organizations having stringent privacy & security requirements; and whose users handle sensitive information that requires confidential communications.
- Unlike Android and iOS, this software comes with No Default Apps (NDA), which means users are not forced to use apps they don't trust, allowing them to have more control over the apps and permissions they require.
- It provides access to trusted apps from organization-specific Private App Store Services (PASS). A PASS provides access to the selected list of apps that meet the security and privacy standards of organizations. This means users can be confident that the apps they are installing are safe to use and that there are no potential security vulnerabilities or privacy concerns.
- It offers Native Over the Air (NOTA) updates that are automatically downloaded and installed ensuring that the software is up-to-date with security and bug fixes. This ensures that the device is always running the latest version of the operating system.

Significance:

- With features like NDA, PASS, and NOTA, BharOS ensures that Indian mobile phones are trustworthy.
- BharOS Mobile Operating System is built on a foundation of trust, with a focus on providing users more freedom, control, and flexibility to choose and use only the apps that fit their needs.

Way Forward

- This innovative system aspires to put India at par with those few countries that currently possess such capabilities. It may emerge as a substitute for Google's Android and Apple's iOS.
- It further promises to revolutionize the way users think about security and privacy on their mobile devices.
- Active collaboration with Private Industry, Government Agencies, Strategic Agencies, and Telecom Service Providers would increase the usage and adoption of BharOS in India. It is a significant contribution towards 'Made in India' and 'Atmanirbhar Bharat'.

4

WHO Calls Action to Protect Children From Contaminated Medicines

Why in News:

The World Health Organization (WHO) has sounded the alarm about substandard and falsified medical products, which have led to the death of at least 300 people, most of them children, in The Gambia, Uzbekistan, and Indonesia. It has called for immediate action against the medicines to protect children.

WHO- global medical alerts:

- Over the past four months, countries have reported several incidents of over-the-counter cough syrups for children with high levels of diethylene glycol (DEG) and ethylene glycol (EG).
- These contaminants are toxic chemicals used as industrial solvents and antifreeze agents that can be fatal, even taken in small amount, and should never be found in medicines.
- The WHO has issued three global medical alerts addressing these incidents.
- These alerts have requested all 194 Member States, inter alia:
 - » The detection and removal of contaminated medicines from circulation in markets.
 - » Increased surveillance and diligence within supply chains of countries and regions likely to be affected.
 - » Immediate notification to WHO if these substandard products are discovered in country.

WHO's global alerts for India-made medicines:

- WHO found that four cough syrups manufactured by Haryana-based Maiden Pharmaceuticals Limited has potentially linked with case of "acute kidney injuries" in Gambia. The four cough syrups were:
 1. Promethazine Oral Solution
 2. Kofexmalin Baby Cough Syrup
 3. Makoff Baby Cough Syrup
 4. Magrip N Cold Syrup
- The WHO said that Ambronol and Dok1 Max manufactured by Noida-based Company Marion Biotech Limited contained unacceptable amounts of diethylene glycol and/or ethylene glycol as contaminants.

Effects of Contaminants:

- DEG and EG can cause abdominal pain, diarrhoea, headache, vomiting, convulsions, affect the circulatory system and cause acute renal failure.
- These medicinal products are unsafe to use, especially in children, and may result in serious injury or death, as per WHO.

About WHO:

- It is a specialized agency of United Nations, founded in 1948.
- Headquarter: Geneva, Switzerland.
- There are 194 Member States, 50 country offices, six regional offices.
- WHO provides leadership on global health matters, shaping the health research agenda, setting norms and standards, etc.

Way Forward:

The contaminated medicines can be potential causes of deaths and diseases. Government should ensure that all medical products are approved for sale by competent authorities and obtainable from licensed suppliers.

5 Rat Cyborg

Why in News:

Recently in the World Science Congress session, India's Defense Research and Development Organization's premium R&D facility presented the Rat Cyborgs. The Hyderabad-based DRDO Young Scientists Laboratory (DYSL) facility is developing the advanced version of a remote-controlled rodent cum robot i.e. Rat Cyborg for Intelligence Surveillance and Recovery Operations (ISR ops).

About Rat Cyborg:

- The Cyborg is a noun used for the combination of living organisms and a machine. The mechanical elements were added for extending the normal living being's abilities.
- Rat Cyborgs are developed for the purpose of intelligence gathering, surveillance and recovery operations.
- The project which was started over a year ago, is now in the second phase. The Proof of Concept has also been secured.
- The DYSL developed the first batch of Standard Laboratory Rodents. In first phase of trials defense scientists have installed the electrode (i.e. an electrical conductor that carries electric current into non-metallic solids) that can receive signals from outside.
- The Rat cyborgs will have cameras mounted on their head and will be guided using electric commands through semi-invasive brain electrodes.
- In second phase of trials, the Rat Cyborgs will be mechanized in a non-invasive way to help precisely in recovery operations. This would include feeding of images in their mounted cameras to find the missing person. As in alike situation of 26/11 Terror attack where more than 200 persons had to be searched.

How does this Technology Works?

- The technology passes certain signals to brain which stimulates the animal to turn, move and stop. These are basically the pleasure points in nervous system, which if touched can enable remote-controlling the animal.
- The significant features of a Rat Cyborg will include the abilities like climbing a wall and hiding from the enemy using their natural ability to camouflage. Along with this, it would also be mounted with cameras for capturing images and other data of a location where released.
- The basic objective of this advanced technology mission is to develop an alternative for more conspicuous robots that have limitations in terms of mobility. The rodents will provide more flexibility.
- This Animal Cyborg Technology is already present in China, where even remote beetles have been created.



The benefits Associated with this technology would include:

- A flexible and précised alternative to remote-controlled robots.
- Natural camouflaging animals provide a safer alternative to human spies.
- It will be significantly helpful in Border areas for surveilling the activities of non-state actors, terrorists, and insurgents both in the western, and eastern sectors and also in Naxalites regions.
- Also helpful for Law and Order agencies like Police and para-military forces in conducting search operations, etc.
- Besides these benefits, the cyborg technology is going to be an expensive tool. It would also include skilled manpower for its operation and maintenance.
- The above-mentioned benefits of the animal cyborg technology would certainly strengthen the ISR capabilities of the Indian Armed Forces and increase the potential of Indian Defense arrangements export potential.

6

Researchers Explain How Galaxies Were Much Different in the Early Universe

Why in News:

A new paper published in Astrophysical Journal reports that Hydrogen Epoch of Reionization Array (HERA) telescope now searching for radio signals from cosmic dawn, an era around 200 million years after the Big Bang when stars ignited.

Findings by the Telescope:

- While not yet detecting this radiation, the redshifted 21-centimeter line they have put new limits on the elemental composition of galaxies during the Epoch of Reionization. While they have yet to actually detect radio emissions from the end of the cosmic dark ages, their results do provide clues to the composition of stars and galaxies in the early universe. In particular, their data suggest that early galaxies contained very few elements besides hydrogen and helium, unlike our galaxies today.
- Cosmic dark ages were a time when the universe was enveloped by a fog of neutral hydrogen that trapped the light of the first stars and galaxies.
- Specifically, the data show that the earliest stars, which may have formed around 200 million years after the Big Bang, contained few other elements than hydrogen and helium. This is different from the composition of today's stars, which have a variety of so-called metals, the astronomical term for elements, ranging from lithium to uranium, that are heavier than helium. The finding is consistent with the current model for how stars and stellar explosions produced most of the other elements.

Difference between HERA and other telescope:

Other telescopes also are peering into the early universe. The new James Webb Space Telescope (JWST) has now imaged a galaxy that existed about 325 million years after the birth of the universe in the Big Bang. But the JWST can see only the brightest of the galaxies that formed during the Epoch of Reionization, not the smaller but far more numerous dwarf galaxies whose stars heated the intergalactic medium and ionized most of the hydrogen gas.

About HERA:

The Hydrogen Epoch of Reionization Array (HERA) is a radio telescope dedicated to observing large scale structure during and prior to the epoch of reionization. HERA is intended to observe the early universe

Conclusion:

HERA seeks to detect radiation from the neutral hydrogen that filled the space between those early stars and galaxies and, in particular, determine when that hydrogen stopped emitting or absorbing radio waves because it became ionized. The fact that the HERA team has not yet detected these bubbles of ionized hydrogen within the cold hydrogen of the cosmic dark age rules out some theories of how stars evolved in the early universe.

7

Earth's Inner Core Rotates Slower Than Surface

Why in News:

A new study published in the journal Nature Geoscience has revealed that Earth's inner core is rotating slower than its surface.



The internal structure of the Earth:

The structure of the earth is divided into four major parts: the crust, the mantle, the outer core, and the inner core. Each layer has a unique chemical composition, and physical state,

and can impact life on Earth's surface. The inner core is situated roughly 5,000 kilometres below the earth's surface and is mainly composed of iron and nickel in a solid state. It is the hottest layer of the Earth with temperatures up to 5,500 degrees Celsius. Due to floating on the outer liquid core, it can spin independently.

Findings of the research:

- The study has analysed seismic waves from repeating earthquakes over the last six decades. The authors of the study have stated that the inner core oscillates back and forth like a swing relative to the Earth's surface. One swing cycle is of seven decades which is in conformity with the "length of day"—small variations in the exact time it takes Earth to rotate on its axis.
- In the early 1970s, inner core was rotating slightly faster than the surface. But there is a "downtrend" in rotating speed before coming in sync with Earth's rotation around 2009. There since has been a "reverse trend" with inner core moving slower than the surface. The research predicted that the next change would occur in the mid-2040s.
- But this study is highly debatable among scientists because very little is known about the inner core—chiefly based on measuring small variations in seismic waves due to earthquakes or sometimes nuclear explosions.
- According to another research published last year, the inner core spins more quickly with one swing cycle lasting about 6 years. Another research suggested this cycle to be 20 to 30 years. This is because these mathematical models explain the observed data but are not required by the data.

Way Forward:

Although there is a subtle divergence in the geophysical community over the findings, there is one thing clear that any change in the inner core may impact the life on the surface.



Economic Issues



1 CII Business Confidence Index

Why in News:

The Confederation of Indian Industry (CII) has reported that the latest CII Business Confidence Index for the October-December quarter rebounded to its highest reading in almost two years, with a value of 67.6.

Highlights of the recent CII Business Confidence Index:

- The index is based on the findings of a survey of over 120 firms of varying sizes across all industry sectors and regions in the country.
- It witnessed an increase from 62.2 in the previous quarter, reflecting optimism around India's position despite rising global uncertainties.
- The CII states that the sharp improvement in the value of the index was due to subsiding concerns about the impending recession and its impact on the Indian economy.
- The latest first advance estimates of GDP for the current fiscal put the GDP print at 7%.
- Around 52% of respondents expect recovery during the first half of the fiscal while about 37% of them are foreseeing a pickup in investments in the second half of the year.

About Business Confidence Index (BCI):

- It provides information on future developments, based on opinion surveys on developments in production, orders, and stocks of finished goods in the industry sector.
- The index can be used to monitor output growth and anticipate turning points in economic activity.
- Numbers above 100 suggest increased confidence in near future business performance, and below 100 indicate pessimism towards future performance.

About Confederation of Indian Industry (CII):

- CII is a non-government, not-for-profit, industry-led and industry-managed organization.
- It is headquartered at New Delhi and was established in 1895.
- Objective: to create and sustain an environment conducive to the development of India, partnering industry, Government and civil society, through advisory and consultative process.
- Through Brand India Campaign, CII strives to build brand salience for India by positioning it as a "Globally Competitive and sound investment destination and as a Reliable Partner to do business with."

Way Forward:

With a resumption of business activities, expectations for the Oct-Dec quarter have improved. The Business Confidence Index reflected optimism around India being in a safe spot despite the rising global economic uncertainties.

2 High Court spikes Yes Bank's AT-1 bond write-off

Why in News:

The Bombay High Court set aside a March 2020 decision by the banking regulator and the Yes Bank administrator to write-off Rs.8415 crore worth of the bank's additional tier-1 bonds as part of a bailout for the private lender.

What are AT1 Bonds?

- AT1 bonds, also called perpetual bonds, are a type of debt instrument with no maturity date.
- The issuer possesses the call option that permits them to redeem these bonds after a certain period, especially when interest rates are falling.
- They are like any other bonds issued by banks and corporates but pay slightly higher rates of interest compared to other bonds.
- Banks issue these bonds to bolster their core capital or tier-1 capital base to meet the Basel-III norms.
- AT1 bonds are subordinate to all other debt and only senior to common equity.
- Banks issuing these AT1 Bonds can skip interest pay-outs for a particular year or even reduce the bonds' face value.
- These bonds are also listed and traded on the exchange.
- Regulated by the Reserve Bank of India (RBI).

Yes Bank Write-Off issue:

- AT1 bonds are considered high risk because, in case of an institutional failure, the banks are allowed to stop paying interest and, if needed, write-off these bonds.
- Importantly, when the issuer crosses the point of non-viability, AT1 bonds are the first part of the debt that will be written off, as happened in the case of Yes Bank.
- Yes Bank, which was on a verge of collapse, was asked by the RBI to write-off AT1 bonds as a part of a restructuring plan to rescue the bank.
- A write-Off is when the loan is no longer counted as an asset and money invested in the bank is no longer counted as the liability of the bank.

Way Forward:

Generally, investors in the market get attracted to

higher returns through AT1 bonds. After the Yes Bank episode, experts view these bonds with caution. However, quashing the write-off of Bonds is the right step, that will benefit all bondholders and give relief to all the investors.

3

SEBI launches Information Database on Municipal Bonds

Why in News:

The Market regulator, the Securities and Exchange Board of India (SEBI), has launched an information database and a repository on municipal bonds to develop the bond markets.

About Information Database:

It contains a wide range of:

1. Statistics and regulations,
 2. Circular,
 3. Guidance note, and
 4. Frequently Asked Questions issued by SEBI in respect of municipal debt securities.
- The repository contains various checklists for pre-listing requirements and sample letters and certificates from various intermediaries to be obtained by an issuer who plans to tap the municipal bond market.

About Municipal Bonds:

- A municipal bond or muni-bond is a debt instrument issued by municipal corporations or the associated bodies in India.
- It is raised for money financing specific projects for socio-economic development through building bridges, schools, hospitals, providing proper amenities to households, etc.
- These bonds come with a maturity period of three years, whereby the returns are provided from the revenues generated by municipal corporations.
- According to SEBI regulations (2015), to issue such bonds, municipalities must-
 1. Not have negative net worth in any of the three preceding financial years,
 2. Not have defaulted in any loan repayments in last one year.
- Following these measures, different cities have capitalised on the new guidelines to fund initiatives such as Atal Mission for Rejuvenation and Urbanisation (AMRUT) and Smart Cities Mission.
- Bengaluru Municipal Corporation floated municipal bonds for the first time in India in 1997, followed by Ahmedabad in 1998.

Types of Municipal Bonds:

These bonds are primarily of two types, categorised on the basis of their usage:

- General Obligation Bonds- to raise finances for general projects such as improving infrastructure of a region.
- 2Revenue Bonds- to raise finance for specific

projects such as construction of a particular building.

Way Forward:

This initiative by SEBI is an effort to raise awareness of people and develop bond market in India. The growth of municipal bond market is critical for India's large cities and towns to upgrade infrastructure. This will help Urban Local Bodies (ULBs) to garner revenue to complete budgetary projects.

4

The Economic Crisis in Pakistan

Why in News:

Pakistan is facing a severe economic crisis amid the global recession triggered by Covid-19. The World Bank has pegged the country's growth at just 2% for this financial year.

What are the factors responsible for it?

- The main causes behind Pakistan's crawling economy are its mounting debt and dwindling forex reserves. Being an indispensable part of the Belt and Road Initiative, the Pakistani economy has become chief prey to China's debt trap diplomacy. According to the International Monetary Fund (IMF), by April 2021 Pakistan's external debt stood at \$90.12 billion and around \$27.4 —\$24.7 billion of its total external debt is owed to China.
- Moreover, the forex reserves in the State Bank of Pakistan has touched the lowest mark of \$4.34 billion recently which could only survive for two weeks. This shrinking in forex reserves is due to repayment of earlier debts and diminishing remittances to Pakistan. This is accentuated by a catastrophic flood that hit the nation in 2022 costing \$30 billion to its economy. It has increased Pakistan's dependence on imported goods other than oil while reducing its exports.
- Apart from this, skyrocketing inflation and a weak currency are making the situation even worse. The Pakistani Rupee has fallen nearly 30% in 2022 as compared to the US dollar with an inflation rate accelerating up to 23% in FY23. All of this has been aggravated by inefficient leadership which has failed in managing recurring financial crises and soaring fiscal deficit. Too much interference by the army in governance and frequent coups are other reasons.

Impact on India:

- Being a neighboring country, India should take note of Pakistan's perishing economic conditions. Although there is not much direct trade between India and Pakistan, there is a lot of indirect trade through countries like Saudi Arabia, Singapore, and Mauritius. Moreover, both countries share platforms at regional and international institutions. But here, the chief

concern is strategic security and safety of India. Instability in neighboring countries could trigger refugee crises and even power capture by non-state actors as demonstrated in Afghanistan. Pakistan may resort to illegal means for its faster recovery. Thus, while pursuing her Neighborhood First Policy, India must take care of her sovereignty and integrity.

Way Forward:

The Pakistani government has adopted several measures to tackle the situation. The country is also receiving the IMF's bailout package and loans from other friendly countries. But it is noteworthy that all of this financial help is in the form of loans which will further increase its mounting debt and yearly debt servicing requirements. A long-term holistic approach needs to be deduced for gradual economic recovery and to avoid such situations in the future.

5

Risk to Transition to Clean Energy

Why in News:

According to a study in the Global Environmental Change journal, India's financial sector is highly exposed to the risks of the economy transitioning towards clean energy because of being largely dependent on fossil fuels.

Why at risk?

High exposure to fossil fuel-related sectors- India's financial sector is highly exposed to activities related to fossil fuels and any transition from fossil fuel to clean energy will have a negative impact on this sector. For instances-

- 60% of lending to the mining sector is for oil and gas extraction.
- 20% of the manufacturing sector debt is for petroleum refining and related industries.
- Electricity production through the largest source of carbon emissions accounts for 5.2% of outstanding credit.

Shortage of Experts-

- There is a shortage of experts in India's financial institutions who have the expertise to appropriately advise the institutions on the transition from fossil fuel to clean energy.

Lack of planning-

- Only four of the ten major financial institutions surveyed in the report collect information on environmental, social, and governance (ESG) risks in the transition to clean energy.
- Further, these firms do not systematically incorporate the data related to risks into their financial planning.
- Less Capacity to respond to Shocks and Stresses- The fossil fuel industries are heavily indebted, and therefore have the less financial capacity to

respond to shocks and stresses. For instance- High-carbon industries like power generation, chemicals, iron and steel, and aviation account for 10% of outstanding debt to Indian financial institutions.

What is the impact of high exposure of financial institutions to fossil fuel-related sectors?

The financial decisions of Indian financial institutions are forcing the country into a more polluting and expensive energy supply. For example-

- Only 17.5% of the bank lending to the power sector is made to pure renewable energy.
- India has much higher energy from carbon sources than the world average. For instance-
- Coal currently accounts for 44% of India's primary energy sources and 70% of its electricity generation.
- India has 91,000 MW of new proposed coal capacity in the works, second only to China.

Way Forward:

Though there is high exposure to risks to fossil fuel related sector, there is an opportunity for investing in clean energy sectors such as-

- In 2021, India committed reaching net-zero emissions by 2070.
- According to the Draft National Electricity Plan 2022, coal's share in electricity generation will decrease to 50% by 2030.
- India has announced plans to source half of its electricity needs (50%) from non-fossil fuel sources by 2030.

This will require financing of at least a trillion dollars to meet these commitments. Along with this-

- India is expected to launch its first-ever sovereign green bond auction worth Rs. 40 billion.
- India's presidency of G20 has a focus on energy transition and mobilizing sustainable finance.
- This would result in cheaper electricity, cleaner air, and fewer emissions.

6

Bangladesh Economic Crisis: Multiple Aspects

Why in News:

The 'Financial Stability Assessment Report' for July-September 2022 by Bangladesh Bank said that Bangladesh's economy is facing pressure due to a rise in inflation and a fall in export amid geopolitical tension and supply chain disruption. This is happening at the time when Bangladesh reached out to the International Monetary Fund (IMF) seeking economic assistance worth \$4.5 billion in December 2022. This is a significant reversal for an economy that overtook India's in terms of per capita income in 2020.

What is the reason for the economic crisis?

- **The increasing cost of imports-** Russia- Ukraine conflict resulted in increase in prices of crude

oil on which Bangladesh is largely import dependent.

- **Declining Exports-** Bangladesh has been hugely dependent on its export earnings, but as the western economies are slowing down the exports are declining.
- This has resulted in the widening of the Current Account Deficit.
- Fall in remittances due to Covid-19 restrictions around the world.
- Bangladesh's currency, the Taka, depreciated under the pressure of the increase in the value of the US dollar and the worsening of the current account deficit.
 - » In December 2021, it took 86 Taka to buy a US dollar which worsened to 106 Taka in January 2023.
 - » A weaker Taka further aggravated inflation as imports became costlier.
 - » This resulted in depletion of Bangladesh's foreign exchange reserves.
 - » In December 2021, the forex reserves were valued at \$46,154 million. As of now, they are just \$33,790 million.
- **Inflationary pressure-** The inflation rate in December 2022 was 8.71% as against 6.05% in December 2021 primarily due to crude oil becoming costlier.
- **Other reasons-**
 - » High cost of infrastructure projects, often described as "mega projects".
 - » Crisis in the banking sector due to widespread default of loans.
 - » Inefficient energy production.
 - » Capital flight.

Multiple aspects of the crisis:

Energy crisis- The various cities of Bangladesh faced numerous blackout and protest by citizens due to increase in energy prices. Reversal of gains in human development-In 2020, the per capita income of an average Bangladeshi citizen was more than the per capita income of an average Indian citizen. However this is reversing due to-

- Weakening of Bangladesh's GDP in the Manufacturing sector as it was the sector that pushed millions of people out of poverty.
- Rising Unemployment.

The surge of radical Islam

- Islamic fundamentalism and violence are on the rise in Bangladesh like- Anti-France protests, violent protests during the Indian Prime Minister's visit, and communal violence in Comilla.
- Due to economic crisis and protest, the influence of such groups particularly Hefazat-e-Islam is increasing and this can be detrimental to India.
- The decline in popularity of the Sheikh Hasina government which has a pro-Indian attitude.

Way Forward:

Any widespread crisis in Bangladesh has repercussions in India like migration crisis and radicalisation. Therefore, India can aid Bangladesh to secure a loan from IMF and multilateral institutions like ADB, JICA, etc.

7

New proposal for Tax-paid Green Bonds

Why in News:

Recently the Ministry of Power has proposed the issuance of tax-paid green bonds by some power financing companies, in their set of demands to be included in Union Budget 2023-24. It has also asked the finance ministry to give the three non-banking finance companies access to RBI's liquidity fund. Similar to the facility of dispensation available to the National Bank for Agricultural and Rural Development (NABARD) and the Small Industries Development Bank of India (SIDBI).

What is proposed?

- The Indian Power ministry has proposed allowing some power companies to issue tax-paid green bonds to raise cheaper finance for lending to clean projects. Power Finance Corporation (PFC), REC Ltd, and Indian Renewable Energy Development Agency (IREDA) are proposed for the issuer's authority.

What are Tax-paid Green Bonds?

- Green Bonds are debt instruments to raise funds for new and existing environmental projects which deliver environmental benefits, and a more sustainable economy. These bonds are lucrative for investors while also marginal reducing the cost of funds for the issuer (as there is difference between issuer's tax rate and investors' tax bracket).

Aim of the Proposal:

- This move is proposed to increase the capital availability (Cheaper Finances) for sustainable and clean energy initiatives so that India can achieve 500GW of Non-Fossil Fuel Energy by 2030 and become a Net Zero Carbon Emitting Nation by 2070.
- The power ministry has also proposed PFC as the nodal agency for climate financing to raise cheaper funds from Multilateral agencies. As Commercial banks' lending is relatively more expansive than Green bond's raised funds.
- The PFC is a Public Sector Unit and the backbone of the power sector.

Way Forward:

As this move will provide more alternatives and enable climate financing at a smoother pace, the issue of misutilisation of green bond proceeds and the short-term period of the bond should also be considered for redressal. To make the Indian Economy future-ready, climate financing alternatives should be made more enlarged and accessible.

Miscellaneous Issues

1 FSSAI Survey on Dietary Supplements

Why in News:

Nearly 15% of food items including protein powders, and dietary supplements used by athletes and bodybuilders sold in India were found to be unsafe for consumption or substandard, a survey by the Food Safety Standard Authority of India (FSSAI) has found.

About FSSAI Survey:

- The survey was conducted between 2021 and 2022 in an effort to curtail the sale and distribution of substandard dietary supplements, which have become increasingly popular among fitness enthusiasts.
- It found that 4,890 out of 144,345 samples collected were substandard, and over 11,482 samples had labelling defects and misleading information.
- Unsupervised consumption of such poor-quality products can affect cardiovascular health and kidneys.

About FSSAI:

- FSSAI is an autonomous body created under the Food Safety and Standards Act, 2006 (FSS Act).
- It works under the aegis of the Ministry of Health & Family Welfare, GoI.
- It regulates and monitors manufacturing, processing, and distribution of food while ensuring safe and wholesome food to consumers.
- Headquarter- Delhi
- Functions of FSSAI-
 1. Framing of regulations to lay down the standards and guidelines of food safety.
 2. Granting FSSAI food safety license and certification for food businesses.
 3. Provide suggestions to the government in framing the policies.
 4. Collecting data regarding contaminants in food products, identification of emerging risks and introduction of rapid alert system.
 5. Promote general awareness about food safety and food standards.
- FSSAI comprises a chairperson and 22 members out of which one-third are to be women.
- Central Government appoints the chairperson.

Way Forward:

The results of FSSAI survey reveal the requirement of strict regulations and monitoring of the production and sale of protein powder in the market. The food regulator has launched criminal and civil cases and imposed penalties on the violators.

2 Missing Doctors: Dilapidated Condition of Rural Healthcare Infrastructure

Why in News:

Recently, the Ministry of Health and Family Welfare published the Rural Health Statistics Report 2021-22. The report is an annual publication of MoHFW since the year 1992 which provides data on health infrastructure including manpower up to 31st March of every year.

About the report:

- This report serves as a vision document in identifying the gaps in the existing healthcare infrastructures and human resources vis-à-vis rural, urban, and tribal areas of the country.
- It also provides valuable information to citizens and policymakers.
- According to the report, India is facing an acute shortage of specialist doctors, with a shortfall of 80% of the required specialists at Community Health Centres (CHCs).
- This figure was around 76% in the previous report.

Key findings:

1. Status of Health Centres:

- The healthcare infrastructure in rural areas is a three-tier system-



- The report has revealed that each SC catered to an average of 5691 people, each PHC to 36049 people, and each CHC to 164027 people against the sanction norms of a population of 3,000-5,000 for SC, a population of 20,000-30,000 for PHC, and a population of 80,000-1,20,000 for CHC.

2. Urban Health Statistics:

- The population catered by an Urban PHC may vary from 50,000 to 75,000 and Urban Community Health Centre (U-CHCs) is set up as referral facility for every 4-5 U-PHCs. Thus,

U-CHC caters to a population of 2,50,000 to 5 lakhs. But there are vacancies for 18.8% of doctors, 16.8% of pharmacists, 16.8% of lab technicians, and 19.1% of staff nurses at the U-PHCs (Urban PHCs).

3. Rise in Number of Allopathic Doctors:

- The report states that there is a rise of over 50% in the number of allopathic doctors in primary health centres since the launch of the National Rural Health Mission in 2005.

4. Shortage of specialist doctors:

- According to the report of the Health Ministry, there are 6,064 CHCs in India but 67.8% of sanctioned posts of specialists are vacant at these CHCs. These vacancies range from different departments including surgery, obstetrics and gynaecology, physicians, and paediatricians. Although the number of CHCs are growing but induction of specialists to make these CHCs functional has not grown at the same pace.
- Moreover, there is a shortage of female health workers and auxiliary nursing midwives, with around 14.4% of posts lying vacant in PHCs and SCs.

Way Forward:

It is the dire need of the hour to revamp and reform the public healthcare system in rural India through constant funding and outsourcing. Each centre should be provided support services according to their needs. Moreover, nursing orderlies should be trained in the assistive procedures required for surgery in case of emergency.

3 Rajasthan: First State to Implement Blindness Control Policy

Why in News:

Recently, Rajasthan has become the first state in India to implement a new policy to control blindness with the aim of ensuring the “right to sight”.

About the new policy:

- The Medical and Health Department released a policy document on the Prevention of Blindness which aims to bring light to the lives of over three lakh visually impaired people in the state.
- Under this policy, the Rajasthan government will compulsorily arrange Keratoplasty Centre and Eye Bank in all Government Medical Colleges.
- With the help of voluntary organizations, trusts, hospitals, charitable organizations and private organizations working in the area, efforts will be made to remove blindness.
- Under this policy, special training will be given to eye specialists, eye surgeons, postgraduate students, counsellors working for eye donation and eye assistants etc.

- The National Program for Control of Blindness and Visual Impairment was launched by the Central Government in 1976.

About National Program for Control of Blindness and Visual Impairment:

- It was initially a 100% Central Sector Scheme which is now centrally sponsored (60:40 for other States and 90:10 for North Eastern States).
- In the year 2020, the prevalence rate of blindness in the country was 1.1%, while the target was to reduce it to 0.3% through this policy.
- It seeks to develop and strengthen the NPCB's strategy for eye health for all and prevention of visual loss.
- Through this, provision of comprehensive universal eye-care services and quality service delivery will be ensured.
- Further, it envisages to enhance and expand research into the prevention of blindness and visual impairment.

Way Forward:

In today's scientific age, there is the potential for much research that revolutionize a person's life. Impaired people are also God's creation, who have immense power to achieve something. In the future, society, especially the youth, needs to play a bigger role in their betterment. It is up to society, that must find better and more effective ways to ensure the inclusivity of these people who at times are merely disabled due to social construct of a society.

4 Pyramid-like Ahom Burial Mounds in Assam to Vie For UNESCO Tag

Why in news:

The Centre has decided to nominate Assam's Charaideo Maidams- the Ahom equivalent of the ancient Egyptian pyramids- for the UNSECO World Heritage Site for the year 2023-24.

Details of the nomination:

- The Maidams will be nominated in the category of cultural sites.
- As of now, there is no World Heritage Site in the category of cultural heritage in the North-eastern region.
- Manas and Kaziranga National Parks in Assam are World Heritage Sites under the natural category.
- This nomination has attained significance at a time when India is celebrating the 400th birth anniversary of Lachit Borphukan, the legendary Ahom General who is known for his battle against Mughals in 1671.

About Charaideo Maidams:

Charaideo, located more than 400 km east of Guwahati, was the first capital of the Ahom dynasty founded by Chao Lung Siu-Ka-Pha in 1523.

- The Charaideo Maidams enshrine the mortal remains of the members of the Ahom royalty who used to be buried with their paraphernalia.
- Maidams represent the late medieval (13th-19th century CE) mound burial tradition of the Tai Ahom community in Assam.
- The mound-burial system of Ahoms can be likened to the royal tombs of ancient China and the Pyramids of the Egyptian Pharaohs (kings of ancient Egypt).
- After the 18th century, the Ahom rulers adopted the Hindu method of cremation and began entombing the cremated bones and ashes in a Maidam at Charaideo.
- Maidams can be seen in different parts of Northern Vietnam, Laos, Thailand, Burma, South China, and Northeast India- together constituting the Ta-Ahom culture.

UNESCO World Heritage Site:

- The Convention Concerning the Protection of the World Cultural and Natural Heritage 1972 provides a framework for international cooperation in preserving and protecting cultural treasures and natural sites.
- The sites are categorised as-
 1. Cultural Heritage Sites
 2. Natural Heritage Sites
 3. Mixed Heritage Sites
- Sites in India- a total of 40
 1. 32 cultural sites
 2. 7 natural sites
 3. 1 site under the mixed category

Way Forward:

The nomination of the site for the UNESCO tag will help preserve the centuries-old monument. It will bring value to the history and culture of the Tai community.

5 Global Gender Gap Report

Why in News:

On the demand of India, World Economic Forum (WEF) will rank countries based on the participation of women at the panchayat level in its upcoming Global Gender Gap report.

About the Global Gender Gap Report:

- This index is being published since 2006 and gives comprehensive data based on four key dimensions, namely – economic participation and opportunity, educational attainment, survival and health, and political empowerment.
 1. Economic Participation and Opportunity (Percentage of women in labour force, Wage Equality for similar work, Earned income)
 2. Educational Attainment (Literacy Rate and the Enrolment rates in Primary, Secondary and Tertiary education)

3. Health and Survival (Sex ratio at birth and Healthy Life Expectancy)
4. Political empowerment (Percentage of Women in Parliament and in Ministerial Positions)

- The annual Global Gender Gap Report is an instrument used by the World Economic Forum (WEF) to highlight where different countries stand on gender parity in comparison to their positions in the previous year. The Report investigates whether the countries have progressed or plummeted in terms of gender equality.
- The GGGR helps countries track their progress, and fosters healthy competition to achieve gender equity goals. Countries can treat each other as examples and learn from each other's experiences, policies, and programs, and also look at what works and what does not, in an attempt to bridge gender gap effectively.

What is the Performance of India in the 2022 Report?

- World Economic Forum (WEF) ranked India at 135 out of 146 countries in its Global Gender Gap (GGG) Index for 2022. In 2021, India was ranked 140 out of 156 countries.
- India's overall score has improved from 0.625 (in 2021) to 0.629, which is its seventh-highest score in the last 16 years.
- Iceland has retained its position as the world's most gender-equal country, among 146 nations on the index.
- Finland, Norway, New Zealand and Sweden are the top five countries on the list respectively.
- Afghanistan is the worst-performing country in the report

India's concerns regarding the WEF report:

- Ignoring political participation at the panchayat level and bringing about a flawed and unjust view on women empowerment.
- For women's political participation, the WEF looks at the number of women in the Union Cabinet and members in both houses of Parliament.
- Given that there are 1.4 million women in the Indian panchayat system, the WEF's decision to include this for ranking is a major victory for India.

World Economic Forum:

- The World Economic Forum is an international non-governmental organisation based in Geneva, Switzerland. It was founded on 24 January 1971. It was recognized by the Swiss authorities as the international institution for public-private cooperation.
- Its major objective is to improve the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas.

Conclusion:

World Economic Forum (WEF) will take into account the participation of women at panchayat level to rank countries in its future Global Gender Gap reports, which will better India's position at the global level. At the same time it shows increasing stature of India's in global arena.

6 ASI All Set to Begin Excavation at Purana Qila again

Why in News:

Archaeological Survey of India, is all set to begin excavation at Delhi's 16th Century's Purana Qila again. This would be the third season of excavation at Purana Qila after excavations in the year 2013-14 and 2017-18. The excavation team will be led by Vasant Kumar Swarnkar.

Objective:

- The objective of the latest excavation is the exposure and preservation of the trenches that were excavated in previous such exercises.
- The focus would be to accomplish the traces of Painted Grey Ware (PGW) findings in a stratigraphical context.

Archaeological Importance:

- It is believed that Purana Quila stands at the site of Indraprastha, the capital of Pandavas of the Great Epic Mahabharata.
- In the 1950s, archaeologist B.B. Lal carried out excavations at all the sites mentioned in the Mahabharata. However, no clear evidence of the PGW layer was found at Purana Qila at that time. During later excavations, only shards of PGW pottery were found. To establish the existence of the PGW culture at Purana Qila fresh excavation is needed.
- Historians trace the pottery belonging to the PGW variety to the Mahabharata period (1500-1000 BCE)



Other Facts

The Archaeological Survey of India (Headquarters- New Delhi), is a premier organization under the Ministry of Culture, responsible for archaeological research and the preservation of historical monuments in the country. Founded in 1861 by Alexander Cunningham (first Director-General)

Historical Insights:

- The Purana Qila was built by Mughal Emperor Humayun during 1533-34 CE as a part of his new city Din Panah..
- In 1540, Sher Shah renamed the old city of Dinpanah as Sher Garh and built the existing

structure which include Quila-E-Kuhna Mosque built by Sher Shah in 1542 CE. It is a rectangular domed structure built in grey quartzite with red and yellow sandstone.

Way Forward:

Any evidence of a PGW culture at the Purana Quila, may provide the new insights into the historicity of the Epic Mahabharata.

7 Padma Awards

Why in News:

Recently Government of India announced Padma Vibhushan and Padma Shri awards. These are one of the highest civilian awards of the country. These awards are given in various disciplines/ fields of activities such as arts, social work, public affairs, science and engineering, trade and industry, medicine, literature and education, sports, civil service etc. 'Padma Vibhushan' is awarded for exceptional and distinguished service, 'Padma Bhushan' is for distinguished service of a high order and 'Padma Shri' is for distinguished service in any field. The awards are announced every year on the occasion of Republic Day.

About Padma Awards:

- Padma Award is the second highest civilian honor after Bharat Ratna.
- It is given to those citizens who are publicly involved in social service and activities and achievements.

History of Padma Awards:

- The Bharat Ratna and Padma Vibhushan awards were first instituted in 1954 as India's highest civilian honours. There were three categories of Padma Vibhushan:
 1. First Class
 2. Second class
 3. 3rd class
- In the year 1955, they were renamed as Padma Vibhushan, Padma Bhushan and Padma Shri respectively.
- The names of the recipients are announced on the eve of Republic Day every year except in the years 1978, 1979, 1993 and 1997.
- Among the first Padma Vibhushan awardees in 1954 – scientist Satyendra Nath Bose, artist Nandlal Bose, educationist and politician Zakir Hussain, social worker and politician Balasaheb Gangadhar Kher and diplomat and academic V.K. Krishna Menon etc.
- The first non-Indian Padma Vibhushan awardee was Bhutanese King Jigme Dorji Wangchuck, who received the award in 1954.
- Normally this award is given by the President of

India at Rashtrapati Bhavan.

- In this no cash amount is given to the award winners.
- The winners also get a medal along with a certificate signed by the President which they can wear in public and official functions.
- These awards are not given in the form of a title and the awardees are not expected to associate it with their names.
- Padma awardee may be given higher award (i.e. Padma Shri awardee may get Padma Bhushan or Vibhushan).
- This can happen only after five years from the last award being conferred.

Eligibility for Padma Awards:

- All persons irrespective of caste, occupation, position or gender etc. are eligible for these

awards.

- Government employees (including those working with PSUs) except doctors and scientists are not eligible for these awards.

Selection Process:

- All nominations for these awards are done online.
- All nominations received for Padma Awards are placed before the Padma Awards Committee.
- The Padma Awards Committee is headed by the Cabinet Secretary and includes the Home Secretary; with the Secretary to the President as members and 4 to 6 eminent persons are also part of the committee.
- The recommendations of the committee are presented to the President and Prime Minister of India for approval.



NEW BATCH - FACE TO FACE GENERAL STUDIES

English Medium

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NEWS OF NATIONAL AND INTERNATIONAL IMPORTANCE

1. UNDP India launches Campaign to Drive an Inclusive Circular Economy

The United Nations Development Program (UNDP) launched a campaign to drive an inclusive circular economy as part of its initiative to promote sustainability.

Main points of the Campaign:

- The project is an extension of an existing partnership under UNDP's flagship Plastic Waste Management program to develop a sustainable model for plastic waste management in India.
- End-to-end management of plastic waste will be done by promoting the following:
 1. Segregation of waste at source
 2. Collection of segregated waste
 3. Setting up of Material Recovery Facilities (MRF) for recycling all types of plastic waste
- Thrust on partnership with private sector
- The project is collaboration between Municipal Corporations, Corporates, Safai Saathis and Individuals to work together for clean and green cities.



2. World Economic Situation and Prospects 2023 Report

UNDESA released this report in collaboration with UNCTAD and five regional UN commissions.

Key Points of the Report

- In 2022 the world economy was hit hard by COVID-19 and the war in Ukraine.
- World output growth to slow to 1.9% in 2023 (from 3% in 2022)
- India's Gross Domestic Product (GDP) has been estimated to be 5.8 percent in the financial year 2023. This is slightly lower than the 6.4 percent projected in 2022.
- Economic growth in India is forecasted to be moderate in 2023, with high interest rates holding back investment and slow global growth weakening India's exports.



3. 74th Republic Day Parade

- Egyptian President Abdel Fattah El-Sisi was the chief guest at this year's parade.
- There was an emphasis on the campaign for self-reliance or self-reliance in India's military power and the important role of women in the armed forces (nari shakti)
- In a display of self-reliance in military power, the Indian Army displayed the Made-in-India Main Battle Tank Arjun, Nag Missile System, K-9 Vajra-T Gun System, Akash Air Defense System and BrahMos Missile. Also, it was the first time that no Russian weaponry was displayed.
- In a show of women empowerment, the marching contingents of the Indian Air Force and the Indian Navy were led by women officers for the first time.
- Assam Rifles - India's oldest paramilitary force, highlighted message of gender equality.
- The naval contingent also included three women and six male Agniveers from the Agnipath scheme.

4. Methanol Blended Diesel (MD15)

- The Government formally inaugurated the Demo Run of Inland Water Vessel powered by Methanol Blended Diesel (MD15) (15% Methanol Blended HSD).
- Blending of 15% methanol in gasoline can reduce the import of gasoline/crude oil by at least 15%. In addition, it will bring down GHG emissions in terms of particulate matter, NOx and SOx by 20%, thereby improving urban air quality. It will also create about 5 million new jobs in the methanol economy.
- NITI Aayog's 'Methanol Economy' program (launched in 2018) aims to reduce India's oil import bill, greenhouse gas (GHG) emissions and convert coal reserves and municipal solid waste into methanol.

5. Smarak Mitra Scheme

The government is in the process of handing over about 1,000 monuments to the private sector for their maintenance under the Smarak Mitra scheme.

About Smarak Mitra Scheme:

- This scheme was launched under the Ministry of Tourism.
- It is now transferred to Ministry of Culture in respect of monuments under Archaeological Survey of India, ASI.
- Applies to all centrally protected heritage properties.
- Its aims to ensure quality and inclusive provision of facilities and amenities in heritage, natural and tourism sites through active participation of private and public sector organizations and individuals.
- These organizations will be known as Smarak Mitra for their collaboration initiative.



6. Polycystic Ovarian Syndrome (PCOS)

Publication of special issue with theme 'Polycystic Ovarian Syndrome (PCOS) and its Complications' in Indian Journal of Biochemistry and Biophysics (IJBB).

About the syndrome:

- Polycystic ovary syndrome (PCOS) is a multifactorial endocrine disorder which is characterized by chronic anovulation, Irregular periods, hirsutism, weight gain are the common symptoms of PCOS. It is the most prevailing female endocrine disorder and the pre-eminent cause of infertility, with the worldwide range of 6-26%, and in India it is 3.7-22.5%.
- Risk factors that contribute to the development of PCOS include genetics, neuroendocrine system, sedentary lifestyle, diet, and obesity. Though there are synthetic drugs such as metformin and oral contraceptive pills are available for treatment, their side effects cause concern. However, in terms of indexed publications and awareness, PCOS and Menstrual health need considerable push.

7. INS Vagir

The Indian Navy commissioned Vagir, the fifth diesel-electric Kalvari-class submarine. It is one of the six submarines being built by Mazagon Dock Shipbuilders Limited (MDL), Mumbai in collaboration with French M/s Naval Group under Project 75.

About INS Vagir:

- The name of the latest submarine is derived from the erstwhile Vagir, a submarine that served in the Navy between 1973 and 2001.
- Construction of the new Vagir, also known as Sand Shark, began in 2009.
- Vagir represents stealth and fearlessness, as it is equipped with features like an advanced acoustic absorption technology.



8. Norovirus

Recently, the Kerala Health Department has confirmed two cases of the gastrointestinal infection norovirus.

About Norovirus:

- Norovirus causes inflammation of the stomach and intestines, causing symptoms such as nausea, vomiting, diarrhea and abdominal cramps.
- Norovirus is highly contagious, spread through the air by contact with an infected person, by consuming contaminated food or water, or by touching contaminated surfaces and then vomiting of an infected person.
- Norovirus able to survive in low temperature, is common during winter in cold countries, hence it is called winter vomiting disease.
- It is estimated to kill 200,000 people globally each year, with most deaths occurring in people under the age of five and those over the age of 65.
- Its vaccine is not yet available



9. Charaideo Maidams

The Central Government has decided to nominate Assam's Charaideo Maidams to the list of United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites for 2023-24. If selected, it will be the only cultural heritage site in the North East to receive the prestigious status

About Charaideo Maidams:

- It is also known as the 'Pyramid of Assam' and was the original capital of the Ahom kings. It houses the sacred tombs of the Ahom kings and queens and is also the seat of the ancestral deities of the Ahoms.
- It was built by Chaolung Sukhapa (founder of the Ahom dynasty in around 1253 CE)
- It consists of a vast underground vault with one or more chambers having a domed superstructure and covered by earthen mounds and outwardly it appears to be a hemispherical mound.



10. Charge sheet: Not a Public Document

- Recently, Supreme Court in the Saurav Das case held that chargesheet is not a public document under Sections 74 and 76 of the Indian Evidence Act, 1872. Hence, allowing it to access freely will violate the CrPC and compromise the rights of the accused, the victim, and investigating agencies.
- It is a final report of the police officer under section 173(2) of the CrPC which forms the basis for the prosecution's case and the charges to be framed.
- It contains the names of the parties, nature of the information and details of the offences. It should clarify whether the accused is under arrest, in custody, or has been released, and whether any action was taken against him/her.
- It must be filed within 60-90 days of arrest; otherwise the arrest will be deemed illegal.
- Earlier in Youth Bar Association vs. UOI case, SC has directed to all the police stations to publish copies of FIRs online within 24 hours of registration. However, the SC has said that these directions could not extend to chargesheets.

11. All India Survey on Higher Education

- Ministry of Education has released the All India Survey on Higher Education (AISHE) 2020-2021.
- The Ministry of Education has been conducting the All India Survey on Higher Education (AISHE) since 2011, covering higher educational institutions located in the Indian territory.
- The survey collects detailed information on various parameters such as student enrolment, teacher's data, infrastructure information, financial information etc.
- For the first time in AISHE 2020-21, HEI has collected data using completely online data collection platform through web data capture format.
- (DCF) has been developed by the Department of Higher Education through National Informatics Centre (NIC).
- Enrolment in higher education increased from 3.85 crore in 2019-20 to 4.14 crore in 2020-21. Since 2014-15, enrolment has continued to register a steady increase of about 72 lakh (21 percent).
- Uttar Pradesh, Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Madhya Pradesh, Andhra Pradesh, Gujarat are the top eight states in terms of number of colleges.

12. TropeX - 23

- The Indian Navy is conducting the 2023 edition of the Theater Level Operational Readiness Exercise (TROPEX).
- Theater Level Operational Readiness Exercise (TROPEX) is a biennial inter-services military exercise in the Indian Ocean region.
- TROPEX-23 is being conducted over a period of 3 months with the participation of Indian Navy, Indian Army, Indian Air Force and Coast Guard.
- TROPEX aims to 'validate and refine' the Navy's 'Concept of Operations' as well as test its overall combat capabilities.
- It covers almost all operational assets like warships, submarines and aircraft to check the combat readiness of the force in the region.
- The exercise provides an opportunity to test the combat readiness of the Combined Fleet of the Indian Navy.



13. National Export Cooperative Society

- The National Export Cooperative Society to be set up with an initial capital of Rs 500 crore will be the largest of the 3 proposed National Cooperative Societies.
- Cooperative societies will be set up under the Multi State Cooperative Societies (MSCS) Act 2002
- The Cabinet Committee on Economic Affairs (CCEA) approved the setting up of 3 national level multi-state cooperatives.
- This is -
 1. National Export Society
 2. National Cooperative Society for Organic Products
 3. National Level Seed Cooperative Society



Current Affairs at a Glance

1. According to IMF, Inflation in India is expected to come down from 6.8% in the current fiscal year ending March 31 to 5% the next fiscal, and then drop further to 4% in 2024.
2. The Ministry of Defence was the top procuring ministry of goods and services from MSME sellers in the calendar year 2022, said the government's public procurement e-commerce marketplace GeM.
3. Pradhan Mantri PVTG Vikas Mission will be launched to improve the socio-economic conditions of Particularly Vulnerable Tribal Groups (PVTGs).
4. Atal Pension Yojana, the flagship social security scheme of the Government of India has crossed the landmark 5 crore enrolments recently. The scheme, which was launched on 9 May 2015, with the objective to provide old age income security to all citizens, particularly to the people working in the unorganised sectors, has done very well in the calendar year 2022 by enrolling more than 1.25 crore new subscribers in comparison to 92 lakh new subscriber enrolment in 2021.
5. Air India said it will use UK-headquartered Ideagen's enterprise cloud software application 'Coruson' to help enhance safety management and facilitate real-time reporting of in-flight incidents.
6. Enrolment in higher education increased by 7.5% in 2020-21 from 2019-20, with female admissions increasing from 18.8 million to 20.1 million in this period, according to an All India Survey on Higher Education (AISHE) report.
7. A team of experts has begun a scientific study to prepare a proposal on protecting the 3.5-km stretch of coastline from Thuvvappara at Kappad beach to Valiyamangad near Koyilandy, in Kozhikode district. Kappad is the only beach in Kerala with the international Blue Flag certificate awarded by the Foundation for Environmental Education.
8. The "extremely rare" Noble's Helen (*Papilio noblei*) was recorded in the Namdapha National Park of Arunachal Pradesh. The butterfly has been disappearing from its previously known ranges of Myanmar, Southern China and Vietnam and has been recorded for the first time in India.
9. Ministry of Information & Broadcasting has issued the "Guidelines for Uplinking and Downlinking of Television Channels in India, 2022" on 09.11.2022. The Guidelines, among other things, require private broadcasters to undertake public service broadcasting for 30 minutes every day.
10. The scientific community has named a new genus of wasp after Soliga who are the indigenous community of Biligiri Rangan Hills in Chamaraajanagar district of Karnataka in recognition of their conservation of forests and biodiversity.
11. India launched its first intranasal Covid-19 vaccine named iNCOVACC, on Thursday, January 26. Manufactured by Hyderabad-based Bharat Biotech. The vaccine has been approved for use as a primary as well as a heterologous (mix-and-match) booster dose in India.
12. The US and EU announced an agreement to speed up and enhance the use of artificial intelligence to improve agriculture, healthcare, emergency response, climate forecasting and the electric grid.
13. The ministry of corporate affairs will roll out the facility for e-adjudication of company law violations entirely in the virtual mode before the end of this financial year i.e. March 2023.
14. G20 Energy Transition Working Group meeting under the chairmanship of India was held in Bengaluru from 5 to 7 February
15. Novak Djokovic won his 10th Australian Open title, equaled Rafael Nadal's record 22 Grand Slams
16. First edition of bilateral air exercise 'Veer Guardian 2023' between Indian Air Force and Japan Air Self Defense Force concluded in Japan
17. On the occasion of 'Amrit Mahotsav of Independence', President Draupadi Murmu named the Rashtrapati Bhavan gardens as Amrit Udyan.

1. Why in Broadcast

The Financial Services Institutions Bureau (FSIB), recently recommended names for the posts of managing directors of Bank of Baroda, Bank of India & Oriental Insurance Company Limited.



Financial Services Institutions Bureau

8. Importance of FSIB

- When BBB was brought into action, there was consolidation within public sector banks.
- Again, there could be another round of bank mergers and privatisation of both banks and insurance companies.
- The main issue is whether PSU entities are ready to withstand the test of privatisation from an operations and management perspective.
- This has a deep relation with the efficiencies of manpower at all layers.
- Therefore, the silent mandate of FSIB would be to ready banks and insurance companies for the privatisation process and undertake the necessary clean-up / HR upliftment practices.
- With FSIB, the intent is to go beyond the man-manager role and assist the government in formulating a code of conduct and ethics for whole-time directors in these entities.
- It would also monitor and assess the performance of public sector banks, government-owned financial institutions and insurance companies.

2. About FSIB

- Financial Services Institutions Bureau has been constituted effective from July 01, 2022, by Central Government under the Department of Financial Services (DFS).
- The board will be entrusted with making recommendations for the appointment of full-time directors and non-executive chairman of state-run financial services institutions.
- It would also issue guidelines for selecting general managers and directors of public sector general insurance companies.
- While its main task is to recruit the heads for the state-owned financial services entities, the board will also be involved in formulating and developing business strategies for state-run banks and help them in their fund-raising plans.

3. Members

- FSIB is headed by a chairman, a central government nominee.
- The board would comprise the Secretaries of the DFS, the chairman of IRDAI, and a deputy governor of the RBI.
- Additionally, it has three part-time members who are experts in banking and three more from the insurance sector.

4. Vision

- Search and Select apposite personages for Board of Public Sector Banks, Public Sector Financial Institutions and Public Sector Insurance Companies and recommend measures to improve Corporate Governance in these Institutions.

5. Mission

To promote excellence in Corporate Governance in Public Sector Financial Institutions.

6. Why has it replaced Banks Board Bureau (BBB)

- The BBB was declared an incompetent authority last year by the Delhi High Court, when a general manager at state-owned National Insurance Company challenged the appointment of a person junior to him for Director's position by the BBB.
- To end this logjam, the BBB had to be struck down and a new body, namely, FSIB had to be put in place vide approval from the Appointments Committee of the Cabinet, headed by the prime minister.

7. Mandate for FSIB

- The primary role of FSIB is to identify manpower capabilities and ensure proper selection of talent for senior positions at financial institutions owned by the government.

1. Why in Broadcast

The five-day annual meeting of the World Economic Forum (WEF) was held between January 16, 2023, and 20th January 2023, in the highest city in Europe, Davos. During the meeting, the forum brought together governments, businesses, and civil society on a common platform to discuss this year's challenges and priorities.



World Economic Forum

5. India at Davos 2023

- The year 2023 marks the 36th year of collaboration between India and WEF.
- As per the Indian government, the theme of this year's WEF Annual Meeting, i.e., 'Cooperation in a Fragmented World,' corresponded to India's G20 theme of 'Vasudhaiva Kutumbakam' or 'One Earth, One Family, One Future.'
- India, which has emerged as the representative of 'Global South' aims to play a key role in finding practical global solutions for the well-being of all.
- Its main agenda revolved around enhancing India's start-up ecosystem, women's leadership, digital economy, Fintech, LiFE Mission, Green India etc.

2. Major Takeaways

- The World Economic Forum's theme this year is 'Cooperation in a Fragmented World.'
- The forum has called on leaders from across the globe to address the emerging economic crisis, energy, and food crisis, growing population, and climate change while laying the groundwork for a more sustainable and resilient world.
- The event brought together world leaders and representatives of various industries, NGOs, think tanks, and academia to share knowledge, collaborate, and create innovative solutions to global problems.

3. The Davos Manifesto

- Davos Manifesto is a set of ethical principles that envisages to guide companies in the age of the Fourth Industrial Revolution.
- It was created in 1973 and renewed in 2020 and it lays out the principles of stakeholder capitalism - or a system of shared goals for businesses.
- Its new manifesto 2020 seeks WEF to be formally guided by stakeholder capitalism, which posits that a corporation should deliver value not only to shareholders but to all those who have a stake in the destiny of the company, including employees, society, and the planet.
- Its goals include a commitment to "improve the state of the world."

4. WEF Mission

- The 53rd Annual Meeting of the World Economic Forum focuses on solutions and public-private cooperation to tackle the world's most pressing challenges.
- It encourages global leaders to work together on the interconnected issues of:
 - » Energy, climate, and environment;
 - » Investment, trade, and infrastructure;
 - » Technologies and innovation;
 - » Jobs, skills, social mobility, and health;
 - » Geopolitical cooperation in a multipolar world.

1. Why in Broadcast

The Central government marked the 17th Pravasi Bharatiya Diwas (PBD), also known as the day for Non-Resident Indians (NRIs), on January 9 with events in Indore, Madhya Pradesh.

A digital exhibition on the contribution of the diaspora in the freedom struggle was inaugurated as well the commemorative stamp, 'Surakshit Jaayen, Prashikshit Jaayen' was launched on the occasion.



Pravasi Bharatiya Divas

5. Major initiatives by India

- The Indian prime minister called Emigrant Indians the brand ambassadors of India on foreign soil and that they have a significant place in the country's journey.
- Following are some of the major initiatives by India:
 - » **VAJRA (Visiting Advanced Joint Research Faculty) Scheme:** This scheme formalizes a rotation program wherein top NRI scientists, engineers, doctors, managers and professionals serve Indian public sector organizations for a brief period, lending their expertise.
 - » **Know India Program (KIP):** The programme aims to familiarize Indian-origin youth (18-30 years) with their Indian roots and contemporary India.
 - » **Pravasi Kaushal Vikas Yojana (PKVY):** This scheme seeks to institutionalize the process of skill development of emigrant Indian workers.
 - » **E-migrate System:** It is a foreign employers database. It ensures the welfare and check on exploitation met to emigrants.

2. About the Day

- LM Singhvi committee put forth the idea before the government, of renewing and strengthening linkages of overseas Indians to their place of origin, and with each other.
- The committee recommended the establishment of Pravasi Bharatiya Bhawan as the focal point for networking between India and its overseas Indian community.
- It is from this recommendation that the idea of day to government to recognise the community flowed.
- The day came into effect in 2003, but in 2015 it was revised and was decided to be celebrated every two years.
- January 9 was selected as it was the date when Mahatma Gandhi returned to India from South Africa in 1915
- This year's theme is "Diaspora: Reliable partners for India's progress in Amrit Kaal".

3. Major contributions of the day

- The day has contributed greatly to growth of the Indian economy by attracting foreign investments and promoting the export of Indian goods and services.
- It has helped in creating jobs and encouraged skilled Indian workers and entrepreneurs to return.
- The day highlights the opportunities that are available for Indians working abroad to invest, work and study in their home country.

4. Pravasi Bharatiya Samman Award

- It is the highest honour given to a Non-Resident Indian (NRI), Person of Indian Origin (PIO), organisation, or institution founded and operated by an NRI OR PIO.
- It is awarded to the person who has made a substantial contribution to a deeper understanding of India overseas and actively supports India's interests and concerns.

1. Why in Broadcast

The Reserve Bank of India recently published a report named, the state finances: A study of Budgets of 2022-23. This report analyses, assesses and provides information about the finances of the state governments including the challenges. The theme of this year's Report is "Capital Formation in India – The Role of States".



State Finances

5. Way Forward

- The fiscal health of states have rebounded from the pre-pandemic levels, with increased revenue collections and efficient budget management.
- However, with the growing recognition for responsible and effective climate change policies at state levels, the centre must ensure that the states are well equipped to realise their full potential towards the committed national target of net-zero emissions 2070.
- Also, the states need to set state finance commissions in a regular and timely manner for determining the assignment of taxes revenues etc. to local governments for greater public good.

2. Key points mentioned in the report

- As per the RBI report, the gross fiscal deficit (GFD) is going to reduce to 3.4 percent of GDP from 4.1 percent 2020-21 aided by broad based economic recovery and high revenue collection.
- The state debts are supposedly going to ease down to 29.5 percent of GDP against 31.1 percent in the year 2020-21.
- Although, the number is still higher than 20 percent which was recommended by the FBRM review committee 2018.
- The outstanding liabilities of states have moderated from their pandemic time peaks, debt consolidation at the individual state level warrants urgent attention.
- The non-state revenues, that are received through fines, royalties and other charges, are expected to increase driven by industry and general services.
- Further the report stated that States will expect increase in their revenue through sources like state GST, excise duties and sales tax etc.

3. About GFD

- GFD is a measurement of the state government's overall financial health and is derived by deducting total revenue from total expenditure.
- A decline in GFD is typically seen favourably since it shows that the state government is better able to manage its revenue and expenditure.

4. Recommendations made by the report

- The state governments need to focus more on debt consolidation. A glide path also needs to be set, keeping in view the need for rebuilding fiscal space to deal with future shocks.
- To promote economic growth and development, and expanding productive capacities the state must increase allocations for sectors like health, education, infrastructure and green energy transition etc.
- Further, a capex buffer fund needs to be created during good times when revenue flows are strong to smoothen and maintain expenditure quality and flows through the economic cycle.
- The states need to encourage and facilitate higher inter-state trade and businesses to realise the full benefit of spill-over effects of state capex across the country.

1. Why in Broadcast

Union Home Minister Amit Shah recently chaired a high level meeting in Ahmedabad, to examine the initial preparations for Gujarat's bid to host 2036 Olympic Games. The meeting was further attended by Gujarat Chief Minister Bhupendra Patel and Sports Minister Harsh Sanghavi.



Olympic Games – Ahmedabad?

5. Aspects of hosting Olympics

- Hosting an Olympics showcases, more than the capacity of a city which is an extension of the country, to plan and execute an event that is seen by the entire world.
- It gives a boost to the city's tourism and increases the city's earnings through sponsorship.
- Since most of the countries that have hosted the Olympics are mostly western countries, it becomes a platform to assert and showcase national culture and pride.
- However, high costs hinder several cities to host the Olympics. Further, significant public pushback has been witnessed against spending on sports-related infrastructure that might be of no use later.

2. More about the news

- Ahmedabad putting forth the idea to host Olympics is not new, cities like Mumbai and Delhi had also put forward the ideas to host Olympics in the past.
- The next three Olympics' hosts have already been decided and they include Paris (France) in 2024, Los Angeles (USA) in 2028 and Brisbane (Australia) in 2032.

3. International Olympics Committee (IOC)

- IOC is a non-governmental organisation that was established in 1894 with the aim to ensure the Olympics games are held regularly.
- It is the organisation that is responsible for the selection of the host city and administration of the Olympic games held around the world
- It has 99 member countries, each having its own IOC representative, who is often an ex-Olympian or athlete. Nita Ambani, Founder, and Chairperson of Reliance Foundation is the representative from India.

4. The selection process for Olympic host cities

1. Background:

- Earlier, the host cities were selected on a voting basis which was later alleged for corruption and it resulted in unsustainable bids.
- The new process includes IOC going into direct consultation with the interested cities. Brisbane, Australia was chosen through this process.

2. The process:

- The process is overseen by two permanent 'Future Host Commissions': one for the summer and one for the winter Games.
- These commissions comprise stakeholders, including athletes, International Federations (IFs), National Olympic Committees (NOCs), and International Paralympic Committee (IPC).
- They make recommendations to IOC Executive Board, comprising the IOC President, four Vice-Presidents, and ten other members.
- The Future Host Commission suggests a potential host, based on their observations of countries' proposals and additional negotiations with those countries.
- The Executive Board must subsequently decide on the recommendations and this is followed by IOC voting.

1. Why in Broadcast

A green comet recently appeared to the observers in the Northern hemisphere after 50,000 years. As per NASA this comet will be visible in the Southern Hemisphere in early February.



The Green Comet

5. Oort Cloud

- Often termed as 'the most distant region of our solar system' and 'Home of the Comets', the Oort Cloud is a predicted collection of icy objects farther away than everything else in the solar system.
- It is worth mentioning that scientists have yet to observe any object in the Oort Cloud itself, its presence is merely predicted as it fits with observations of comets in the planetary region of the solar system.
- The Oort cloud is thought to be a big, spherical region of outer space enveloping our sun, consisting of innumerable small objects, such as comets and asteroids.

2. About the News

- The comet was given the designation C/2022 E3 (ZTF) in honour of the astronomers who made the initial discovery of it in March 2022.
- The astronomers discovered this comet utilising the wide-field survey camera at the Zwicky Transient Facility (ZTF) in the USA.
- The comet is estimated to come closest to Earth around February 2.

3. About the Green Comet

- The green glow in this comet is thought to arise from the presence of diatomic carbon, pairs of carbon atoms that are bound together, in the head of the comet.
- After approaching the sun in the middle of January, it is now moving away from it, along its own orbit.
- The orbit of this comet indicates that it has come from the edge of our solar system, a distant reservoir of comets called the Oort cloud.
- With a highly elliptical orbit, the comet will head back to the Oort cloud and will make its next appearance roughly 50,000 years later.

4. About Comets

- Comets are frozen rocky or gas-filled objects that are remnants of the formation of the solar system.
- A comet is made up of four visible parts: the nucleus, the coma, the ion tail, and the dust tail.
- Like other celestial bodies comets have orbits too,. They are sometimes pulled in close to the sun because of the sun's gravity acting on them.
- When pulled close to sun's orbit, they heat up and spew gases and dust into a glowing head. The remains of dust following this burning up, from a distance, look like a trail of light to humans on Earth.

5. Other characteristics of a comet

- Due to their composition, characteristics and the path they move in, comet tend to leave a light 'behind them'.
- They have often been seen giving out blue or whitish light, or even green.
- There are likely billions of comets orbiting our Sun in the Kuiper Belt and even more distant Oort Cloud.
- Comets have been widely described as the most primitive solar system materials, preserved at cryogenic temperature and low pressure since the formation of the Sun.

1. Why in Broadcast

In a notice to Pakistan on January 25, India said that it has been compelled to call for the 'modification' of the 63 year old Indus Water Treaty owing to Pakistan's persistent objections to the construction of hydel projects on the Indian side.



Indus Waters Treaty

4. Objections raised under the treaty

- The treaty, became a source of dissatisfaction because
 - » There is a growing demand for water,
 - » Extensively technical nature of the document
 - » The western rivers flow through the conflicted region of Jammu and Kashmir.
- Pakistan raised objections to Indian project over the Kishanganga Hydro Electricity Project (KHEP).
- The work for KHEP was started in 2007 and was supposed to be completed by 2016.
- Due to Pakistan's objection India agreed to lower the dam's height from 97 metres to 37 metres.
- In 2010, Pakistan took the matter to the International Court of Arbitration. The Court gave its final ruling in December 2013, giving India a green signal for the project, subject to conditions.
- The project was then inaugurated in 2018, despite continued protests from Pakistan.
- Pakistan had objected to the Salal dam project in 1970 over design concerns, negotiations for which ended in 1978.
- Pakistan again objected to the Baglihar Hydropower project in the 2000.

2. About Indus Waters Treaty

- The Indus river basin has six rivers Indus, Jhelum, Chenab, Ravi, Beas and
- Sutlej; originating from Tibet and flowing through the Himalayan ranges to enter Pakistan, ending in the south of Karachi.
- In 1947, partition also cut the Indus river system into two.
- Both the sides were dependent on water from the Indus river basin for their irrigation.
- Therefore, infrastructure and equitable distribution was needed.
- Initially, the Interdominion accord of May, 1948 was adopted, under which India would supply water to Pakistan in exchange for an annual payment.
- This agreement, however, soon disintegrated as both the countries could not agree upon common interpretations.
- In 1951, both the countries applied to the World Bank for funding of their respective irrigation projects on Indus and its tributaries, which is when the Bank offered to mediate the conflict.
- Finally in 1960, after nearly a decade of negotiations, an agreement was reached between the two countries, leading to the signing of the Indus Waters Treaty (IWT) by Jawaharlal Nehru, Ayub Khan & W.A.B. Iliff.

3. Crux of the treaty

- The treaty allocated the three western rivers—Indus, Chenab and Jhelum—to Pakistan for unrestricted use, barring certain non-consumptive, agricultural and domestic uses by India.
- The three Eastern rivers—Ravi, Beas and Sutlej—to India for unrestricted usage.
- 80% of the share of water or about 135 Million Acre Feet (MAF) went to Pakistan, leaving the rest 33 MAF or 20% of water for use by India.
- Besides, India is also allowed a minimum storage level on the western rivers it can store up to 3.75 MAF for conservation and flood storage purposes.
- It also required both the countries to establish a Permanent Indus Commission constituted by permanent commissioners on both sides.
- India has right to build 'run of the river' hydropower projects over the Jhelum, Chenab and Indus.
- The treaty also allows Pakistan to raise objections over such projects being built by India, if it does not find them to be compliant with the specifications.
- The IWT also provides a three step dispute resolution mechanism, under which issues can first be resolved at the commission or inter-Government level.
- If that fails, either side can approach the World Bank to appoint a Neutral Expert.

Prelims Special 2023: Environment & Ecology

Nagar Van Yojana

Why in News- the government announced the implementation of the 'Nagar van' scheme to develop Urban Forests across the country in the next five years.

About the scheme:

- Launched in 2020 as a pilot basis.
- The van will be maintained by the state government.
- Funding: CAMPA Fund (under Compensatory Afforestation Fund Act 2016)
- Warje Urban Forest in Pune (Maharashtra) will be considered a role model for the Scheme.

Objective:

- To create 400 urban forests and 200 city gardens, at least 20 hectares of land in urban areas in the next five years (2020-2025) (on existing forest land or any other vacant land by Urban Local Bodies)

India Virtual Herbarium Portal

Why in News- Prime Minister Modi mentioned the Indian Virtual Herbarium portal in his Man Ki Baat programme.

About the portal:

- On July 1, Union Environment Minister Bhupender Yadav inaugurated the country's largest online herbarium database, the 'Indian Virtual Herbarium' web portal. The portal has been developed by the Botanical Survey of India. It includes about one lakh images of herbarium specimens with metadata comprising all digitized images of type specimens, Wallich specimens, Orchid specimens, and other specimens.
- The portal aims to provide complete information on herbarium specimens about the floral diversity of India and other countries stored in the cabinet of the herbarium building through online access. At present, the digital herbarium of the Botanical Survey of India has four categories – Cryptogam type specimens, Cryptogams general specimens, Phanerogam type specimens, and Phanerogams general specimens.
- It will also aid the research studies and provide valuable insight for global plant research.

Agasthyamalai Elephant Reserve

Why in News- The central government has notified Agasthyamalai Elephant Reserve (Kanyakumari and Tirunelveli, TN) as India's 32 elephant reserve. This is the 5th elephant reserve in the state. After declaring this reserve, the elephants of this area can be managed and protected in a better way.

About Agasthyamala Biosphere Reserve (ABR):

- ABR is situated at the southern-most end of the

Western Ghats and spread over two southern states Kerala and Tamil Nadu. It was established in 2001.

- In March 2016, it was included in the World Network of Biosphere Reserves of UNESCO.
- It covers Peppara and Shendurney wildlife sanctuaries and parts of the Neyyar sanctuary in Kerala and the Kalakad Mundanthurai Tiger Reserve of Tamil Nadu.
- It is also home to rare endemic animals including tiger, Asian Elephant, and Nilgiri Tahr.
- It is home to Kanikaran tribe, one of the oldest surviving ancient tribes in the world.

Compostable Plastic

Why in News- S&T ministry will encourage start-ups (through a loan) to manufacture and commercialize compostable plastic to mitigate the usage of Single Use plastics (SUP). This programme is supported by NIDHI-PRAYAS Scheme, Niti Aayog, and UNIDO.

Compostable plastic:

- Instead of using plastic made from petrochemicals and fossil fuels, compostable plastics are derived from renewable materials like corn, potato, tapioca starches, cellulose, soy protein, and lactic acid.

CDRI

Why in News- CDRI (Coalition for Disaster Resilient Infrastructure) was given an independent and international legal entity tag as India signed Headquarter agreement with CDRI.

About the CDRI:

- CDRI was launched by the Indian PM in 2019 at the UN Climate Action Summit (in New York, US).
- CDRI is a partnership between national governments, UN agencies, the Private sector and Academia.

Aim of CDRI:

- It promotes the resilience of infrastructure systems to climate and disaster risks.
- Members: 31 countries, 6 International organizations and 2 private sectors.
- It works at the intersection of Sendai Framework for DRR (2015-2030) and the Paris Climate Agreement.

Anang Tal Lake

Why in News- Anang Tal Lake has been declared a monument of national importance.

What is Lake?

- A lake is a stable body of water that is surrounded by land masses. Another feature of the lake is its stability. In general, lakes are wide depressions

on the surface in which water is filled. The water of lakes is usually stable.

About the Anang Tal lake:

- Anang Tal is situated to the north of the Jog Maya temple and approximately 500 metres to the northwest of the Qutub Complex. It was built by the 11th Century Tomar king Anang Pal Tomar.
- The lake was declared a monument of national importance under the Ancient Monuments and Archaeological Sites and Remains Act, 1958.
- Central Government is authorised to maintain, protect and promote the monuments under the act.

Battery Waste Management Rules, 2022

Why in news- The environment ministry has published the Battery Waste Management Rules, 2022 to ensure environmentally sound management of waste batteries. The new rules have replaced the Batteries (Management and Handling) Rules, 2001.

Key Facts of Battery Waste Management Rules, 2022

- Electric vehicle batteries, portable batteries, automotive batteries, and industrial batteries are covered under the new rules.
- The producers producing the batteries will have an obligation to fully recycle or refurbish the battery after the use of the battery they are offering in the market.
- Waste batteries must be sent for recycling or renewal and must not be burned or disposed of in landfills.
- The annual return of how many waste batteries have been recycled or refurbished, to meet the obligations under Extended Producer Responsibility with the Central Pollution Control Board and respective State Pollution Control Boards by 30th June of the financial year will have to be filed.
- Manufacturers will confirm that all batteries are properly packaged with correct labelling. The label should be printed clearly and in such a way that it can be easily read. Labels must be printed in such a way that they cannot be removed.
- All batteries must be packed with the cross-out wheeled bin symbol mark.
- Batteries containing mercury, cadmium, or lead must be marked Hg, Cd or Pb.
- It will be the responsibility of the consumer to segregate the waste battery from other waste as well as ensure that the waste battery is disposed off in an environmentally friendly manner.
- The recycler and refurbisher should review the recovery target of the waste battery once every four years and keep updating the technology of disposal of the waste battery and recommend the

same to the Ministry of Environment, Forest and Climate Change.

- Each producer shall be registered under the Central Pollution Control Board and the registration shall be valid for a period of 5 years.
- Environmental compensation will be levied for not meeting the Extended Producer Responsibility targets, responsibilities and obligations set out in the regulations, on the principle of the polluter pays.
- Funds collected under Environmental Compensation will be used for the collection and renewal or recycling of non-collectible and non-recyclable waste batteries.

India's Panchamrit Pledge

Why in News: India reiterated their panchamrit pledge at COP- 27.

India's Panchamrit pledge:

1. Reach 500 GW of Non-fossil energy capacity by 2030.
2. 50 per cent of its energy requirements from renewable energy by 2030.
3. Reduction of total projected carbon emissions by one billion tonnes from now to 2030.
4. Reduction of the carbon intensity of the economy by 45 per cent by 2030, over 2005 levels.
5. Achieving the target of net zero emissions by 2070.

Climate-Tipping Point

Why in News- Scientists worried as the number of climate-tipping point rises.

About Climate-tipping point:

Climate tipping points are levels of ecological changes, if crossed, could spark a significant change in the way the Earth's systems operate, affecting oceans, weather and chemical processes, which could be irreversible and self-continuing even if there is no further warming. The six tipping points likely to be crossed are:

- Greenland Ice Sheet collapse
- West Antarctic Ice Sheet collapse
- Collapse of ocean circulation in the polar region of the North Atlantic
- Coral reefs die off in the low latitudes
- Sudden thawing of permafrost in the Northern regions
- Abrupt sea ice loss in the Barents Sea.

Global Alliance for Industry Decarbonisation (GAID)

Why in News: Recently, 13 companies including the International Renewable Energy Agency (IRENA), co-founding partner Siemens Energy, and Tata Steel and Jindal Steel Works from India launched the

Global Alliance for Industry Decarbonisation.

About the Global Alliance for Industry Decarbonisation (GAID)

- It was formed under the Bali Declaration adopted during IRENA's Investment Forum on Energy Transition held in Bali, Indonesia.
- Objective: It aims to provide a platform for the industry to interact and collaborate, to contribute towards the achievement of net zero goals of the countries.
- It will strengthen dialogue and coordinate action by industrial stakeholders from the public and private sectors.

Green Fins Hub

Why in News: The United Nations Environmental Programme (UNEP), along with UK-based charity Reef-World Foundation, recently launched the Green Fins Hub,

About the Green Fins Hub:

- It is a global digital platform which would give sustainable marine tourism a 'major boost'.
- The platform will help diving and snorkelling operators worldwide to make simple, cost-efficient changes to their daily practices by utilising tried and tested solutions. It would also help them keep track of their annual improvements and communicate with their communities and customers.

UP's 4th Tiger Reserve

Why in News- Recently, the Uttar Pradesh cabinet approved the proposal of setting up its fourth tiger reserve at Ranipur wildlife sanctuary in Chitrakoot district, Bundelkhand. Now it is approved by environment ministry under the project tiger.

About Ranipur Wildlife Sanctuary:

- Ranipur wildlife sanctuary was established in 1977, and it is one of the major attraction for tourists in Chitrakoot district. It comprises various kind of flora and fauna. Some of the major wildlife that inhabits there include tigers, leopards, sambars, blackbucks, peafowl, jungle fowl, painted partridges, and chinkaras.

The Ranipur Tiger Reserve:

- The Uttar Pradesh Cabinet approved this tiger reserve under section 38(v) of wildlife (protection) act, 1972. This section empowers the state government with a power to notify any area as a tiger reserve.
- It will span the area of around 530 sq. km, where 230 sq. km is the core area of Ranipur wildlife sanctuary, while extra 300 sq. km is added as a buffer zone.
- It will be fourth tiger reserve of Uttar Pradesh after Dudhwa National Park, Pilibhit and Amangarh Tiger Reserve.

The Project Tiger:

- The Project tiger was launched in 1973 with 9 tiger reserves. It is a centrally sponsored ongoing scheme under Environment ministry that assists the tiger states in tiger conservation. National tiger conservation authority is the statutory body of this ministry for supervisory/coordination roles and performing functions provided in wildlife protection act, 1972.

Tigers in India:

- Belonging to genus panthera, this is largest cat breed in world.
- There are eight recognised species of tigers, out of which three are extinct.
- There are around 3726 to 5578 tigers in the world, out of which 70% reside in India.
- Protection status:
- Wildlife protection Act, 1972: Schedule 1
- IUCN red list: endangered
- CITES: Appendix 1

Red-Eared Slider Turtles

Why in News: Recently experts have expressed concern regarding the presence of the invasive and exotic South Red-Eared Slider Turtles and how their presence might become a major cause for the Indian native species of turtles to go extinct.

Red-Eared Slider Turtles:

- Scientific Name: Trachemys Scripta Elegans
- Red-eared slider turtles are native to the south-eastern United States and Mexico.

Protection Status:

- International Union for Conservation of Nature (IUCN) Red List: Least Concern
- It is not included in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- It is not included in the Wildlife Protection Act, 1972.
- It is also not mentioned in the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Nanjарayan Tank Bird Sanctuary, Tamil Nadu

Why in News- Recently, The Tamil Nadu government issued an order to set up a bird sanctuary at Nanjarayan Tank in Tiruppur district.

- Section 26A of the Wildlife Protection Act defines the declaration of the sanctuary. It proclaims that the State Government may declare to constitute an area which is considered by the State Government to be of adequate ecological faunal, floral, geomorphological, natural or zoological significance for the purpose of conserving the wildlife.

About the Nanjarayan Tank:

- The tank, locally called Sarkar Periyapalayam Tank, is located at the junction of Tiruppur North and Uthukuli taluks, covering 125.86 hectares. The government has also released the proposed boundaries of the sanctuary.
- The pond is known to be a habitat for species of migratory birds. Bar-headed goose, ruddy shelduck, northern shoveler and many other species from Central Asia visit here.

Cheetah Rehabilitation Project

Why in News: PM of India released 8 cheetah that came from Namibia in Kuno national park in Madhya Pradesh on 17 September, 2022.

Key Points:

- The cheetah is one of the oldest of the big cat species, with evidence of ancestry dating back to the Miocene epoch.
- It is the fastest land mammal in the world that lives in Africa and Asia.

African Cheetah:

- IUCN Status: Critically Endangered.
- CITES Status: Appendix-I of the List
- The number of African cheetahs is about 6,500-7,000, which is the largest in the world.
- Physical Characteristics - Larger than Asiatic cheetahs

Asiatic Cheetah:

- IUCN Status: Sensitive.
- CITES Status: Appendix-I of the List
- In the forests of Iran their number is about 40 to 50.
- They are smaller in size and yellow in colour than African cheetahs. Usually, these red-eyed cheetahs have small head and a long neck.

Global Alliance on Green Economy

Why in News: The Global Alliance on Green Economy has been launched during the World Green Economy Summit, Dubai.

Objectives of alliance:

- The main objective of this alliance is to create a coalition of such countries that can prioritize the development of green economies, who can take climate action with full commitment and who do not compromise on sustainable development. Through this alliance, cooperation and support will be provided to increase the capacity of developing countries so that these countries can work on green economy projects and share their experiences.

Green Steel

Why in News: Intergovernmental organisation International Energy Agency has released a

document saying that most of the net-zero emission (NZE) routes for steel and cement production are not yet commercially available including the green steel.

About Green Steel:

- Green steel refers to steel that is manufactured without the use of fossil fuels.
- In the manufacturing of green steel, low carbon energy sources such as hydrogen, coal gasification or electricity are used in place of coal.
- The use of low-carbon energy sources reduces greenhouse gas emissions, thereby reducing costs and improving the quality of steel.
- The use of low-carbon energy sources also reduces the carbon footprint of the steel industry.

Living Planet Report

Why in News: Recently, the 'Living Planet Report-2022' was published by WWF, in which the wildlife population of mammals, birds, amphibians, reptiles and fish worldwide has decreased by 69 per cent in the last 50 years.

Key points of the Report:

- The largest regional decline in the average population (94%) is reported in Latin America.
- WWF has identified agriculture (agriculture most negatively affected land use), hunting, logging, pollution, invasive alien species and climate change as the six major threats to biodiversity.
- Geographically, Southeast Asia is the region where the species is most likely to face significant levels of threats.
- The population of freshwater species has declined by 83 per cent globally, proving that the planet is facing a biodiversity and climate crisis.

About WWF:

- The Worldwide Fund for Nature (WWF) was established in 1961 in Gland (Switzerland). It is an organization working to spread environmental awareness in more than 100 countries.
- The purpose of WWF is to protect nature as well as to identify factors that damage the Earth's biodiversity.

India's first Slender Loris Habitat

Why in News: Tamil Nadu government has notified the country's first Kadavur slender loris sanctuary covering 11,806 hectares in the Karur and Dindigul districts of the State. The government notified 'Kadavur slender loris sanctuary' under Section 26 (A)(1)(b) of Wildlife (Protection) Act, 1972.

About the slender loris:

- Slender lorises are small nocturnal mammals and are arboreal, as they spend most of their life on trees. IUCN has listed them as Endangered, whereas in the Wildlife (Protection) Act of India, 1972 they are listed under Schedule I,

which accords them the highest level of legal protection. Slender loris act as a biological predator to agricultural crops pests and benefit farmers. The survival of the species depend on its habitat improvement, conservation efforts, and mitigation of threats.

Terai Elephant Reserve

Why in News: Recently, environment ministry has given its approval to terai elephant reserve, situated in U.P.

About Terai Elephant Reserve:

- It will be the second elephant reserve in UP and India's 33rd. TER will be developed in the joint forest areas of Dudhwa and Pilibhit tiger reserves, covering the conservation of four wild species that include the tiger, Asian elephant, swamp deer, and one-horned rhinoceros in the entire landscape. This landscape covers Kishanpur and Katarniaghat wildlife sanctuaries as well.

About project elephant

- Project Elephant was launched in 1992 by the Government of India, Ministry of Environment and Forests, to provide financial and technical support to wildlife management efforts by states for their free-ranging populations of wild Asian Elephants.

Cauvery South Wildlife Sanctuary

Why in News: Recently Cauvery South Wildlife Sanctuary was recognized as the 17th Wildlife Sanctuary of Tamil Nadu. This recognition has been done under section 26A(1)(b) of the Wildlife Protection Act, 1972.

About the Cauvery South Wildlife Sanctuary:

- The Cauvery South Wildlife Sanctuary will link the Cauvery North Wildlife Sanctuary in Tamil Nadu with the Cauvery Wildlife Sanctuary in neighbouring Karnataka.
- The sanctuary falls under the reserved forest areas in Krishnagiri and Dharmapuri districts. It is home to 35 species of mammals, 238 species of birds, turtles, otters, marsh crocodiles and four-horned antelope and is known as a wildlife paradise.

CITES – COP19

Why in News: Recently, the 19th World Wildlife Conference was conducted in Panama City (Panama), calling for humanity to take timely action and measures to protect species and restore the balance in nature. COP19 gathers representatives from 184 countries and territories, representatives of international agencies, organizations and institutions dealing with global trade in animal and plant species.

About the CITES

- CITES is an international agreement between governments — 184 at present — to ensure that international trade in wild animals and plants does not threaten the survival of the species.
- The convention entered into force in 1975 and India became the 25th party of the CITES.
- States that have agreed to be bound by the Convention ('joined' CITES) are known as Parties.
- Although CITES is legally binding on the Parties –i.e. they have to implement the Convention – it does not take the place of national laws.
- All import, export and re-export of species covered under CITES must be authorised through a permit system.

Important points of the international conference:

- The convention voted to ban trade of South American freshwater turtles known as matamata. Their pointed, pre-historic appearance has made them popular with collectors.
- The conference agreed to tighten trade rules on sharks targeted by the fin trade and small frogs with translucent skin.
- The UN Wildlife Conference also rejected a proposal to reopen the ivory trade. In 1989 the ivory ban was implemented.
- The CITES Secretariat has published the World Wildlife Trade Report for the first time which gives insight and analysis into global trade in animals and plants regulated under this international treaty.

Himalayan Medicinal Plants in IUCN Red List

Why in News: Three medicinal plant species *Meizotropis pellita*, *Fritillaria cirrhosa*, and *Dactylorhiza hatagirea*, found in the Himalayas have made it to the IUCN Red List of Threatened Species following a recent assessment. The assessment shows that deforestation, habitat loss, forest fires, illegal trade, and climate change pose a serious threat to the species.

Meizotropis pellita:

- Commonly called 'Patwa', it is a perennial shrub, endemic to Uttarakhand with a limited area of occupancy (less than 10 sq. km).
- IUCN Status- Critically endangered
- Medicinal Value: Essential oil extracted from the leaves possess strong anti-oxidant and is a promising natural substitute for synthetic antioxidants in the pharmaceutical industry.
- *Fritillaria cirrhosa* (Himalayan fritillary):
- IUCN status: Vulnerable
- It is a perennial bulbous herb that has declined to approximately 30 % of its population over the assessment period (22 to 26 years).

- **Medicinal Value:** the species is used for the treatment of bronchial disorders and pneumonia; It is a strong cough suppressant and a source of expectorant drugs in traditional Chinese medicine.

Dactylorhiza hatagirea (Salampanja):

- It is a perennial tuberous species endemic to the Hindu Kush and Himalayan ranges of Afghanistan, Bhutan, China, India, Nepal, and Pakistan.
- IUCN Status: Endangered
- **Medicinal Value:** The species is extensively used in Ayurveda, Siddhi, Unani, and other alternative systems of medicine to cure dysentery, gastritis, chronic fever, cough, and stomach aches.

National Green Hydrogen Mission

Why in News: Recently, the Union Cabinet chaired by Prime Minister Narendra Modi approved the National Green Hydrogen Mission to promote sustainable and renewable energy supply, under which the government plans to spend about Rs 19744 crores.

About National Green Hydrogen Mission:

- The National Green Hydrogen Mission was launched with a target to develop a green hydrogen production capacity of at least five million metric tonnes (MMT) and an associated renewable energy capacity of about 125 gigawatts (GW) by 2030.
- It will be implemented under the overall supervision and guidance of the Ministry of New and Renewable Energy. The initial outlay for the National Green Hydrogen Mission will be Rs 19,744 crore, while the total investment will be around Rs 8 lakh cr.

The objective of National Green Hydrogen Mission:

- Creation of export opportunities for Green Hydrogen and its derivatives.
- Decarbonisation of the industrial, mobility and energy sectors.
- Reduced dependence on imported fossil fuels and feedstock.
- Development of indigenous manufacturing capabilities.
- Creation of employment opportunities.
- Development of cutting edge technologies.
- Facilitate demand creation, production, utilization and export of green hydrogen.

Silent Valley Bird Survey

Why in News: Recently, a bird survey was conducted in Silent Valley National Park in Kerala in which a total of 175 species were identified. Of these, 17 new species were recorded. This survey marked the 30th anniversary of the first bird survey in Silent Valley.

Important points of the survey:

- The 17 new species identified during this period include Brown Wood Owl, Banded Bay Cuckoo, Malabar Woodshrike, White-throated Kingfisher, Indian Nightjar, Jungle Nightjar and Large Cuckooshrike.
- Birds that were sighted included Nilgiri Laughing Thrush, Nilgiri Flowerpecker, Brown Cheeked Fulvetta, Black and Orange Flycatcher, Gray Headed Canary Flycatcher, Greenish Warbler, Common Chiffchaff, Tytler Leaf Warbler, Shaheen Falcon, Nilgiri Wood Pigeon and Malabar Whistling Thrush.

About the silent valley national park:

- Located in the Nilgiri Hills on the border of Kerala and Tamil Nadu, Silent Valley National Park is a protected area of 89.52 km² (34.56 sq. mi) which is home to a variety of rare and endangered species. It was declared a National Park in the year of 1984.

Mainstreaming Biodiversity in Forestry Report

Why in News: FAO released this report with the aim of embedding biodiversity considerations into policies, strategies, and practices to promote the conservation and sustainable use of natural resource.

Key recommendation of the report:

- Recognizing contributions of indigenous people and enhancing the equitable sharing of benefits.
- Preserving natural forests in place of forest plantations.
- Control overharvesting of plants and wildlife
- Mainstreaming biodiversity
- Providing compensation for reduced production due to the adoption of natural ways of farming e.g. organic farming
- Use of CSR commitments for biodiversity conservation.

Waste to Energy Plant

Why in News- Union Home minister had inaugurated of the Tehkhand Waste to Energy Plant, which generates electricity from the waste provided by Municipal Corporation of Delhi.

About the plant:

- In a bid to make the capital city Garbage Free, the plant will help dispose of over 2000 metric tonnes of garbage per day and generate up to 25 MW of Green Energy. It aims to identify, develop, and deploy technologies for waste to generate energy conversion, recycle materials, and extract resources of value.

Ocean Acidity

Why in News- A team of researchers has flagged the changing chemistry of the western region of the Arctic

Ocean after discovering acidity levels increasing three to four times faster than ocean waters elsewhere. The team also identified a strong correlation between the accelerated rate of melting ice and the rate of ocean acidification. Seawater is normally alkaline, with a pH value of around 8.1

Reason for acidity

- First, the water under the sea ice, which had a deficit of carbon dioxide, now is exposed to atmospheric carbon dioxide and can take it up freely, thus becoming acidic.
- Second, The seawater mixed with melted-water is lighter and can't mix easily into deeper waters, which means the carbon dioxide is concentrated at the surface.
- Third: The meltwater dilutes the carbonate ion concentration in the seawater, weakening its ability to neutralise the carbon dioxide into bicarbonate and rapidly decreasing ocean pH.

Emission Gap Report -2022

Why in News- United Nations Environment Programme (UNEP) releases Emission Gap Report. It released the 13th edition of this report in 2022.

Finding of the report:

- Current pledges by countries to reduce greenhouse gas emissions would still leave the world warmer by 2.4-2.6 degrees Celsius by the end of the century.
- The top seven emitters (China, USA, EU27, India, Indonesia, Brazil, the Russian Federation) plus international transport accounted for 55 per cent of global GHG emissions in 2020.
- Collectively, G20 members are responsible for 75 per cent of global GHG emissions.
- Global average per capita GHG emissions: The US followed by Russia, China, Brazil and Indonesia, and the European Union
- India remains far below the world average.

Compressed Bio Gas (CBG)

Why in News- The first bio-energy plant of a private company in the Sangrur district of Punjab will produce Compressed Bio Gas (CBG) from paddy straw, thus converting agricultural waste into wealth.

About Compressed Bio Gas (CBG):

- Compressed Bio-Gas (CBG) is produced naturally through the process of anaerobic decomposition (without oxygen) of biomass sources like crop residue, cattle dung, sugarcane press mud, sewage treatment plant waste, etc. It has the potential to replace Compressed Natural Gas in automotive, industrial, and commercial uses in the future.

Blue Flag Certificate

Why in News: Two more Indian Beaches both in Lakshadweep, (Minicoy Thundi beach and Kadmat beach) get coveted International Blue Flag Certification. India now has 12 Blue Flag beaches.

About Blue flag certificate

- Blue Flag certification is a globally recognised eco-label accorded by the Foundation for Environment Education in Denmark based on 33 stringent criteria. Certification awarded by an international jury comprising members of the United Nations Environment Programme (UNEP), United Nations World Tourism Organisation (UNWTO), and International Union for the Conservation of Nature (IUCN), besides FEE. It was started in France in 1985.

Sloth Bear

Why in News- the First World Sloth bear day was observed on 12th October.

About the Sloth Bear

- They are endemic to the Indian subcontinent and 127 almost 90% of their population is concentrated in India (almost throughout India) with small numbers in Sri Lanka and Nepal. They are omnivorous.
- IUCN status - Vulnerable
- Schedule I in Wildlife Protection Act.
- CITES - Appendix I.

About other sloth bear:

- **Asiatic Black Bear-** they are found across the Himalayas. They are Vulnerable in IUCN.
- **Himalayan Brown Bear-** They are endangered in IUCN. Found in India, Pakistan, Nepal, China etc.
- **Sun Bear-** Sun bear is a very rare and elusive animal, and are only found in north-east India. They are vulnerable in IUCN.

Vulture in India

Why in News- Tamil Nadu launched mission to save critically endangered vulture. Acting on the centre's National conservation plans for vultures 2020-25, Tamil Nadu Government formed a State-level Committee to set up an institutional framework for the effective conservation of vultures.

About the Vulture:

- In India, nine species of vultures are found, out of which four are under critically endangered (White-backed, Slender-billed, long-billed, and Red-headed vulture) lists of IUCN.
- Currently, there are nine Vulture Conservation and Breeding Centres (VCBCs) in India, three of which are directly administered by the Bombay Natural History Society (BNHS).

Great Indian Bustard

Why in News- Migration of bustards in Pakistan.

About the Great Indian bustard:

- It is bird in India which may be found in Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Madhya Pradesh and Rajasthan. It is the state bird of Rajasthan.

Protection:

- CITES Appendix I
- Schedule 1 (Wildlife (Protection) Amendment Act 2002)
- Protected areas for bustards
- Desert National Park Sanctuary — Rajasthan
- Rollapadu Wildlife Sanctuary – Andhra Pradesh
- Karera Wildlife Sanctuary– Madhya Pradesh

Dolphin

Why in News- Dolphins have started coming back to the Ganga river with improvement in the quality of its water through the Namami Gange Programme.

About the Dolphins:

Protection Status:

- Dolphins have been included in Schedule I of the Indian Wild Life (Protection) Act 1972, in Appendix I of the Convention on International Trade in Endangered Species (CITES), in Appendix II of the Convention on Migratory Species (CMS) and IUCN Status: Endangered
- The Gangetic river dolphins can only live in freshwater, are blind and catch their prey in a unique manner, using ultrasonic sound waves.
- They are also one among the 22 species identified under the centrally sponsored scheme, Development of Wildlife Habitat.

Distribution:

- Assam, Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, Jharkhand and West Bengal
- Habitat:
- They live in the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India, and Bangladesh.

E-Waste Management Rules, 2022

Why in News- The government has notified E-waste (management) rules 2022. The rules come into force from April 2023. These rules will launch a new Extended Producer Responsibility (EPR) regime for e-waste recycling.

Features of new rules:

- The rules will be applicable to every manufacturer, producer, refurbisher, dismantler and recycler.
- All the manufacturer, producer, refurbisher and recycler are required to register on portal developed by CPCB.
- Schedule I expanded and now 106 Electrical and Electronic Equipment(EEE) has been include

under EPR regime.

- Management of solar PV modules /panels/ cells added in new rules.
- Provision for generation and transaction of EPR Certificate has been introduced.
- Provisions for environment compensation and verification & audit have been introduced.

COP 27

Why in News- Loss and damage fund and the Sharm El-Sheikh Implementation Plan, were adopted during the UNFCCC COP27 closing ceremony in Sharm El-Sheikh, Egypt.

Outcome of COP27:

The Sharm el-Sheikh Implementation Plan:

- It emphasised that a global transition to a low-carbon economy will require at least \$4-6 trillion in annual spending.
- Mitigation work programme:
- This would begin this year and last until 2030. Governments were requested - To revisit and strengthen the 2030 targets in their national climate plans by the end of 2023. To accelerate efforts to phase down unabated coal power and phase out inefficient fossil fuel subsidies. To reduce greenhouse gases (GHGs) in applicable sectors through increased renewable and low-emission energy.

Loss and damage (L&D):

- COP27 adopted the basic demand of a fund to acknowledge assistance needed for particularly vulnerable developing countries. However, there is no agreement yet on how finance should be provided and where it should come from.

Agreeing on Paris agreement

- The CMA (countries who have signed and ratified the Paris Agreement) also adopted Article 6 of the Paris Agreement, which allows countries to voluntarily cooperate with each other to achieve emission reduction targets set out in their NDCs.

HARIT Aayakar Initiative

Why in News: Income Tax Department has launched the HARIT Aaykar (Hariyali Achievement Resolution by Income Tax) initiative.

About Harit Aayakar Initiative

- Under this initiative, the Department resolves to increase the green cover by planting trees and creating micro-forests in and around Income Tax Department's buildings and other public areas.

Senna Spectabilis

Why in News- Senna spectabilis, an exotic tree has highest growth in last five years and this led to affect the local biodiversity in mudmulai tiger reserve in the Nilgiri region.

About Senna spectabilis:

- It has native species in South and Central America.
- It was introduced as an ornamental species and for use as firewood from South and Central America.
- Now, it becomes exotic species in India.
- An invasive species is an organism that is not indigenous, or native, to a particular area. Invasive species can cause great economic and environmental harm to the new area.

The International Day for Biosphere Reserves

Why in News- November 3 will be the first The International Day for Biosphere Reserves, to be celebrated beginning 2022.

About the Biosphere Reserves:

- Biosphere Reserve (BR) is an international designation by UNESCO for representative parts of natural and cultural landscapes extending over large area of terrestrial or coastal/marine ecosystems or a combination thereof.
- The World Network of Biosphere Reserves (WNBR) was formed in 1971, as a backbone for biodiversity conservation, ecosystem restoration, and living in harmony with nature.
- Nilgiris stretching over Tamil Nadu, Karnataka and Kerala was the first biosphere reserve of India designated by UNESCO in 2000.
- Total 18 biosphere reserve exists in India, of which 12 are recognised under MAB programme of UNESCO. These are-
 1. Cold Desert, Himachal Pradesh
 2. Nanda Devi, Uttarakhand
 3. Khangchendzonga, Sikkim
 4. Dehang-Debang, Arunachal Pradesh
 5. Manas, Assam
 6. Dibru-Saikhowa, Assam
 7. Nokrek, Meghalaya
 8. Panna, Madhya Pradesh
 9. Pachmarhi, Madhya Pradesh
 10. Achanakmar-Amarkantak, Madhya Pradesh-Chhattisgarh
 11. Kachchh, Gujarat
 12. Similipal, Odisha
 13. Sundarban, West Bengal
 14. Seshachalam, Andhra Pradesh
 15. Agasthyamala
 16. Karnataka-Tamil Nadu-Kerala
 17. Nilgiri, Tamil Nadu-Kerala
 18. Gulf of Mannar, Tamil Nadu
 19. Great Nicobar, Andaman & Nicobar Island

Panamaram Heronry

Why in News- Panamaram heronry is set to get a fresh lease of life. Heronry is a breeding ground for heron.

About the Panamaram heronry:

- Panamaram heronry is an important site for breeding 9 species of water birds - black headed-ibis, purple heron, large egret, median egret, little egret, pond heron, night heron, and little cormorant.
- The heronry, formed on a sandbank on the Panamaram river (Wayanad district, Kerala) is covered with vegetation, predominantly bamboo groves.
- Panamaram River is a tributary of the Kabani River along with Mananthavady, Babali, Noolpuzha and Nugu Rivers.

Adoption Gap Report- 2022

Why in News- UNEP published adaptation gap report, 2022.

Key Point of point the report-

- Report says that global adaptation planning, financing and implementation efforts are insufficient to prepare the world for climate change related catastrophes.
- A third of the 197 parties to the United Nations Framework Convention on Climate Change (UNFCCC) have incorporated quantified and time-bound targets for adaptation.

India's Net Zero Plan

Why in News- India announced its long-term strategy to transition to a low emissions pathway at the COP27 in Sharm el-Sheikh, Egypt. The LT-LEDS (Long Term-Low Emission Development Strategy) are a requirement from the 2015 Paris Agreement whereby countries must explain how they will achieve near-term NDC targets and work towards achieving net zero around 2050.

India's LT-LEDS:

- India is expected to triple its nuclear power output over the next decade, as well as become an international hub for creating green hydrogen and increasing the quantity of ethanol in petrol.
- India will also focus on improving energy efficiency through the Perform, Achieve and Trade (PAT) scheme, the National Hydrogen Mission, increasing electrification, enhancing material efficiency and recycling and ways to reduce emissions.
- These steps are in line with India's to net zero or being carbon neutral by 2070 - a commitment made by the PM of India at COP26, Glasgow, last year.

Water Adaptation and Resilience Action Plan

Why in News- 27th COP has launched Water Adaptation and Resilience Action Plan, formerly

known as Action on Water Adaptation or Resilience (AWARE).

About Water Adaptation and Resilience Action Plan:

- It has global water information services like accurate hydrological data to help understand the scarcity and availability of water per region; water and climate stock take and a cryosphere information mechanism.
- It is the result of collaboration between the African Union (AU), Water and Climate Coalition Leaders, the World Meteorological Organization (WMO) and the African Ministers' Council on Water (AMCOW), among others.
- Its first priority region is horn of Africa.

eDNA

Why in News- Presence of catfish is detected through eDNA

About the eDNA:

- eDNA is defined as genetic material obtained directly from environmental samples (soil, sediment, water, etc.) without any obvious signs of the biological source material.

Appendix I of the CITES

Why in News- In a step forward towards conservation, two Indian turtle species - the red-crowned roofed turtles (*Batagur kachuga*) and Leith's soft-shell turtle (*Nilssononia leithii*), have made it to Appendix I of the Convention on International Trade in Endangered Species (CITES).

- The decision was made at the ongoing 19th Conference of Parties (COP19) in Panama City.
- The species were moved from Appendix II to Appendix I which means the species is threatened with extinction.
- Major threats for these turtles and other species are increasing loss of habitat due to pollution, unchecked urbanisation, water extraction and irrigation, etc.

Mangrove Alliance For Climate (MAC)

Why in News- Spearheaded by the United Arab Emirates (UAE) in partnership with Indonesia, MAC was launched at the COP27 Summit in Egypt to scale up and accelerate the conservation and restoration of the mangrove forests.

About the MAC

- The Mangrove Alliance for Climate (MAC) is an intergovernmental coalition that seeks to expand and accelerate progress toward the conservation and restoration of mangrove ecosystems. Its members include the United Arab Emirates, Indonesia, India, Sri Lanka, Australia, Japan and Spain.
- The alliance raises global awareness of the role

of mangroves as a nature-based solution to climate change. It guarantees the rehabilitation of mangrove forests around the world.

- Mangrove forests, also called mangrove swamps, mangrove thickets or mangals, are productive wetlands that occur in coastal intertidal zones. Mangrove forests grow mainly at tropical and subtropical latitudes because mangrove trees cannot withstand freezing temperatures.
- Mangrove cover in India is about 0.15% of the total geographical areas.
- (West Bengal> Gujarat> Andaman and Nicobar Islands) are the largest mangrove state in India.



- Largest mangrove forest in India is Sundarbans (UNESCO world heritage site) followed by Bhitarkanika (Odisha).

International Drought Resilience Alliance (IDRA)

Why in News- The International Drought Resilience Alliance (IDRA) was launched on November 7 during the 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC).

About IDRA:

- Spain and Senegal jointly launched the IDRA to promote cooperation to increase preparedness against future droughts. The Alliance has 30 countries and 20 organisations. It seeks to create a shift in how the world responds to the growing drought risks by moving away from emergency responses to creating a long-term resilience.
- The IDRA was first announced by Spain at the 77th session of the UNGA in September this

year. This grouping will make drought resilience a priority in the national development. It will also provide platform for sharing drought-related technology and expertise. It will be collaborating with other international platforms to achieve the universal coverage of early warning systems and regional initiatives to achieve maximum benefits.

- The establishment of the IRDA is significant since there are no conventions for land other than the UNCCD, which mainly focuses on desertification. This alliance provides a specific solution for the UN to mitigate the impact of droughts.

MARS

Why in News- The Methane Alert and Response System (MARS) was launched at the COP27 to the United Nations Framework Convention on Climate Change in Sharm El-Sheikh, Egypt.

About the MARS:

- MARS is a part of global efforts to slow climate change by tackling global warming gas.
- It is data-to-action platform which was set up as part of the UNEP International Methane Emissions Observatory (IMEO) strategy to get policy-relevant data into the right hands for emissions mitigation.
- Previously, The Global Methane Pledge was launched to catalyse action to reduce methane emissions. It was led by the United States and the European Union. However, India is not part of it.
- Methane is 80 times more potent GHG than CO₂ and for controlling global warming reduction of methane is must.

Global Offshore Wind Alliance (GOWA)

Why in News- Nine new countries have joined the Global Offshore Wind Alliance (GOWA), pledging to a rapid ramp-up of offshore wind in order to tackle the climate and energy security crises.

About the Global Offshore Wind Alliance:

- The alliance, initiated by the International Renewable Energy Agency (IRENA), Denmark and the Global Wind Energy Council, will bring together governments, the private sector, international organisations and other stakeholders to accelerate the deployment of offshore wind power

World Soil Day

Why in News- World Soil Day was observed on December 5th with a focus on promoting more resilient agriculture lands.

Environment resilient agriculture system:

- Regenerative agriculture: It is an approach to food and farming systems that prioritises conservation and rehabilitation, with an emphasis on topsoil

regeneration, enhancing biodiversity, and enhancing the water cycle.

- Reversative agriculture (organic or natural farming): It is an approach to reducing greenhouse gas emissions at low cost. It increases organic matter content, microorganism population, and plant availability of both micro and macro-nutrients while avoiding the use of chemicals.

Restoration Barometer Report -2022

Why in News- Recently, Restoration Barometer Report, 2022 was released by IUCN. The report has highlighted the use of the Restoration Barometer Tool.

About Restoration Barometer Tool

- It is the only tool currently used by governments to track progress on the implementation of restoration targets. The tool was first launched in 2016 as the Bonn Challenge Barometer.
- Ecological restoration aims to recreate, initiate, or accelerate the recovery of an ecosystem that has been disturbed.
- The Bonn Challenge is a global effort to restore 150 million hectares of the world's degraded and deforested lands by 2020 and 350 million hectares by 2030.
- The Restoration Barometer was piloted in forested landscapes including Brazil, Rwanda, El Salvador, Mexico and the United States

Namami Gange Programme

Why in News: The UN has recognised the Namami Gange initiative to rejuvenate river Ganga as one of the top 10 World Restoration Flagships during a function at the 15th COP15 to the Convention on Biodiversity (CBD) in Montreal, Canada on World Restoration Day (14th December). Namami Gange initiative was launched by government in 2014 to reduce pollution and ecological restoration of the Ganga river.

About the World Restoration Flagships:

- World Restoration Flagships are aimed at reviving the natural world. The entries were selected under the United Nations Decade on Ecosystem Restoration (2021-2030) (coordinated by the UNEP and FAO).

Oran land

Why in News- Residents of around 40 villages in Jaisalmer, Rajasthan have undertaken a 225-kilometer walk to protect their community-conserved sacred spaces, known as orans.

About Oran land:

- The orans are among the last natural habitats of the great Indian bustard.
- The open stretch of land, which receives long hours of sunlight and brisk winds, has become

a hub of green energy with windmills and solar photovoltaic cells dotting it.

Micro plastic

Why in News- As per the new study, with every breath, humans may be inhaling substantial quantities of micro plastics that eventually flow into blood and accumulate in the organs. Micro plastics are tiny pieces of plastic that are less than 5 millimetres in length.

Initiative to combat micro plastic:

- Global Partnership on Marine Litter (GPML) to develop policies to control marine litter and pollution.
- GloLitter Partnerships Project was launched by the IMO and FAO to prevent marine plastic litter from shipping and fisheries

Green wall

Why in News: West Bengal Pollution Control Board (WBPCB) has decided to set up a 800 km Bio-Shield – A wall of Mega Plantations along its western fringe to stop pollutants from entering the State.

About the Green walls:

- Green wall is natural shield of tree which protect the nature, stop the land degrading and reduce the pollution.
- WBPCB says pollution from other states is responsible for close to half of West Bengal's pollution load.

Wren Babblers

Why in News- New species of songbird Wren Babblers found in Arunachal Pradesh has been named Lisu Wren Babbler (after the Lisu community of the state).

- It is a small Asian bird of the babbler family chiefly found in South Asia.

Nilgiri Tahr project

Why in News- India's first Nilgiri Tahr project to conserve the State animal of Tamil Nadu will be taken up. Nilgiri Tahr project is aimed at developing a better understanding of the population, distribution and ecology of the endangered species which is the state animal.

Components of the project:

- The project will have nine components, including bi-annual synchronised surveys across the division, diagnosis and treatment for affected individuals and a Shola grassland restoration pilot in Upper Bhavani.

About Nilgiri Tahr:

- It is an endangered species and the sole Caprinae species found in the tropical mountains of southern India. The animal inhabits meadows with steep cliffs at elevations between 300

metres and 2,600 metre above sea level. IUCN – Endangered, Wildlife (Protection) Act of India, 1972 - Schedule I

Species in News

White-Cheeked Dancing Frog:

- IUCN Status: Endangered
- It is Found only in the Western Ghats of Karnataka (endemic)
- Threat: Areca Nut and Coffee plantation, Pollution, Invasive species

Andaman Smooth hound Shark:

- IUCN Status: Vulnerable
- Only found in the Andaman Sea (Endemic to India)
- Threat: overfishing

Yellow Himalayan Fritillary plant:

- IUCN Status – Vulnerable
- It is a large group of mostly-spring flowering plants in the lily family and occurs mostly in the Himalayas.
- Threats - It is harvested and traded in disguise with a new trade name Jangli lehsun

Abalone Shellfish:

- Threatened with extinction
- IUCN Status : endangered category
- Threat - Agriculture and industrial runoffs cause algal blooms, boat paint, etc., leading to its decline.

Dugong:

- Marine Animal
- IUCN Status: Vulnerable
- Threat - Victim to unintentional capture in fishing gear, Destruction of their food (seagrass) due to chemical pollution, oil and gas exploration, production, bottom trawling and unauthorised coastal development.

Pillar coral:

- IUCN Status: Critically Endangered
- Found throughout the Caribbean from the Yucatan Peninsula and Florida to Trinidad and Tobago.
- Threat - Contagious Stony Coral Tissue Loss Disease that can affect anywhere between 90 and 100 metres of reef per day.

American Bumblebee

- A bee species
- Found in eastern Canada, throughout much of the Eastern United States, and much of Mexico.
- IUCN Status: endangered
- Threat: Pesticides, development and climate change are poisoning this bee and destroying its habitat

Red Sanders

- Indian native species restricted in eastern ghat
- IUCN Status: endangered
- Threat: Illicit felling for smuggling, forest fires,

cattle grazing and other anthropogenic threats

Giant Leatherback turtles:

- It is the largest of all living turtles and the heaviest non-crocodilian reptile
- They are found in all oceans except the Arctic and the Antarctic
- IUCN Status: Vulnerable
- Wildlife Protection Act, 1972: Schedule I

Snow leopards:

- Found in different parts of the Himalayas such as Ladakh, Himachal Pradesh, Uttarakhand, and Sikkim
- IUCN status: Vulnerable
- CITES: Appendix I
- Indian Wildlife (Protection) Act, 1972: Schedule-I

Lesser Florican:

- It is one of three bustard species endemic to India, the others being the Bengal florican and the Great Indian Bustard
- IUCN status: critically endangered
- In India, it is known to breed in Gujarat, Rajasthan, Maharashtra, Madhya Pradesh, and Andhra Pradesh

Gharials:

- Found in fresh waters of the northern part of India, mostly in the Chambal river
- IUCN status: critically endangered
- Threat: Increased river pollution, dam construction, massive-scale fishing operations and floods.
- The population of Gharials are a good indicator of clean river water

Irrawaddy dolphin:

- Irrawaddy dolphins are found in coastal areas in South and Southeast Asia, and in three rivers: the Irrawaddy (Myanmar), the Mahakam (Indonesian Borneo) and the Mekong (China).
- They are Endangered as per the IUCN Red List.
- Dolphin distribution in Chilika is considered to be the highest single lagoon population

Pangolin:

- It is widely distributed in India, except the arid region, high Himalayas and the North-East
- Pangolins are scaly anteater mammals
- Wildlife Protection Act, 1972: Schedule I
- IUCN Red List: Endangered
- Chinese Pangolin is 'critically endangered'
- CITES: Appendix I
- Threat: Hunting and poaching for local consumptive use (e.g. as a protein source and traditional medicine) and international trade are its main threat

Great Hornbill:

- It is found in the Indian subcontinent and Southeast Asia.
- IUCN status: vulnerable

- Hornbills are indicators of the health of a forest.
- CITES: Appendix I
- Threats: Logging, Forest clearance for agriculture, susceptible to hunting pressure among others.

Slender Loris:

- The Slender Loris found India and Sri Lanka.
- Schedule 1 of Wildlife (Protection) Act (WPA), 1972
- IUCN status: endangered
- Threat: habitat loss and hunting

Great Indian Bustard (GIB):

- Mostly found in Rajasthan and Gujarat
- IUCN status: critically endangered
- Schedule 1 of Wildlife (Protection) Act (WPA), 1972
- CITES: Appendix I
- Threat: overhead power transmission

Environmental Organisations

United Nations Environment Programme (UNEP):

- It was founded on 5 June 1972 as a result of the UN Conference on the Human Environment (Stockholm Conference) in 1972
- Headquarter: Nairobi, Kenya
- UNEP has also been active in funding and implementing environment-related development projects and working on issues such as the international trade in potentially harmful chemicals, trans boundary air pollution, and contamination of waterways

India is a member of the organisation:

UNEP categorizes work into seven broad thematic areas:

1. Climate change
2. Disasters and conflicts
3. Ecosystem management
4. Environmental governance
5. Chemicals and waste
6. Resource efficiency
7. Environment under review

World Meteorological Organization (WMO):

- The World Meteorological Organization (WMO) is an intergovernmental organization with a membership of 193 Member States and Territories. It was established by the ratification of the WMO Convention on 23 March 1950, and it became the specialised agency of the United Nation a year later.
- Headquarter: Vienna
- It provides a framework for international cooperation in the development of meteorology and operational hydrology and their practical application.

- India is a member of the organisation.

World Nature Organization:

- It is an intergovernmental organisation that

- promotes global environmental protection
- It was formed in 2010 (Established in 2014)
- The organization is focused on promoting activities, technologies, economies, and renewable energies which are regarded to be environment friendly; and reducing the impact of climate change
- Headquarter : Geneva
- India is not a member

World Wide Fund for Nature:

- It is an international non-governmental organization
- Founded in 1961
- Headquarter — Gland (Switzerland)

Objectives:

1. Conserving the world's biological diversity
2. Ensuring that the use of renewable natural resources is sustainable
3. Promoting the reduction of pollution and wasteful consumption

Reports & programmes:

1. Living Planet Report
2. Earth hour

United Nations Forum on Forests (UNFF):

- It was established in October 2000 as a subsidiary body of the Economic and Social Council of the United Nations (ECOSOC)
- It envisages enhancing forest-based economic, social, and environmental benefits
- The Forum has universal membership & it works on reversing the loss of forest cover worldwide through sustainable forest management
- It is composed of all Member States of the United Nations and specialized agencies
- Its main objective is to promote management, conservation, and sustainable development of forests
- It focuses on strengthening long-term political commitment for Sustainable Development based on the Rio Declaration

International Union for Conservation of Nature (IUCN):

- Founded in 1948 in Fontainebleau, France
- Headquarter : Gland, Switzerland
- It publishes the IUCN Red List which assesses the conservation status of species worldwide and is involved in data gathering and analysis, research, field projects, advocacy, lobbying, and education
- IUCN has observer and consultative status at the United Nation
- Both Governments and NGOs are its members

IUCN focuses on:

- Conservation ecology
- Issues related to gender equality, poverty alleviation, and sustainable business

Global Tiger Forum (GTF):

- Established in 1994, the Global Tiger Forum (GTF) has its headquarter in New Delhi
- The General Assembly of GTF meets after every three years.
- It utilises cooperative policies, common approaches, technical expertise, scientific modules and other appropriate programmes.
- The Global Tiger Forum was set up to promote a worldwide campaign to save the tiger, its prey, and its habitat.
- The Global Tiger Forum has plans to promote a legal framework in the countries involved in biodiversity conservation, to increase the protected area network of habitats of the tiger and facilitate their inter passage in the range countries.
- Out of the 13 tiger range countries, seven are currently members of GTF: Bangladesh, Bhutan, Cambodia, India, Myanmar, Nepal, and Vietnam besides non-tiger range country U.K.

International Tropical Timber Organisation:

- Established: 1986
- The International Tropical Timber Organization (ITTO) is an intergovernmental organization that advocates for the extension and diversification of the international trade in tropical timber derived from sustainably managed and legally harvested tropical forests as well as the sustainable management and protection of tropical forests.
- About 80% of the world's tropical forests and 90% of the world's trade in tropical timber are represented by its member countries.
- Headquarter: Yokohama, Japan
- India is a member of this organisation

Animal welfare board of India

- Established in 1962
- Headquarter: Ballabgarh in Haryana
- AWBI is a statutory advisory body under The Prevention of Cruelty to Animals Act, 1960 under the Ministry of Fisheries, Animal Husbandry, and Dairying.
- Functions: It advises governments on matters related to Animal welfare + Provides grants to Animal Welfare Organizations.

Central zoo authority:

- Established in 1992
- Headquarter: New Delhi
- CZA is a statutory body under Wildlife (Protection) Act 1972

Objectives:

- To complement the national effort in the conservation of wildlife
- To maintain Indian Zoos at par with International standards
- Exchange of animals between Indian and foreign

zoos.

- The Authority comprises: Chairman, Minister of Environment + 10 members & a member Secretary.
- Implementing ministry: Ministry of Environment, Forest and Climate Change

Forest Survey of India:

- Established in 1981
- Headquarter: Dehradun in Uttarakhand
- Objective: to conduct survey and assessments of forest resources.
- Forest Survey Report: Released by FSI since 1987, biennially (once in two years).

Botanical survey of India

- Established in 1890
- Headquarters: Kolkata
- BSI is the apex taxonomic research organization in the country.
- Mandate: biosystematics research, floristic studies, documentation of flora, digitization of herbarium specimens, & advisory services etc.,
- BSI publishes 'Red Data Book of Indian Plants'.

Zoological survey of India

- Established in 1916
- Headquarter: Kolkata
- Objective: to promote the survey, exploration, and research of the fauna.

National Biodiversity Authority

- Established in 2003
- Headquarter: Chennai
- NBA is a statutory body under Biological Diversity Act, 2002.
- The act was enacted to give effect to the Convention on Biological Diversity (CBD) (India signed it in 1992)
- Mandate: to perform regulatory & advisory functions for the Government of India on issues of conservation, and sustainable use of biological resources.

Wildlife Crime Control Bureau

- Established in 2006
- Headquarter: New Delhi
- WCCB is a statutory body constituted under the Wildlife (Protection) Act 1972 (WPA 2006, Amendment).
- It has five regional offices in Delhi, Kolkata, Mumbai, Chennai & Jabalpur
- Objective: to combat organized wildlife crime
- Additional Director General (Wild Life) is the ex-officio director of the WCCB.
- WCCB is the nodal point for SAWEN (South Asia Wildlife Enforcement Network) in India.
- It also assists & advises the Customs authorities in inspection of the consignments of flora & fauna as per the provisions of WPA, CITES & EXIM Policy.

National Ganga River Basin Authority

- Established in 2009 under the Ministry of Jal Shakti
- Headquarter: New Delhi
- Mandate: Abatement of pollution & conservation of the river Ganga.
- The NGRBA is chaired by the Prime Minister
- Members include: concerned Union Ministers, and the Chief Ministers of the States through which Ganga flows.

National Board for Wildlife

- Established in 2003 under MoEF&CC
- Headquarter: New Delhi
- It replaced the 'Indian Board for Wildlife', which was formed in 1952 as an advisory board.
- NBWL is a statutory body constituted under the WPA, 1972.
- Chaired by Prime Minister
- Objective: To promote the conservation and development of wildlife and forests.
- It approves projects in and around national parks and sanctuaries and has the power to review all wildlife-related matters
- No alternation of boundaries in National Parks and Wildlife Sanctuaries can be done without approval of the NBWL

National Tiger Conservation Authority

- Established in 2006 under MoEF&CC
- Headquarter: New Delhi
- NTCA is a statutory body constituted under the WPA, 1972 (Amendment Act, 2006).
- Chairperson: Minister of Environment.
- It provides statutory authority to Project Tiger.
- Addresses the livelihood interests of local people in areas surrounding Tiger Reserves

Protected Area in India

Tiger reserves in India

- Currently, total 53 tiger reserves exist in India
- Srivilliputhur Megamalai Tiger Reserve was established in 2021 in Tamilnadu
- Ranipur Tiger Reserve was established in 2022 in Uttar Pradesh
- Project Tiger was launched by the Government of India in the year 1973 to save the endangered species of tiger in the country.
- Nagarjunsagar Srisailem (Andhra Pradesh) is largest tiger reserve in India.
- M.P has maximum tiger reserve in India.
- Orang is smallest tiger reserve in India.
- Ranipur Tiger Reserve in Uttar Pradesh has become the 53rd tiger reserve of India.

Project Elephant and Elephant reserve in India

- Project Elephant was launched by the Government of India in the year 1992 as a Centrally Sponsored Scheme with the following

objectives:

1. Protecting elephants, their habitat and corridors
 2. Addressing issues of man-animal conflict
 3. Welfare of captive elephants
- Currently, total 33 elephant reserves exist in India
 - Agsthyamalai ER in Tamil Nadu and Terai ER in Uttar Pradesh were established in 2022
 - Tamil Nadu and Assam have the highest number of elephant reserves with five each in both the states

Ramsar sites in India:

- India is one of the Contracting Parties to Ramsar Convention, signed in Ramsar, Iran, in 1971. India signed it on 1st Feb 1982. During 2022 a total of 28 sites have been declared as Ramsar site and total number of sites reached to 75 in India.
- Tamil Nadu has maximum number of Ramsar sites (14 number), followed by UP which has 10 Ramsar sites.
- Sundarbans is the largest Ramsar Site in India

Natural World heritage sites in India

- A World Heritage Site is a place that is listed by UNESCO for its special cultural or physical significance.
- The list of World Heritage Sites is maintained by the international World Heritage Programme, administered by the UNESCO World Heritage Committee. List of natural world heritage sites in India
 1. Great Himalayan National Park Conservation Area- Himachal Pradesh
 2. Western Ghats- Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala
 3. Nanda Devi and Valley of Flowers National Parks- Uttarakhand
 4. Sundarbans National Park- West Bengal
 5. Kaziranga National Park- Assam
 6. Keoladeo National Park- Rajasthan
 7. Manas Wildlife Sanctuary- Assam

National park

- An area, whether within a sanctuary or not, can be notified by the state government to be constituted as a National Park, by reason of its ecological, faunal, floral, geomorphological, or zoological association or importance, needed to for the purpose of protecting and propagating or developing wildlife therein or its environment. No human activity is permitted inside the national park except for the ones permitted by the Chief Wildlife Warden of the state under WPA 1972.
- There are 106 existing national parks in India covering an area of 44,402.95 km², which is 1.35% of the geographical area of the country.

- M.P has highest, 10 national parks in India.
- Hemis National Park is biggest national park in India.

Wild life sanctuary

- State Government is to constitute an area as a sanctuary if such area is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment. Some restricted human activities are allowed inside the Sanctuary under WPA 1972.
- There are 567 existing wildlife sanctuaries in India covering an area of 122,564.86 km², which is 3.73% of the geographical area of the country.
- Andaman and Nicobar has highest number of sanctuaries in India.

Conservation reserve and community reserve

- Conservation reserves and community reserves in India are terms denoting protected areas of India which typically act as buffer zones to or connectors and migration corridors between established national parks, wildlife sanctuaries and reserved and protected forests of India.
- Such areas are designated as conservation areas if they are uninhabited and completely owned by the Government of India but used for subsistence by communities and community areas if part of the lands are privately owned.
- These protected area categories were first introduced in the Wildlife (Protection) Amendment Act of 2002 – the amendment to the Wildlife Protection Act of 1972.
- These categories were added because of reduced protection in and around existing or proposed protected areas due to private ownership of land, and land use.

Environmental conventions and agreements

COP21:

- It is the 21st meeting of the Conference of Parties (COP) to the United Nations Framework Convention on Climate Change.
- The Paris Agreement is a legally binding international treaty on climate change.
- It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

Kigali Agreement

- It is an amendment to the Montreal Protocol.
- It is an environmental treaty signed by countries to phase out Ozone Depleting Substances (ODSs) from the earth's atmosphere.
- It was adopted in 2016.

- It came into force in 2019.

Convention on Biological Diversity (CBD)

- The Convention on Biological Diversity (CBD) is an international legally-binding treaty with three main goals: conservation of biodiversity; sustainable use of biodiversity; and the fair and equitable sharing of the benefits arising from the use of genetic resources.
- It was adopted in 1992
- It came into force in 1993.

Bonn Convention

- The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or the Bonn Convention) aims to conserve terrestrial, marine and avian migratory species throughout their range.
- It was adopted in 1979.
- It came into force in 1983.
- India is a signatory to the CMS. The CMS CoP-13 in 2020 was held at Gandhi Nagar, Gujarat. India will remain president of the CoP to Bonn convention till 2023

Ramsar Convention

- The Ramsar Convention is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.
- It was adopted in the city of Iran, Ramsar in 1971.
- It came into force in 1975.

Stockholm Convention

- The Stockholm Convention is a global treaty that aims to protect human health and the environment from the effects of persistent organic pollutants (POPs).
- It was adopted in 2001 in Geneva, Switzerland.
- It came into force in 2004.
- CITES
- Convention on International Trade in Endangered Species of Wild Fauna and Flora, is a global agreement among governments to regulate or ban international trade in species under threat.
- It was adopted in 1963.
- It came into force in 1975.

Vienna Convention:

- It is a convention for the Protection of Ozone Layer.
- It was adopted in 1985.
- It came into force in 1988.
- India, being a Party to the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on substances that deplete the Ozone Layer, have been sharing the global concern for protecting the Ozone layer and phasing out of the ODSs

Montreal Protocol

- It is an international environment protocol on substances that deplete the Ozone Layer.
- It was adopted in 1987.
- It came into force in 1989.
- India, as Party to the Montreal Protocol since June 1992, has been successfully implementing the Montreal Protocol and projects and activities for phasing out of ozone depleting substances, in line with the phase out schedule of the Protocol

Kyoto Protocol:

- The Kyoto Protocol operationalizes the United Nations Framework Convention on Climate Change by committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets.
- It came into force in 2005.

United Nations Framework Convention on Climate Change:

- It is an international environmental treaty governing actions to combat climate change through adaptation and mitigation efforts directed at control of emission of Greenhouse Gases (GHGs) that cause global warming.
- It was adopted in 1992.
- It came into force in 1994.
- The secretariat of the United Nations Framework Convention on Climate Change is located in Bonn, Germany

Rio Summit:

- It was held in 1992 at Rio de Janeiro, Brazil.
- The Rio Summit 1992 is also called the Earth Summit. This summit led to the development of the following documents:
 1. Rio Declaration on Environment and Development
 2. Agenda 21
 3. Forest Principles

UNCCD:

- The United Nations Convention to Combat Desertification (UNCCD is the sole legally binding international agreement linking environment and development to sustainable land management and combat desertification.
- It was adopted in 1994.
- It came into force in 1996.

Basel Convention:

- The Basel Convention regulates the transboundary movements of hazardous wastes and other wastes and obliges its Parties to ensure that such wastes are managed and disposed of in an environmentally sound manner.
- The Convention covers toxic, poisonous, explosive, corrosive, flammable, Eco toxic and infectious wastes.
- It was adopted in 1989.

- It came into force in 1992.

Cartagena Protocol:

- The Cartagena Protocol is an international agreement managing the movement of living modified organisms from one country to another.
- It aims to protect nature from the potential risks posed by such organisms by establishing procedures countries can use to make informed decisions on the import of such organisms.
- It was adopted in 2000.
- It came into force in 2003.

UN-REDD:

- It is a United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation.
- It was created in 2008.
- The UN-REDD Program's aims are to generate the necessary flow of resources to significantly reduce global emissions from deforestation and forest degradation in developing countries and enhance carbon stocks in forests while contributing to national sustainable development.

Nagoya Protocol:

- It is an international environment protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity (CBD).
- It was adopted in 2010.
- It came into force in 2014.

Minamata Convention:

- The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury.
- It was adopted in 2013.
- It came into force in 2017.

Rotterdam Convention:

- It is an international environmental convention on Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.
- It was adopted in 1998.
- It came into force in 2004.



COMPREHENSIVE
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MCQs based on Preliminary Exam

- 1.** The Lucknow Session, 1916 was special in many respects. Consider the following statements regarding this session:
 1. Congress and All India Muslim League signed the historic Lucknow Pact.
 2. It marked the re-union of the Moderates and Extremists.
 3. Annie Besant was the president of Lucknow session.
 Which of the above statement/s is/are correct?
 (a) 1 and 3 (b) 1 and 2
 (c) 2 and 3 (d) 1, 2 and 3
 - 2.** The Ilbert Bill Controversy is said to be a high watermark in the history of Indian National Movement. This is because it invoked issues of :
 1. Security lapse on the Indian borders, especially the North-Western frontier
 2. Racial discrimination between Indian and Europeans
 3. Suppression of local language newspapers and their nationalization by the Government
 Select the correct answer from the code given below:
 (a) 2 only (b) 1 and 2
 (c) 2 and 3 (d) 1 and 3
 - 3.** Consider the following statements regarding Partition of Bengal in 1905:
 1. It was ordered by Lord Curzon, the then Viceroy of India.
 2. Program of Swadeshi was adopted to protest against the division.
 3. It was annulled after the First World War ended.
 Which of the above statement/s is/are correct?
 (a) 2 only (b) 1 and 2
 (c) 1 and 3 (d) 1, 2 and 3
 - 4.** With respect to Indian freedom struggle, how is the word "Swadeshi" different from "boycott"?
 1. Swadeshi was essentially economic movement, boycott was not.
 2. While Swadeshi attracted the lower strata of Indian society, boycott attracted the higher strata.
 Which of the above statement/s is/are correct?
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2
 - 5.** Lucknow Pact between the Indian National Congress (INC) and Muslim League put forward which of the following political demands before the Government?
 1. Separate electorates for the Muslims
 2. It demanded self-government from the British.
 3. All the members of the viceroy's executive council should be Indians.
 Select the correct answer from the code given below:
 (a) 1 and 2 (b) 2 only
 (c) 2 and 3 (d) 1 and 3
 - 6.** Consider the following statements:
 1. A Khilafat Committee was formed in 1915 to defend the Khalifa's temporal powers.
 2. Muhammad Ali and Shaukat Ali, two prominent leaders, decided to boycott the Khilafat Committee.
 Which of the above statement/s is/are correct?
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2
 - 7.** The Ghadar party was:
 1. A revolutionary organization
 2. Founded in New York
 3. Aiming at securing India's independence from British rule
 Select the correct answer from the code given below:
 (a) 1 and 2 (b) 1 and 3
 (c) 3 only (d) 2 and 3
 - 8.** Consider the following statements regarding Morley-Minto Reforms :
 1. It retained official majority in the Central Legislative Council but allowed the provincial legislative councils to have non-official majority.
 2. It introduced a system of communal representation for Muslims by accepting the concept of 'separate electorate'.
 3. It granted franchise to a limited number of people on the basis of property, tax or education.
 Which of the above statement/s is/are correct?
 (a) 2 only (b) 1 and 2
 (c) 3 only (d) 1, 2 and 3
 - 9.** In the Gupta Empire, Paramabhattacharya was

- a:
 (a) Council of Peace and Conflict
 (b) Minister for Foreign Affairs
 (c) In charge of granaries
 (d) Title adopted by Gupta Kings
10. *Chola inscriptions mention several categories of land. Among them Vellanvagai was a land:*
 (a) Given for the maintenance of a school
 (b) Donated to Jaina institutions
 (c) Belonging to non-Brahmana peasant proprietors
 (d) Left for fallow cultivation
11. *Who among the following Governor General followed the Policy of Non-Interference with native states?*
 (a) John Shore
 (b) Cornwallis
 (c) Warren Hastings
 (d) William Bentinck
12. *With reference to Warren Hastings, consider the following statements:*
 1. He was the first Governor General of India.
 2. He abolished the Dual Government in Bengal.
 3. He signed the treaty of Amritsar with Maharaja Ranjit Singh.
 Which of the above statement/s is/are correct?
 (a) 1 only (b) 2 only
 (c) 2 and 3 (d) 1, 2 and 3
13. *Which of the following pairs is **not** correctly matched?*
 (a) Lord Wellesley– Fort William College
 (b) William Bentinck – Kol Rebellion
 (c) Dalhousie – Wood’s Despatch
 (d) Metcalfe - Vellore Mutiny
14. *Consider the following statements regarding the events that took place after Mahatma Gandhi’s return to India from South Africa:*
 1. On Nehru’s advice, Gandhiji spent a year travelling around British India, getting to know the land and its peoples.
 2. His first major public appearance was at the opening of the Banaras Hindu University (BHU) in 1916.
 Which of the above statement/s is/are correct?
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2
15. *Ahmedabad Mill Strike 1918 led by Gandhiji was based on the issue of:*
 (a) Plague Bonus of the previous year to workers
 (b) Inhuman treatment of mill workers by the management
 (c) Objection of management on participation of workers in the freedom struggle
 (d) Large-scale layoffs of mill workers
16. *Gandhi suspended which of these movements calling it a ‘Himalayan Blunder’?*
 (a) Non-cooperation Movement
 (b) Satyagraha movement against Rowlatt Act
 (c) Quit India Movement
 (d) Civil Disobedience Movement
17. *What is the significance of Sabarmati Ashram in the Modern History of India?*
 1. It served as the last residence of Mahatma Gandhi.
 2. It has been declared as a national monument by the Indian government.
 3. Salt Satyagraha was started from this Ashram in 1930.
 Select the correct answer from the code given below:
 (a) 1 only (b) 2 and 3
 (c) 3 only (d) 1 and 3
18. *In the Words of Gandhiji :*
 1. Satyagraha is physical force
 2. Satyagraha is passive resistance
 3. Satyagraha is pure soul-force
 4. In the use of Satyagraha, there is no ill-will whatsoever.
 Select the correct answer from the code given below:
 (a) 3 and 4 (b) 2, 3 and 4
 (c) 1 and 2 (d) 1, 2, 3 and 4
19. *Which of the following statement/s is/are correct about the ‘shadow banking system’?*
 1. It is fully regulated like commercial banks.
 2. These are the institutions that operate partially (or fully) outside the traditional commercial banking sector.
 3. Shadow banks do not have explicit access to central bank liquidity.
 Select the correct answer using the code given below:
 (a) 1 and 2 only (b) 2 and 3 only
 (c) 3 only (d) 1, 2 and 3
20. *In the context of the ‘Prompt Corrective Action (PCA)’ framework, consider the following statements:*
 1. It aims to check the problem of Non-

Performing Assets (NPAs) in the Indian banking sector.

2. The PCA framework deems banks as risky if they slip some trigger points like capital to risk-weighted assets ratio (CRAR), Return on Assets (RoA) etc.

Which of the statement/s given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

21. In the context of 'Biodiversity Management Committees (BMC)', consider the following statements:

1. As per the Biological Diversity Act 2002, BMCs are created for promoting conservation and sustainable use of biological diversity by local bodies across the country.
2. The main function of the BMC is to prepare 'People's Biodiversity Register' in consultation with the local people.

Which of the statement/s given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

22. Trade and Commerce expanded in India during the 17th century due to:

1. Political integration of the country under Mughal rule and establishment of conditions of law and order over extensive areas.
2. The Mughals minted gold coin of high purity which became standard coins in India and abroad and thus helped India's trade.
3. A uniform tax was levied on goods at the point of their entry into the empire.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

23. Which of the following policy/reforms introduced by Lord Curzon?

1. Took steps to increase official control over local bodies.
2. Introduce the professional courses in India.
3. The categorisation of civil services into imperial, provisional and subordinate.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 and 3 only
(c) 1 and 2 only (d) 1, 2 and 3

24. Which of the following statement/s is/are correct about 'Subsidiary Alliance'?

1. The Awadh was the first to accept the Subsidiary Alliance.
2. It was a defensive counter measure of the British Government against the imperialistic designs of France and Russia.
3. The subsidiary alliance was an extension of the Ring-fence System.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

25. Which of the following leaders/personalities was/were associated with Civil Disobedience movement?

1. K. Kelappan
2. Sarojini Naidu
3. C.R. Das
4. Chandrababha Saikiani
5. G.K. Gokhale

Select the correct answer using the code given below:

- (a) 1, 2 and 4 only
(b) 2, 4 and 5 only
(c) 1, 3 and 5 only
(d) 1, 2, 3 and 5 only

26. Consider the following statements about the 'Jallianwalla Bagh Massacre':

1. The Hunter Committee of Inquiry for this massacre did not include any Indian Member.
2. The government had passed an Indemnity Act for the protection of its officers.
3. The clergy of the Golden Temple honoured General Dyer by declaring him a Sikh.

Which of the statement/s given above is/are correct?

- (a) 1 and 2 only (b) 3 only
(c) 2 and 3 only (d) 1, 2 and 3

27. Consider the following statements about 'Moderates':

1. They demanded constitutional reforms and share for Indians in services.
2. Their Social bases were educated middle and lower-middle classes in towns.
3. Their ideological inspiration was Indian history, cultural heritage and Hindu traditional symbols.

Which of the statement/s given above is/are correct?

- (a) 1 only (b) 1 and 3 only
(c) 2 and 3 only (d) 1, 2 and 3

- 28.** Which of the following *point/s was/were included in Eleven Demands presented to the government by Mahatma Gandhi before the launch of the Civil Disobedience Movement?*

1. Reduce land revenue by 75 per cent.
2. Accept Postal Reservation Bill.
3. Reduce expenditure on Army and civil services by 50 per cent.

Select the correct answer using the code given below:

- | | |
|------------------|------------------|
| (a) 1 only | (b) 1 and 3 only |
| (c) 2 and 3 only | (d) 1, 2 and 3 |

- 29.** In the context of '*Head on Generation (HOG) system*', consider the following statements:

1. This scheme is widely used power supply system by Railways at world level.
2. HOG system is free of air and noise pollution.

Which of the statement/s given above is/are correct?

- | | |
|------------------|---------------------|
| (a) 1 only | (b) 2 only |
| (c) Both 1 and 2 | (d) Neither 1 nor 2 |

- 30.** Consider the following statements regarding the '*Cabinet Committee*':

1. There is no mention of Cabinet Committee in the Constitution of India.
2. Its members are comprised only of Cabinet Ministers.
3. Cabinet Committees are only of temporary nature.
4. This Committee is headed mostly by the Prime Minister.

Which of the statement/s given above is/are correct?

- | | |
|------------------|---------------------|
| (a) 1 and 3 only | (b) 2 and 3 only |
| (c) 1 and 4 only | (d) 1, 3 and 4 only |

- 31.** Consider the following statements:

1. The 'Tribunals' were added to the constitution of India under the 42nd Amendment, Act of 1976.
2. The jurisdiction of Central Administrative Tribunal extends to the officers of the Supreme Court as well as the secretarial staff of the Parliament.

Which of the statement/s given above is/are correct?

- | | |
|------------------|---------------------|
| (a) 1 only | (b) 2 only |
| (c) Both 1 and 2 | (d) Neither 1 nor 2 |

- 32.** Consider the following statements regarding the *Powers of a Presiding officer of the house of the Parliament or State Legislature in context*

with the Provisions of Tenth Schedule:

1. The decision of the Presiding officer regarding any question of disqualification arising out of defection is final and cannot be questioned in any court.
2. He is empowered to make rules to give effect to the provisions of the Tenth Schedule without any modification by the House.

Which of the statement/s given above is/are correct?

- | | |
|------------------|---------------------|
| (a) 1 only | (b) 2 only |
| (c) Both 1 and 2 | (d) Neither 1 nor 2 |

- 33.** Regarding the '*disqualification to contest elections*' in India, which of the following statement/s is/are correct?

1. If a person is convicted of any offence and sentenced to an imprisonment of 5 years or more, he/she is disqualified to contest the election.
2. As per the guidelines of Election Commission of India, if a person is on bail, after the conviction and his appeal is pending for disposal, he can contest election.

Select the correct answer using the code given below:

- | | |
|------------------|---------------------|
| (a) 1 only | (b) 2 only |
| (c) Both 1 and 2 | (d) Neither 1 nor 2 |

- 34.** With reference to the *Centre-State Relations in India*, consider the following statements:

1. No division of judicial powers between Centre and State has been done in the Constitution of India.
2. The Governor of a state has power to direct that an act of the Parliament is not applicable to a particular area of the state.
3. In case of a conflict between the Central Law and the state law on a subject enumerated in the concurrent list, the central law will always prevail.

Which of the statement/s given above is/are correct?

- | | |
|------------------|------------------|
| (a) 3 only | (b) 1 and 2 only |
| (c) 1 and 3 only | (d) 2 and 3 only |

- 35.** In the wake of *Drinking Water Supply Infrastructure*, which of the following statement/s regarding '*Har Ghar Jal*' Mission is/are correct?

1. This is an initiative under the Ministry of Rural Development to ensure safe drinking water to all the households in India.

2. It is in line with the sustainable development goals of UN and aims to achieve the target till 2024.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

36. Consider the following characteristics:

1. Modern Art
2. Practised in the adjoining parts of Terai in Nepal.
3. Based on the themes of Ramayana and Mahabharata
4. Flourished in Odisha

Which of the above feature/s can be noted in 'Pattachitra art'?

- (a) 3 only (b) 1 and 2 only
(c) 3 and 4 only (d) 2 and 4 only

37. Consider the following cave structures of early period:

1. Undavalli
2. Udayagiri caves
3. Eladipattam
4. Kanheri caves

Which of the cave/s given above is/are mainly Hindu Cave/s?

- (a) 2 only (b) 1 and 2 only
(c) 3 and 4 only (d) 1, 2 and 4 only

38. Which of the following statement/s regarding the *Montagu-Chelmsford Reforms* is/are correct?

1. 'Reserved List' included subject of local government and education while the 'transferred list' included irrigation.
2. The ministers were to be responsible to the legislature while the executive councils were not to be responsible to the legislature.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

39. Which of the following events/incidents took place during the reign of Lord Reading?

1. Chauri Chaura incident
2. Moplah rebellion in Kerala
3. Establishment of Swaraj Party by C.R. Das
4. Visit of Simon Commission to India
5. Death of Bal Gangadhar Tilak

Select the correct answer using the code given below:

- (a) 1 and 5 only (b) 2, 3 and 4 only

- (c) 1, 2 and 3 only (d) All of the above

40. Which of the following statement/s regarding the *Swadeshi Movement* is/are correct?

1. Rabindranath tagore returned his title of Knighthood during this movement.
2. Chidambaram Pillai spread the movement to Madras and Organised the strike of the Tuticorin Mill.
3. The articles of Lala Lajpat Rai were published in Kayastha Samachar which endorsed technical education and industrial self sufficiency.

Select the correct answer using the code given below:

- (a) 1 only (b) 2 and 3 only
(c) 1 and 2 only (d) 1, 2 and 3

41. Consider the following pairs of festivals in news and the related states / UTs:

Festivals **States/UTs**

1. Kheerbhawani Mela : Assam
2. Ambubachi Mela : Tamilnadu
3. Chamliyal Mela : Jammu and Kashmir

Which of the pair/s given above is/are correctly matched?

- (a) 1 only (b) 3 only
(c) 1 and 2 only (d) 1, 2 and 3

42. Consider the following statements regarding *United Nations Population Fund (UNFPA)* :

1. It is a subsidiary organ of the UN General Assembly and works as a sexual and reproductive health agency.
2. The UN Economic and Social Council (ECOSOC) determines its mandate.
3. It is supported by the UN budget.

Which of the statement(s) given above is / are correct?

- (a) 1 only (b) 1 and 2 only
(c) 1 and 3 only (d) 1, 2 and 3

43. Consider the following statements about *Mahananda Wildlife Sanctuary*:

1. It is located between Teesta and Mahananda river.
2. It has been designated as an 'important bird area' due to its critical role in the conservation of birds and their habitat.
3. Rufous-necked hornbill is one of the main attraction for bird watchers.

Which of the statement/s given above is/are correct?

- (a) 1 and 2 only (b) 3 only
(c) None of the above (d) All of the above

44. Consider the following statements regarding *Zebrafish*:

1. It is a temperate fish native to Central Asia and Europe.
2. It has a similar genetic structure to humans.
3. It has the unique ability to repair heart muscles.
4. It is an important model for understanding the mechanisms of development and diseases such as cancer.

Which of the statement/s given above is/are correct?

- (a) 1 and 2 only (b) 3 and 4 only
(c) 2, 3 and 4 only (d) All of the above

45. At present, scientists can determine the arrangement or relative positions of genes or DNA sequences on a chromosome. How does this knowledge benefit us?

1. It is possible to know the pedigree of livestock.
2. It is possible to assess health damage and risks caused by exposure to mutagenic chemicals and cancer-causing toxins
3. It is possible to develop disease-resistant animal breeds.
4. It is possible to identify potential suspects whose DNA may match evidence left at crime scenes.

Which of the statement/s given above is/are correct ?

- (a) 1 and 2 only (b) 3 and 4 only
(c) 1, 2 and 3 only (d) 1, 2, 3 and 4

46. Which of the following statement/s is/are correct?

1. Viruses lack enzymes necessary for the generation of energy
2. Viruses can be cultured in any synthetic medium.
3. Viruses are transmitted from one organism to another by biological vectors only.
4. The genetic information of viruses can be only in the form of RNA.

Select the correct answer using the codes given below

- (a) 1 only (b) 2 and 3 only
(c) 1, 2 and 3 only (d) 1, 2, 3 and 4

47. With reference to *India's satellite launch vehicles*, consider the following statements:

1. PSLVs launch the satellites useful for Earth resources monitoring whereas GSLVs are designed mainly to launch

communication satellites.

2. Satellites launched by PSLV appear to remain permanently fixed in the same position in the sky, as viewed from a particular location on Earth.
3. GSLV Mk III is a four-staged launch vehicle with the first and third stages using solid rocket motors; and the second and fourth stages using liquid rocket engines.
4. GSLV Mk III is designed to carry 4 tons class of satellites into Geosynchronous Transfer Orbit (GTO) or about 10 tons to Low Earth Orbit (LEO), which is about twice the capability of the GSLV Mk II.

Which of the statement/s given above is/are correct?

- (a) 1 and 4 only (b) 2 and 3 only
(c) 1, 2 and 3 only (d) 1, 2, 3 and 4

48. *Microbial fuel cells* are considered a source of sustainable energy. Why?

1. They use living organisms as catalysts to generate electricity from certain substrates.
2. They use a variety of organic materials as substrates.
3. They can be installed in waste water treatment plants to cleanse water and produce electricity.

Which of the statement/s given above is/ are correct?

- (a) 1 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

ANSWER

1.	(b)	13.	(d)	25.	(a)	37.	(b)
2.	(a)	14.	(b)	26.	(c)	38.	(b)
3.	(b)	15.	(a)	27.	(a)	39.	(c)
4.	(d)	16.	(b)	28.	(c)	40.	(b)
5.	(a)	17.	(b)	29.	(c)	41.	(b)
6.	(d)	18.	(a)	30.	(c)	42.	(b)
7.	(b)	19.	(b)	31.	(a)	43.	(d)
8.	(b)	20.	(c)	32.	(d)	44.	(c)
9.	(d)	21.	(c)	33.	(d)	45.	(d)
10.	(c)	22.	(c)	34.	(b)	46.	(a)
11.	(a)	23.	(c)	35.	(b)	47.	(a)
12.	(b)	24.	(b)	36.	(c)	48.	(d)

MCQs Based on Current Affairs

1. Which of the following state government has launched CAMPA new action plan for 2023-24?
- A. Odisha B. Rajasthan
C. Uttar Pradesh D. Himachal Pradesh

Answer- A

2. Consider the following statements regarding the Banjaras in the medieval period of Indian history.

1. They are nomadic farmers.
2. The word 'Labana' is used to name their major group.
3. In Karnataka, Banjaras are placed under Scheduled Caste (SC) category.

Select the correct statement.

- A. 1 and 2 B. 2 and 3
C. 2 only D. 3 only

Answer – B

3. Consider the following statements regarding women officers in the Armed Forces of India.
1. Women officers were inducted for the first time in the Indian Army in 1888 through the 'Indian Military Nursing Service'.
 2. After a landmark judgment by the Supreme Court in 2020, women officers can play an active combat role in the Army at par with male officers.
 3. The number of women officers in the Indian Army is less than 5%.

Which of the above statements are correct?

- A. 1 and 3 B. 1 only
C. 2 only D. 2 and 3

Answer-A

4. Consider the following statements regarding Neelakurinji.

1. It blooms at an altitude above 2700 meters in the Nilgiri Hills.
2. The flowers have an excellent scent and potentially medicinal properties.

Which of the above statements are correct?

- A. 1 only B. 2 only
C. Both and 2 D. none of the above

Answer – D

5. The peaks named Garudadri, Narayandadri, Neeladrim Seshadri, Venkatadri and

Vrishabhadri are part of which of the following ranges in India?

- A. Satpura mountain range
B. Aravalli range
C. Eastern Himalayan range
D. Seshachalam Hill Range

Answer – D

6. Consider the following statements regarding Confederation of Indian Industry (CII).

1. CII was established through an Act of the Government of India.
2. It is managed and led by the industries themselves.
3. The headquarter of CII is in Mumbai.

Choose the correct option.

- A. 1 and 2 only B. 2 and 3
C. 1, 2 and 3 D. 2 only

Answer – D

7. With respect to Additional Tier-1 Bonds, consider the following statements.

1. AT1 bonds are debt instruments with no maturity period.
2. AT1 bonds offer both call option as well as put option.
3. They are comparatively less risky as RBI guarantees their return to the investors.

Which of the above statements are correct?

- A. 1 only B. 1 and 2
B. 2 only D. 2 and 3

Answer- A

8. Under whose aegis FSSAI works-

- A. Ministry of Food Processing
B. Ministry of Health and Family Welfare
C. Ministry of Consumer Affairs
D. NITI Aayog

Answer – B

9. Consider the following statements regarding the Ahom dynasty of Assam-

1. The Vashishtha Temple of Guwahati was built during the time of Ahom ruler Rajeshwar Singh.
2. Ahom coins were mainly minted in octagonal shape.
3. Charaideo is the traditional burial place of

Ahom kings and nobles.

Which of the above statements are correct?

- A. 1 and 2 B. 2 and 3
C. 3 only D. ALL OF THE ABOVE

Answer – D

10. Consider the following statements regarding drug regulation in India.

1. The Central Drugs Standard Control Organization (CDSCO) is the central drug authority in India under the Ministry of Health and Family Welfare.
 2. The Drug Controller General of India (DCGI) sets standards for the manufacture, sale and distribution of drugs in India.
- choose the right option-

- A. 1 only B. 2 only
C. Both 1 and 2 D. none of the above

Answer– C

11. With respect to Municipal Bonds in India, consider the following statements.

1. A municipal bond is a debt instrument that is exempt from most federal taxes and most state and local taxes.
2. Recently, SEBI launched an information database on municipal bonds to develop bond markets in India.
3. Ahmedabad Municipal Corporation issued municipal bonds for the first time in India in 1997.

Which of the above statements is/are correct?

- A. 2 only B. 2 only
C. Both 1 and 3 D. 1 and 2 only

Answer – D

12. Consider the following elephants from around the world.

1. Elephants are matriarchal, meaning they live in groups led by females.
 2. All African elephants are classified by the IUCN as 'critically endangered'.
 3. In India, elephants are protected under Schedule I of the Wildlife Protection Act, 1972.
- Which of the above statements are correct?

- A. Only 3 B. 1 and 3
C. 1 and 2 D. All of the above

Answer – B

13. Consider the following statement with respect

to recent Economic crisis in Sri Lanka-

1. International Monetary Fund (IMF) provides loan to few countries facing Balance of payment crisis.
2. Increase in imports result in decline of foreign reserves.
3. China, Japan and India are major creditors of Sri Lanka.

Which of the following option is correct-

- A. Statement 1 and 2 are correct.
B. Statement 2 and 3 are correct.
C. Statement 1 and 3 are correct.
D. All statements are correct.

Answer – D

14. China's population declines in 2022- Consider the following statement with respect to China's population in 2022-

1. China is the world's most populous country.
2. After independence of China, its population never declined.
3. In 2021 census number of births in China was more than number of deaths.

Which of the following option is not correct-

- A. Statement 1 and 2 are correct.
B. Statement 2 and 3 are correct.
C. Statement 1 and 3 are correct.
D. None of the statements are correct.

Answer – B

15. Artificial sky-glow: The dark sky is a natural resource, and too much light is polluting it. Consider the following statement with respect to Light pollution-

1. Light pollution is the alteration of night natural lighting levels caused by anthropogenic sources of light.
2. Natural lighting levels are governed by natural celestial sources- the Moon, natural atmospheric emission (airglow), the stars and the Milky Way, and zodiacal light.

Which of the following option is correct-

- A. Statement 1 is correct.
B. Statement 2 is correct.
C. Both Statements are correct.
D. None of the Statements are correct.

Answer – C

Personality



Sarojini Naidu

Sarojini Naidu's name will always be written in golden letters in Indian history as a well-known poet, great freedom fighter and fierce leader of the feminist movement. Sarojini Naidu was one of the foremost leaders in the country's freedom movement and served as a source of inspiration for her peers and Indian youth.

Sarojini Naidu was born on February 13, 1879. His father's name was Aghorenath Chattopadhyay and mother's name was Varada Sundari. His father wanted to see her pursue science, but she was not interested in this field. After passing the matriculation examination at the age of 12, she was sent to England for higher education.

In England, she studied at 'King's College' in London and 'Girton College of Cambridge'. Significantly, at the age of just 13, she wrote the poem 'The Lady of Lake'. Her famous works include Golden Threshold, The Bird of Time, The Broken Wing, Nilambu, Traveller's Song, etc. Sarojini Naidu's poetry collections Bird of Time and Broken Wing made her a well-known poetess.

Like a great poetess, Sarojini Naidu was also a great freedom fighter. Once in 1902, Sarojini Naidu gave a powerful speech in Calcutta, which greatly impressed Gopalkrishna Gokhale. Gokhale asked her to actively participate in politics. Later in the year 1914, Sarojini Naidu met Gandhiji in London. After meeting Gandhiji, Sarojini Naidu's political activism increased considerably and she became an energetic spokesperson of the Congress. She worked in many committees of the Congress and worked to spread awareness about the freedom movement across the country.

In protest against the Jallianwala Bagh massacre, she returned her title of 'Kaiser-e-Hind'. Sarojini Naidu presided over the Kanpur Congress session of 1925. Besides this, she opposed the Rowlatt Act. Sarojini Naidu was one of the volunteers who accompanied Gandhiji in the famous Salt Satyagraha of 1930. Significantly, when Mahatma Gandhi was invited to hold talks in the 'Round Table Conference', Sarojini Naidu was also included in the delegation along with him. When Gandhiji was sent to jail in 1932, he had given the responsibility of giving direction and speedup the movement to Sarojini Naidu. During the 'Quit India Movement', when many big leaders of Congress including Gandhiji were arrested, Sarojini Naidu was also arrested in that. Apart from this, Sarojini had played an important role in resolving the disputes arising within the Congress on many occasions.

After India's independence, she was appointed as the Governor of Uttar Pradesh and became the first Indian woman to be appointed to the post of Governor. Apart from being a great poet, a great freedom fighter, Sarojini Naidu was also a top leader of the women's liberation movement. She was also associated with the 'All India Mahila Parishad', India's oldest and most important women's organization. This organization has contributed a lot in all the political, economic and legal rights that Indian women have got today.

This immortal daughter of Mother India passed away on March 2, 1949. This great heroine in Indian history will always be remembered by generations to come as 'Nightingale of India', 'National Leader' and 'Supporter of Women's Liberation Movement'.



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