

PERFECT

Complete Fortnightly for UPSC and PCS Exam



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India's Space Exploration: In the Light of Peaceful Endeavors & Global Cooperation



Contemporary Aspects of
Abortion Laws in India:
Discrepancies & Solutions

Management of Malnutrition
in Children: Necessary to
Protect Child Empowerment

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in Promoting Cooperative
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Efforts Made to Strengthen
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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.
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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 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.

PERFECT

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India's Space Exploration: In the Light of Peaceful Endeavors & Global Cooperation

The aspects of space are becoming intricately woven into our daily lives today. The satellites that orbit the earth send and receive signals and data that are used for communications over the internet, GPS networks that allow us to navigate our streets, pinpoint our locations and monitor our weather are some of the many examples that showcase how space technology is part of human lives. The journey of the internet and now “the internet of things” propelled by artificial intelligence has been quite fascinating. Over 80 countries own or operate around 3500 active satellites that are orbiting in space and almost every person on the globe is a user of space data/services. Our image of space has been that of state-centric, with space missions organized by different Space Administration, however, with the private sector increasing its impact in space exponentially space technology is set to explore new dimensions of development.

Context:

Union Minister Dr. Jitendra Singh while delivering the keynote address at the 2-day Conference on ‘Space - The final frontier for China in its quest for global leadership’, organised by the Centre for Contemporary China Studies, MEA, said that India stands for international space collaborations for the larger benefit of mankind. It is our solemn commitment that the outer space is used only for peaceful purposes and kept free of conflict.

India's Peaceful Space Endeavours:

- India's space program, marked by transparency and accountability has achieved significant milestones. Despite the historical space achievements of nations like the USA and the Soviet Union, India's Chandrayaan missions have made ground-breaking discoveries, such as detecting water on the Moon's surface. The collaboration with leading global space agencies reflects India's peaceful intent in space exploration.

Cost-Effective and Innovative Approach:

- India's space missions have been lauded for their cost-effectiveness, leveraging human resources and skills. Dr. Jitendra Singh highlighted the efficiency of India's Chandrayaan-3 mission, which costed significantly less than similar international endeavours. This frugal innovation approach has enabled India to excel in space technology applications, benefiting various sectors like agriculture, healthcare, and infrastructure.

Public-Private Partnership and Entrepreneurship:

- India has opened the doors of the space sector for the private industry. The introduction of numerous space start-ups, from just a handful in 2014 to over 150 within a few years, exemplifies India's dynamic entrepreneurial spirit. The establishment of the “Anusandhan National Research Foundation” fosters greater public-private partnerships, propelling India towards cutting-edge scientific research and technological advancements.

Economic Impact and Future Projections:

- India's space endeavours have not only

contributed to scientific progress but also bolstered the nation's economy. With the launch of numerous foreign satellites, India has earned substantial revenue, positioning itself as a key player in the global space industry. Projections suggest that India's space economy could reach \$100 billion by 2040, according to international reports.

Current Status of India's Space Sector:

- India's space sector has garnered global recognition for its prowess in building cost-effective satellites and launching foreign satellites into space. Committed to the peaceful and civilian use of outer space, India staunchly opposes the weaponization of space capabilities, aligning with its commitment to the Geneva Conference on Disarmament. The Indian Space Research Organisation (ISRO) stands as the sixth largest space agency globally, boasting an exceptional success rate. India also takes pride in its vibrant private space industry, with over 400 companies, ranking fifth in the world in terms of the number of space enterprises.

Recent Developments:

- **Defence Space Agency and Defence Space Mission:** India has established the Defence Space Agency (DSA) supported by the Defence Space Research Organisation (DSRO). The DSA is tasked with developing weapons to degrade, disrupt, destroy or deceive an adversary's space capability. Indian PM launched the Defence Space Mission at the Defence Expo 2022 in Gandhinagar, marking a significant stride in India's defence-oriented space initiatives.

- **Satellite Manufacturing Expansion:** India's satellite manufacturing capabilities are set to soar, with projections reaching USD 3.2 billion by 2025, a substantial increase from the USD 2.1 billion recorded in 2020. This expansion signals India's growing prominence in the global satellite manufacturing landscape.

- **SAMVAD Program:** In a bid to foster space research among young minds, ISRO initiated the SAMVAD program. This Student Outreach Program is conducted at ISRO's Bengaluru

facility, serving as a catalyst for nurturing the next generation of space scientists and engineers.

- India's space sector continues to evolve, embracing innovation, collaboration, and strategic initiatives that reinforce its position as a pioneering force in the realm of space exploration and technology.

Current Major Challenges in the Space Sector:

- **Lack of Regulations on Commercialization:** The rapid commercialization of outer space, driven by ventures like SpaceX's Starlink for Internet services and space tourism, presents many challenges before the Space administrations. The absence of a robust regulatory framework may lead to monopolization, raising concerns about fair competition and equitable access to space resources.
- **Rising Space Debris:** With the increase in space expeditions, the accumulation of space debris poses a significant challenge. Even small debris pieces, due to their high speeds, can potentially damage operational spacecraft, posing risks to both manned and unmanned missions. Managing this debris is critical to ensuring the safety of future space endeavours.
- **China's Space Advancements:** China's swift progress in the space industry, exemplified by the successful launch of its own navigation system, BeiDou, raises concerns. The potential integration of China's Belt and Road Initiative (BRI) members into their space sector could solidify China's global influence.
- **Increasing Global Trust Deficit:** The arms race for the weaponization of outer space has led to a climate of suspicion, competition, and aggression worldwide. This trend not only jeopardizes satellites essential for scientific exploration and communication services but also raises the risk of international conflicts. The erosion of trust among nations further complicates collaboration and peaceful coexistence in space exploration efforts.
- Navigating these challenges requires international cooperation, stringent regulations, and diplomatic efforts to ensure the responsible and sustainable use of outer space resources.

What is Outer Space Treaty?

- The Outer Space Treaty was considered by the Legal Subcommittee in 1966 and agreement was reached in the General Assembly. The Treaty was largely based on the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space. The Treaty was opened for signature

in January 1967 and it entered into force in October 1967. The Outer Space Treaty provides the basic framework of international space law to create awareness about the exploration and use of outer space that is carried out for the benefit and in the interests of all countries and all mankind. As of August 2023, 114 countries are parties to the treaty, while another 22 have signed the treaty but have not completed ratification.

Way Forward:

- **Securing India's Space Assets:** To safeguard space assets including satellites and defend against space debris, India must enhance its tracking capabilities. Initiatives like Project NETRA, an early warning system designed to detect hazards to Indian satellites, mark a significant stride in this direction.
- **Advocating for a Permanent Seat in Space:** India should proactively collaborate with international organizations and advocate for a planetary defence program. Engaging in joint space missions and fostering global cooperation can pave the way for India to secure a permanent seat in space governance.
- **Promoting Gender Equality in Space:** Emulating the UNOOSA's Space4Women project, India can promote gender equality and empower women in the space sector. Launching space awareness programs in rural areas and establishing College-ISRO Internship corridors, specifically tailored for female students, can inspire young minds. AzaadiSAT, crafted by 750 schoolgirls from India, exemplifies the nation's progress in this regard.
- **Technological Innovation for a Cleaner Space:** India can pioneer innovative solutions for space sustainability. Introducing technologies like self-eating rockets, self-vanishing satellites, and robotic arms for space debris retrieval can position India as a problem solver and explorer in the global space arena.

Conclusion:

India's approach to space exploration stands as a beacon of peaceful collaboration, emphasizing transparency, innovation, and economic growth. Through open dialogue, cost-effective missions, and strategic public-private partnerships, India is not only advancing its space capabilities but also contributing significantly to the global pursuit of knowledge beyond Earth's boundaries. As nations come together in the spirit of cooperation, the future of space exploration holds the promise of unprecedented discoveries and shared progress for all humankind.

Contemporary Aspects of Abortion Laws in India: Discrepancies & Solutions

Abortion is a commonly practiced procedure around the world that has been present long before the beginning of recorded history. It is an issue which creates controversy because of its broad connotations. Women's right to control their own bodies, the nature of the state's duty to protect the unborn child, the tension between human life and society's religious views, the involvement of spouses and parents in abortion decisions etc. are some of the ethical and social issues that raise fundamental questions about human existence. Furthermore, sexuality is one of the most controversial social issues at the center of abortion. Any discussion on abortion almost inevitably considers how the pregnancy occurred and how could the pregnancy have been prevented through the use of contraceptive methods.

Context:

Abortion laws in India are once again in the news because a 26 weeks married pregnant woman has appealed to the Supreme Court for permission to terminate her pregnancy due to post-partum depression and other health problems. The controversy has generated a pro-life versus pro-choice debate, highlighting the complex legal and ethical issues surrounding abortion in the country.

Historical Background:

- Abortion was considered illegal in India before the 1960s, and individuals, including women, could face imprisonment of up to three years and/or a fine as per Section 312 of the Indian Penal Code (IPC).
- In the 1960s the Government of India formed a committee led by Dr. Shantilal Shah to examine the issue of abortion and determine whether India should enact laws to address it.
- Based on the recommendations of the Shantilal Shah Committee, a bill related to medical termination of pregnancy was introduced in both the houses (Lok Sabha and Rajya Sabha) of Parliament. This bill was later passed by the Indian Parliament in August 1971.
- This was known as the Medical Termination of Pregnancy (MTP) Act 1971 which officially came into force on April 1, 1972, throughout India except the state of Jammu and Kashmir.
- It is important to note that Section 312 of the Indian Penal Code, which dates back to 1860, criminalizes voluntary abortion, even if the abortion is done with the consent of the pregnant woman.
- However, as an exception, when abortion is necessary to save the life of the pregnant woman, then it is not considered a crime. This means that anyone else involved in an abortion, including the woman herself and the medical practitioner, can be subject to prosecution.

Medical Termination of Pregnancy (MTP) Amendment Act 2021:

The MTP Act of 1971 regulates the termination of pregnancy in India, but it underwent a significant amendment in 2021. The new amendment

makes several changes to the existing law aimed at expanding women's access to safe and legal abortion. The following are the major provisions of the MTP Amendment Act 2021:

- **Opinion of Medical Practitioners:** According to the new law, abortion of a fetus up to 20 weeks of pregnancy requires the opinion of only one registered medical practitioner, while termination of pregnancy between 20 to 24 weeks requires the opinion of two registered medical practitioners.
- **State-level Medical Board:** Abortion beyond 24 weeks of pregnancy in cases of suspected fetal abnormalities require the opinion of a state-level medical board.
- **Increase in gestational limit:** This amendment has increased the upper gestational limit from 20 to 24 weeks for special categories of women including victims of rape, victims of incest, women with disabilities and minors.
- **Privacy Clause:** A privacy clause has been introduced in the new law to protect the privacy of women. It prohibits the disclosure of a woman's identity and other details related to her abortion unless authorized by law.
- **Access for unmarried women:** The amendment expanded MTP services to unmarried women thereby ensuring access to safe abortion based on the woman's choice, regardless of her marital status.

26 Weeks Pregnant Woman Case:

- A married woman who is 26 weeks pregnant with two other children has appealed to the Supreme Court for permission to terminate her pregnancy. She argued the inability to care for the child due to post-partum depression and other health problems. The Supreme Court initially agreed to her plea, but a two-judge bench later delivered a divided verdict.
- Following a report by the All India Institute of Medical Sciences (AIIMS), Justices Hima Kohli and B. V. Nagarathna observed that performing an abortion at this stage would either cause the fetal heartbeat to stop or lead to premature delivery with potentially serious complications

for the fetus. The case was then referred to a larger bench headed by the Chief Justice of India which emphasized the rights of the unborn child, sparking a pro-life versus pro-choice debate.

The MTP Act 1971 and The MTP Act Amendments 2020

	Present Law	Proposed Amendments
Indications (Contraceptive failure)	Only applies to married women	Unmarried women are also covered
Gestational Age Limit	20 weeks for all indications	24 weeks for rape survivors Beyond 24 weeks for substantial fetal abnormalities
Medical practitioner opinions required before termination	One RMP till 12 weeks Two RMPs till 20 weeks	One RMP till 20 weeks Two RMPs 20-24 weeks Medical Board approval after 24 weeks
Breach of the woman's confidentiality	Fine up to Rs 1000	Fine and/or Imprisonment of 1 year

Status of abortion laws globally:

- Although abortion is legal under certain conditions in almost all countries, these conditions vary widely. According to the United Nations report published in the year 2021, abortion is allowed in almost 98% of the countries to save the lives of women. This shows that there is a growing trend toward liberalization of abortion laws and increased access to abortion services. Over the past few decades, more than 60 countries have relaxed abortion laws, expanding the legal basis for abortion. During this period some countries (USA, El Salvador, Nicaragua, and Poland) have removed laws related to abortion. The US Supreme Court ended the constitutional right to abortion in 2022. After this judgment the debate over abortion has further intensified.

Divided decisions and legal interpretations of Supreme Court:

- A two-judge bench of Justice Hima Kohli and Justice Nagarathna first allowed the woman to terminate her pregnancy, but later differed on the verdict after the AIIMS report revealed the need to stop the fetal's heart. Justice Hima Kohli expressed concern over the fetal's heartbeat stopping with life, while Justice Nagarathna upheld the petitioner's determination not to continue the pregnancy, sparking a pro-life versus pro-choice debate. The petitioner argued

that her request was based on her rights under Article 21 which protects life and personal liberty.

Legal status of the fetus:

- The legal status of the fetus remains unclear in India. Dr. Aarthi P.M., Assistant Professor at the School of Indian Legal Thought, Mahatma Gandhi University, Kerala claims that the Indian legal framework does not definitively define whether a fetus is a living being or not. She argued that given the limitations of the public health system and the high cost of private health care, making safe abortion uncertain in the country, the pro-choice argument may not be a politically palatable argument for Indian society.

Comments of the bench headed by the Chief Justice of India:

- On October 12, the Supreme Court, led by the Chief Justice of India, urged the woman to reconsider her decision to terminate the pregnancy and carry the fetus for a few more weeks to avoid possible deformities. The bench emphasized the importance of the rights of the unborn child and the autonomy of a woman and aimed to strike a balance between both stakeholders.

Conclusion:

Both the petitioner's counsel and the Additional Solicitor General have expressed reluctance to continue the woman's pregnancy even after the AIIMS report. The Supreme Court directed the AIIMS Medical Board to examine the fetus for abnormalities and assess the health condition of the woman, taking into account her alleged depression and post-partum psychosis. The government has proposed that if the woman agrees to continue the pregnancy to full term, the child will be looked after and facilitated for adoption. So, it remains to be seen how the case will impact the broader landscape of abortion laws in the country and what will be the outcome of the ongoing debate. India's legal framework on abortion is considered largely progressive, especially compared to many countries including the United States where abortions are severely restricted. All stakeholders should be allowed to focus on women and their reproductive rights. Apart from this, there is a need for serious rethinking in public policy making so that balanced decisions can be made keeping in mind the interests of both mother and child.

Management of Malnutrition in Children: Necessary to Protect Child Empowerment

Children's right to good health as a fundamental right has been an issue for discussion for a long time. The Government of India is also committed to making childhood free from malnutrition and other health problems. Recently, the Union Minister of Women and Child Development has launched a new standardized protocol for the management of malnutrition in children. This protocol for the management of malnutrition in children has been prepared by the Ministry of Women and Child Development and the Ministry of Health and Family Welfare, Government of India. The meeting that launched this protocol particularly highlighted the role played by ICT Nutrition Tracker App in facilitating access to nutrition and monitoring health management and services. September this year, marked an achievement of ascertaining the nutritional level of more than 7 crore children. According to the Ministry of Women and Child Development, Government of India 'This protocol will be an important element in the efforts of the Ministry of Women and Child Development to reduce malnutrition through Mission Saksham Anganwadi and Poshan 2.0. This protocol clearly defines the process of assessing and providing care to malnourished children through the Anganwadi and medical eco-system.'

New Protocol Related to Malnutrition:

- Women and children constitute 67.7 percent of India's population. It is important to ensure their empowerment and their positive development in a safe and secure environment. This protocol will lead to sustainable and egalitarian development of the country. It is noteworthy that this is very much needed to achieve economic transformation and social change.
- The Ministry of Women and Child Development is trying to ensure that children are well nourished, happy and women are confident and self-reliant. For this, they have to be provided with an environment which is accessible, reliable, easy and free from all forms of discrimination and violence.
- To achieve the above target, the Government of India has approved the implementation of three important schemes in mission mode. These schemes are Mission Poshan 2.0, Mission Shakti and Mission Vatsalya.
- **Mission Saksham Anganwadi and Poshan 2.0:** It is an integrated nutrition support programme that addresses the challenges of malnutrition among children, adolescent girls, pregnant women and lactating mothers. For this, a strategic initiative of nutritional elements and their supply is taken. Furthermore, an eco-system is created to develop and promote practices that nurture health, wellness and immunity. Under the Poshan 2.0 supplementary nutrition program, the quality of food items and their supply is also improved.
- There are three important programs/schemes under the ambit of Poshan 2.0, namely Anganwadi Services, Scheme for Adolescent Girls and Poshan Abhiyaan. Poshan Abhiyaan is an example of amazing coordination and cooperation between 18 ministries and

state governments to tackle the problem of malnutrition.

- The entire focus of this initiative will be on maternal nutrition, dietary rules for newborns and children, and treatment and recovery of Moderate Acute Malnutrition (MAM)/ Severe Acute Malnutrition (SAM) through AYUSH. It is based on operations, governance and capacity-building. Poshan Abhiyan is the main medium of public contact and under it, innovations related to nutrition support, ICT interventions, dissemination and communication through media, community contact and mass movement have been kept.
- This initiative will contribute to the human capital development of the country, addressing the challenges of malnutrition, promoting nutrition awareness and good eating habits for sustainable health and well-being, and addressing nutrition issues through key strategies. Under the programme, nutritional norms, standards, quality and testing of THR will be improved and traditional community eating habits will be encouraged while engaging all the stakeholders and beneficiaries.

Benefits associated with New Protocol:

- The objective of this protocol is to take a holistic approach to health and well-being and take clear steps to address the challenge of malnutrition. It emphasizes the importance of nutrition at a particular time in life and provides opportunities to enhance human development potential.
- This protocol provides clarity and guidance to everyone including Anganwadi workers and Asha workers, women supervisors, officials of child development projects and officials responsible for its implementation.
- It will ensure that SAM/MAM (extremely low weight and stunting for age/children suffering from severe malnutrition) children across the

country are supported in a timely and effective manner.

- The introduction of this standardized protocol will help in understanding and managing the problem of malnutrition at the community level in different states and union territories of the country, especially in areas where there are no adequate medical access.

Benefits Associated with the Nutrition Tracker App:

- The nutrition tracker app, developed during the lockdown caused by the COVID-19 pandemic, has emerged as a game changer by reaching out to more than 13 lakh Anganwadi workers in just the first three months of its launch. The results found on the Nutrition Tracker app show that the level of malnutrition is much lower than the results of NFHS-5.
- Data from over 7 crore children show that 1.98 per cent of children aged 0-5 years are SAM (very low in weight and height for age and at higher risk due to malnutrition) and 4.2 per cent are MAM (relatively less malnourished and at low risk) while 19.3 percent children are undernourished as per NFHS-5 (2019-21).

Challenges that remain:

- As per the report “Levels and Trends in Child Malnutrition 2023” released by the United Nations, which has been jointly released by the United Nations Children’s Fund (UNICEF), the World Health Organization (WHO) and the World Bank, it has been revealed that 2.19 crore children under five years of age in the country are still underweight compared to their height. This means that 18.7 percent of the country’s children are victims of wasting.
- World Health Organization (WHO) defines

wasting as a problem related to malnutrition in which children’s weight remains low in relation to their height and the child remains very thin compared to his height.

- The report points out that after South Sudan, India’s situation in the matter of child wasting is the worst. It is noteworthy that in South Sudan, about 22.7 percent of children under five years of age are suffering from this problem of wasting. Whereas 16.4 percent of children in Yemen, 16.3 percent in Sudan and 15.1 percent in Sri Lanka are victims of this problem. Nearly half of the children suffering from wasting in the world are in India.
- According to the targets set for 2030 regarding nutrition, the wasting rate among children under five years of age in the world has to be brought down to 3 percent. In such a situation, whether India will be able to achieve the target set for it by 2030 is a big question in itself. However, according to the data, India is far behind this target and it will be difficult, if not impossible, to achieve it.
- If we look at the issue of malnutrition among children in India, the problem of wasting as well as stunting is very serious. According to the data released in the report, about 31.7 percent of children in India are stunted for their age. If we look at the global level, the country is at first place in this matter where such a large number of children are victims of stunting.
- To overcome the problem of malnutrition, the Government of India is implementing various schemes. However discrepancies still exist in their financing and implementation. A comprehensive approach is necessary to address this issue holistically.

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Role of Regional Councils in Promoting Cooperative Federalism

“The Indian Constitution is a federal Constitution in as much as it established what may be called a dual polity which will consist of the Union at the Centre and the States at the periphery each endowed with sovereign powers to be exercised in the field assigned to them respectively by the Constitution.”- Dr. B.R. Ambedkar

“Federalism is no longer the fault line of Centre-State relations but the definition of a new partnership of Team India. Citizens now have the ease of trust, not the burden of proof and process. Businesses find an environment that is open and easy to work in.” PM Narendra Modi

- On October 7, 2023, the 24th meeting of the Central Regional Council was chaired by the Union Minister of Home and Cooperation, Government of India in Narendra Nagar, Uttarakhand. These meetings are considered very important concerning Centre-State relations. In this meeting, the Home Minister said that the states included in the Central Regional Council are the major centers of agriculture, animal husbandry, grain production, mining, water supply and tourism in the country, and development cannot be imagined without these states.
- The states included in the Central Zonal Council are: Uttar Pradesh, Madhya Pradesh, Uttarakhand and Chhattisgarh. Several matters remained at the centre of this meeting and major decisions were taken on them, they included:
 - » Action to eliminate malnutrition
 - » Zero dropout of school children
 - » The decision to fix the price of Kodo and Kutki produce equal to the minimum support price of Ragi
 - » The decision to conduct a study by ICAR for inclusion of lac production in crop insurance scheme based on weather modification
 - » Banking facility to every village within a radius of 5 km
 - » The decision to form 2 lakh new Primary Agriculture Cooperative Credit Societies (PACS) in the country etc.
- Matters like royalty and mining-related issues and creation of infrastructure in Left Wing Extremism-affected districts were also discussed in the 24th meeting of the Central Regional Council. It is noteworthy that in the 23rd meeting of the Central Regional Council held in Bhopal on August 22, 2022, there was a discussion on including the production of lac in the Kisan Credit Card and Crop Insurance Scheme. After this, the scale of finance for lac production has been determined in Chhattisgarh and Jharkhand.

Progress Relating to Regional Council Meetings:

- In the meetings of the Regional Council, various issues are discussed between the Central

Government and the State Governments, the seriousness of the challenges is considered and efforts are made to find solutions at the collective level. Through these meetings, the Central Government gives assurance to the State Governments as to what level of cooperation it will provide to the State Governments in matters of development, security etc. State governments also inform the Home Minister about their various needs and the Central Government talks about providing help to the states as per its capacity.

- The Home Ministry has informed that from 2004 to 2014, 11 meetings of Regional Councils and 14 meetings of Standing Committees were held, whereas from 2014 to 2023, 25 meetings of Regional Councils and 29 meetings of Standing Committees were held. Between 2004 and 2014, a total of 570 issues were discussed, out of which 448 were resolved, while between 2014 to 2023, a total of 1315 issues were discussed, out of which 1157 issues were resolved.

Role of Regional Councils:

- Zonal Councils are considered a strong means of ensuring cooperative federalism which increases cooperation and mutual trust and coordination between the Center and the State. Different regional councils have been formed for different parts of India and meetings of all these regional councils are organized from time to time under the chairmanship of the Home Minister of the country. In the meetings of these councils, under the chairmanship of the Union Home Minister, the Chief Ministers of the respective states discuss and find solutions on any matter of common interest in the field of economic and social planning, border disputes, linguistic minorities or any matter related to inter-state transport for the inclusive development of the state.

Structure of Regional Councils:

- Regional councils in India were formed under the States Reorganization Act, 1956. The organizational structure of regional councils includes the Union Home Minister as its chairman. Its Vice-Chairman is from the group

of Chief Ministers of the states included in each Regional Council who serves as the Vice-Chairman of the Regional Council of that region on a rotational basis for a period of one year at a time.

- Its members consist of the Chief Minister and two other ministers nominated by the Governor from each State and two members from the Union Territories included in the Council. There is also one Chief Secretary, nominated by NITI Aayog for each of the Regional Councils, as an advisor to the Regional Council and another officer or development commissioner nominated by each state included in the zone.
- The idea of forming regional councils was first given by the first Prime Minister of India, Jawaharlal Nehru in 1956. When during the debate on the report of the States Reorganization Commission, he had suggested that the states to be reorganized could be further classified into four or five regional councils and the role of these councils should be that of advisory councils. This will develop habits of cooperation between the Center and the States.

Objectives of setting up Regional Councils:

- Bringing national unity;
- Preventing the development of intense state consciousness, regionalism, linguism and elite tendencies;
- To enable the Center and States to cooperate and exchange ideas and experiences;
- To establish an environment of cooperation among the States for the successful and prompt execution of development projects.

Apart from the Central Regional Council, other councils include:

- The states included in the Northern Regional Council are: Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Delhi and Chandigarh.
- The states and union territories included in the Western Regional Council are Goa, Gujarat, Maharashtra, Daman Diu and Dadra and Nagar Haveli.
- Eastern Zonal Council includes Bihar, Jharkhand, Orissa, Sikkim and West Bengal.
- Southern Zonal Council includes Andhra Pradesh, Kerala, Tamil Nadu, Karnataka and Puducherry.
- The North Eastern Regional Council, which was formed under the North Eastern Regional Council Act, 1972, includes all the North Eastern states. North Eastern Council is the nodal agency for the economic and social development of the North Eastern region comprising eight states Arunachal Pradesh, Assam, Manipur,

Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The North Eastern Council was formed by an Act of Parliament in 1971. The state of Sikkim was also included in the North-Eastern Council under the North-Eastern Council (Amendment) Act, 2002. Only after that, the Home Ministry of the Government of India removed Sikkim from the Eastern Regional Council.

- Various issues of national importance are also discussed in the meetings of the regional councils. These include implementation of Fast Track Special Courts (FTSC) for speedy investigation and disposal of rape cases against women and children, facility of banks and India Post Payment Bank branches within 5 km of each village, creation of Primary Agricultural Credit Societies (PACSS), eliminating malnutrition among children through Poshan Abhiyaan, reducing drop out rate of school children, participation of government hospitals in Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana and others of general interest at the national level.

Conclusion:

- The meeting of the Central Regional Council is special in many ways. To strengthen and promote cooperative and competitive federalism in the country, meetings of the Regional Councils are held from time to time. Due to the meetings of regional councils, discussions can be held on many issues which affect more than one state. Apart from this, broad issues like security, roads, border disputes between states, water, power, industry, transport, education, food security, tourism, transport, forest and environment along with housing are also discussed in the council meeting.
- Working in accordance with the spirit of cooperative federalism is necessary for better coordination between the Central Government and the State Government. To ensure that there is no increase in mistrust between the Center and the State, it is important that there is a healthy dialogue between them on various issues. It is a platform that also promotes interstate cooperation. There is an opportunity among the Chief Ministers of the states to discuss issues of national development rising above regional issues. The effectiveness of the Regional Council can be ensured more deeply but for this there is a need to work beyond the narrow differences among the states.

Good Governance in India: Efforts Made to Strengthen It & Related Challenges

“In the happiness of his subjects lies his happiness, in their welfare his welfare, whatever pleases himself, he does not consider as good, but whatever pleases his subjects he considers as good”-Kautilya in his treatise Arthashastra elaborated the traits of the king of a well governed State

Context:

As a democratic country, a central feature of good governance is the constitutionally protected right to elect government at various levels in a fair manner, with effective participation by all sections of the population. This is a basic requirement for the legitimacy of the government and its responsibility of the electorate. The government at all levels must be accountable and transparent. Closely related to accountability is the need to eliminate corruption, which is widely seen as a major deficiency in governance. Transparency is also critical, both to ensure accountability, and also to enable genuine participation. The government must be effective and efficient in delivering social and economic public services, which are its primary responsibilities. This requires constant monitoring and attention to the design of our programmes.

What is Good Governance?

- The World Bank (1992) in its document titled ‘Governance and Development’ defined governance as “the manner in which power is exercised in the management of a country’s economic and social resources for development’. Further, good governance aims at providing an environment in which all citizens irrespective of class, caste and gender can develop to their full potential. In addition, good governance also aims at providing public services effectively, efficiently and equitably to the citizens. The 4 pillars on which the edifice of good governance rests:
 - » Ethos (of service to the citizen),
 - » Ethics (honesty, integrity and transparency),
 - » Equity (treating all citizens alike with empathy for the weaker sections),
 - » Efficiency (speedy and effective delivery of service without harassment and using ICT increasingly)

Characteristics of Good Governance:

Good governance has 8 major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. It assures that corruption is minimized and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society.

- **Participation:** This is considered to be the core of Good Governance. Governments need to ensure the requisite freedom to the citizens to participate in the decision making process, articulate and

represent their interests that can get reflected in the policies and programmes.

- **Rule of Law:** Governance does not imply arbitrary use of authority. Any governance to be effective needs to be supplemented by a fair legal framework. This should be supported by appropriate law enforcement machinery, independent judiciary that can instill confidence in the people.
- **Transparency:** This is based on the of free flow of information and its accessibility to those affected by the decisions, which are taken in the governance process. The provision of information within reasonable limits, to the people enables them to comprehend and monitor government, private and non-government sectors’ activities.
- **Responsiveness:** The earlier governance mechanisms failed to bring all the stakeholders in their ambit. Presently, the emphasis is more on institutions being responsive to the needs of all those who are likely to be affected by their decisions.
- **Equity:** Since the governance structure and mechanisms, aim at participation, they need to promote equity. A society’s well-being and development depends on ensuring that all the members have stake and role in it and are not excluded from the mainstream of activity.
- **Effectiveness and Efficiency:** Good Governance, also similar to New Public Management, aims at effectiveness and efficiency in usage of resources in consonance with the societal needs and demands. Result orientation needs to be the key concern.
- **Accountability:** It has to ensure answerability as well as proper enforcement for violating certain laid down norms. It involves making the politicians, administrators, other governmental, non-governmental organisations, and private sector accountable for their activities.
- **Predictability:** This entails presence of clear-cut laws and regulations that regulate the society and economy.

Initiatives taken to strengthen Good Governance:

Good Governance is key to a Nation’s Progress. The following measures have been taken to make the governance architecture more transparent, efficient and citizen-friendly to achieve “Maximum Governance and Minimum Government”.

- **Right to Information Act, 2005:** RTI is a powerful tool that strengthens democracy and promotes good governance by enhancing the citizen’s

ability to participate in the process.

- E-Governance has emerged as a tool to provide efficient and effective governance model. Common Services Centres are offering government and business services in digital mode in rural areas through Village Level Entrepreneurs (VLEs). Unified Mobile Application for New-age Governance (UMANG) provide government services to citizen through mobile. More than 1,570 government services and over 22,000 bill payment services are made available at UMANG. e-District Mission Mode Project deliver various e-Services such as Certificates (Birth, Caste, Death, Income and Local Resident), Pension, Land Record etc.
- **Citizens Charter-** The concept of Citizens' Charter enshrines the trust between the service provider and its users. The basic objective of the Citizens Charter is to empower the citizen in relation to public service delivery. Six principles of the Citizens Charter are:
 - » Quality
 - » Choice
 - » Standards
 - » Value
 - » Accountability
 - » Transparency
- National e-Governance Service Delivery Assessment (NeSDA) was released in June 2022. NeSDA framework is to assess effectiveness of e- service delivery applications of States/ UTs and Central Ministries.
- Centralised Public Grievance Redress and Monitoring System (CPGRAMS) is an online platform available to the citizens 24x7 to lodge their grievances to the public authorities on any subject related to service delivery. It is a single portal connected to all the Ministries/ Departments of Government of India and States. CPGRAMS is also accessible to the citizens through mobile application integrated with UMANG.

Challenges Associated with Good Governance:

- The Sixth Central Pay Commission's comments reflect the challenges being faced in the process of good governance in India- "For the common man, bureaucracy denotes routine and repetitive procedures, paper work and delays. Rigidities of the system, over centralization of powers, highly hierarchical and top down method of functioning with a large number of intermediary levels delaying finalization of any decision, Divorce of authority from accountability, have led to a structure in which procedures are valued over end results and outcomes. Non-performance of the administrative structures, poor service

quality and lack of responsiveness and the abuse of authority has eroded trust in governance systems which needs to be restored urgently."

- A report by Centre for Media Studies (CMS) shows that a majority of citizens are not satisfied with the delivery of public services. Less than one-third of the citizens are satisfied with the services delivered. In fact, in need-based services such as the police, judiciary and municipalities, not even 20% of the households are satisfied with their services. Even in essential services such as the PDS, hospitals, and electricity and water supplies, a mere 30-40% of the households are happy with the services
- Inadequate capacity building of personnel who are to implement the laws also results in policies and laws not being implemented properly.
- Further, lack of awareness about rights and duties and callous approach to needs compliance of laws by some citizens also create barriers to good governance.
- Ineffective Implementation of Laws and Rule can cause a great deal of hardship to citizens and even erode the faith of the citizenry in the government machinery.
- Bureaucracies all over the world are expected to adhere to rules and procedures which are important for good governance. However, at times, these rules and procedures are ill conceived and cumbersome and, therefore, do not serve their purpose. Also, government servants sometimes become overly pre-occupied with rules and procedures and view these as an end in themselves.
- A common reason usually cited for inefficiency in governance is the inability within the system to hold the Civil Services accountable for their actions. Seldom are disciplinary proceedings initiated against delinquent government servants and imposition of penalties is even rarer. Cumbersome disciplinary procedures have added to the general apathy towards discipline in Government.

Way Forward:

Democracy requires an informed citizenry and transparency of information which are vital to its functioning and also to contain corruption and to hold Governments and their instrumentalities accountable to the governed. Citizen-First is Government of India's mantra, motto and guiding principle. It is essential to bring government closer to our citizens, so that they become active participants in the governance process.

Evaluation of India's Foreign Policy on Relations with Israel & Palestine

After the terrorist attack on Israel by Hamas Israel has taken fierce retaliatory action in the Gaza Strip. Innocent civilians, especially women and children, have lost their lives for both sides. Since Hamas started the war with Israel, about 6 thousand Palestinians have died so far, including 2,360 children. There has also been a dramatic change in the politics of the Middle East and West Asia due to this war. On one hand, there are nations like Iran, Syria and Lebanon which are known to support Palestine's Hamas, while USA and other Western countries are supporting Israel. Amid such a situation, the question is also arising about India's stand on the current war between Israel and Hamas and what is policy India's in the context of these two nations. India's relations with these two nations can be understood based on its relationship with these countries individually.

India depends on Israel to Strengthen its Defense Capabilities:

- Relations between India and Israel have steadily strengthened in terms of defense and security. India is often in need of defense equipment for its internal security and the security of its international borders. Therefore, it imports defense technologies from Israel, along with important defense equipment and weapons. There is a defense trade of about 1 billion dollars between India and Israel every year. Regular information exchange is conducted between the armed forces of both countries.
- Israel has helped India in dealing with terrorism in South Asia, security of the Indian Ocean, and strategically dealing with Pakistan and China. Israel has provided Falcon AWACS radar, Barak missile, Green Pine radar, and Spice Bomb to India. In the year 2019, India signed an agreement to buy 100 spice bombs worth \$300 million from Israel. India had used spice bombs in the Balakot strike against Pakistani terrorists. Apart from this, Israel has given unmanned aircraft Heron and Harop to India. Indian Air Force's Garud Commandos participated in the first joint military exercise Blue Flag-17 held in Israel in 2017.
- The defense relations between India and Israel have also been strengthened by the Homeland Security Agreement signed between the two. It is noteworthy that under this agreement, emphasis is laid on the subjects of dealing with cross-border terrorism, ensuring internal security, crime control and deterrence and police modernization. The use of the Spice Bomb in the surgical strike conducted by India against Pakistani terrorists shows the commitment of both for homeland security.
- **Historical background and present status of India-Israel relations:** It is noteworthy that till 1992, relations between India and Israel were not very exclusive. But after the end of the Cold War, the government of India, under PV Narasimha Rao finally took the bold decision to establish diplomatic relations with Israel, regardless of

differences with the Arab countries. However, Rao also continued to show vocal support for the Palestinians.

- Presently, India is seen moving towards a de-hyphenation policy which on the Israel-Palestine conflict has ranged from being pro-Palestine for the first four decades to balancing its friendly relations with Israel in the last three decades. India's position in recent years is also being seen as pro-Israel. Nevertheless, India believes in a two-state solution to the Israel-Palestine conflict and proposes the right to self-determination for both countries in a peaceful manner.
- India has adopted a stance of maintaining a balance between Israel and Palestine. That is, whenever it is a matter of human rights, we will support Palestine, but whenever it is a matter related to our interests, we will be with Israel. India's policy remains completely realistic regarding Israel and it will remain idealistic regarding Palestine which it will keep supporting it in the future. This is the policy of de-hyphenation. On one hand, India signed a strategic partnership agreement with Israel in 2018, while on the other hand, in 2020, it voted in favor of Palestine's right to self-determination in the UN.
- Whatever inclination India has towards Israel should not be interpreted merely on the basis that Israel is a member of the US bloc and American influence is determinative in this matter. India needs cooperation and support from Israel to fulfil its many interests.

India-Palestine Relations :

- **Historical background:** India has always placed special emphasis on the right to self-determination in its foreign policy and therefore, it has adopted a policy of supporting the legitimate rights of Palestine. In 1974, India became the first non-Arab country to recognize the Palestine Liberation Organization as the sole legal representative of the Palestinian people. In the year 1988, India was one of the first countries which recognized the State of Palestine. Taking diplomatic relations with Palestine a step further,

India opened its representative office in Gaza in 1996 which was later shifted to Ramallah in 2003.

- India co-sponsored the draft resolution on the determination of the rights of the Palestinian people at the UN General Assembly session, and in October 2003, India voted in favor of and supported the UN General Assembly resolution that called for opposition to the construction of the wall for Israel's separation. In 2011, India voted in favor of Palestine becoming a full member of UNESCO and in 2012, India voted in favor of and also became a co-sponsor of the United Nations General Assembly resolution in which Palestine was allowed to become a non-member observer country of the United Nations without voting rights.
- India, along with 166 countries, voted in favor of the right to self-determination of the Palestinian people in the Third Committee of the UN General Assembly, while the US, Israel, Nauru, Micronesia and the Marshall Islands voted against it. It is noteworthy that this resolution was sponsored by North Korea, Egypt, Nicaragua, Zimbabwe and Palestine and voting on this resolution was held on 19 November 2019 in which India voted in favor of Palestine's right to self-determination. On November 18, 2019, the United States announced a change in its policy on Israeli settlements in the Palestinian-occupied territories, saying that declaring Jewish civilian settlements inconsistent with international law had no benefit and did not promote the peace process. The UN spokesperson said that the UN has a permanent view that the existence of Israeli settlements in the Palestinian-occupied territories is a violation of international law. This resolution stated that the Israeli occupation, which began in 1967, should end and the solution to the Israel-Palestine problem should be based on UN resolutions. In this sequence, the Arab-Israeli problem should be resolved in accordance with the basic principles of the Madrid Terms of Reference, Land for Peace principle, the Arab Peace Initiative, etc. In this resolution, emphasis was laid on efforts for a permanent two-state solution and also all UN experts and organizations and all states had been requested to continuously support the right of self-determination of the people of Palestine.
- **India's soft diplomacy and support for development of Palestine:** India has consistently supported Palestine as a true supporter of its interests. In 2015, India supported the Bangadong Proclamation on Palestine at the Asian-African Commemorative Conference and in the same

year supported the installation of the Palestinian flag on the UN campus. Relations between India and Palestine have been strengthened through bilateral political visits. In February 2018, the Indian Prime Minister made his first visit to Palestine and relations were strengthened. As a member of IBSA, India, in collaboration with member countries, is funding 5 projects in Palestine, including the construction of an indoor multipurpose sports complex, a hospital and a rehabilitation center for mentally challenged people. In 2015, India created a healthy environment to celebrate the first International Yoga Day in Ramallah and the second International Yoga Day in Bethlehem in 2017 based on soft power and soft diplomacy. Again in 2017, this day was celebrated in Ramallah and in 2018 again, Yoga Day was celebrated in Bethlehem. Along with this, India started a Youth Exchange Program with Palestine in 2017 and has emphasized building human capital through various scholarships and educational inter-linkages.

- India recently provided budgetary support to Palestine of \$72.1 million for carrying out developmental and capacity building projects. These projects mainly include construction of Institute of Diplomacy, India Palestine Technology Park, Printing Press, Schools and Includes building hospital. India is also annually contributing to the United Nations Relief and Work Agency for Palestinian refugees. Currently this contribution amounts to 5 million dollars. India continued to extend unconditional support and cooperation to Palestine from time to time. In 2018, the Indian Prime Minister announced to provide \$42.1 million for development projects in Palestine. Earlier in 2017, India had supported Palestine's membership in Interpol. Only in 2017 India supported the UN General Assembly resolution on Jerusalem. India has voted in favor of the resolutions brought in the United Nations General Assembly for the protection of the Palestinian population. Thus, it is clear that India's foreign policy has given special attention to supporting the rights of Palestine. Motivated also by factors such as maintaining its warm relations with the Arab world and the Islamic world, protecting its energy security from the Gulf countries, etc., India advocated a peaceful and political solution to the Israel-Palestine dispute while supporting a sovereign Palestine.

Steps Taken Towards Mineral Resource Conservation in India, Especially Strategic Minerals

“Critical minerals are those minerals that are essential for economic development and national security. The lack of availability of these minerals or concentration of extraction or processing in a few geographical locations may lead to supply chain vulnerabilities and even disruption of supplies. The future global economy will be underpinned by technologies that depend on minerals such as lithium, graphite, cobalt, titanium, and rare earth elements. These are essential for the advancement of many sectors, including electronics, telecommunications, transport, and defence. They are also vital to power the global transition to a low carbon emissions economy, and the renewable energy technologies that will be required to meet the ‘Net Zero’ commitments of an increasing number of countries around the world. Hence, it has become imperative to identify and develop value chains for the minerals which are critical to our country.”

Committee on Identification of Critical Minerals, 2023, Ministry of Mines.

- Recently, the Mines and Minerals (Development and Regulation) Amendment act, 2023 was passed by the Parliament, which has come into force from 17th August, 2023. The Amendment, among other things, delisted six minerals, including Lithium and Niobium, from the list of atomic minerals, thereby allowing grant of concessions for these minerals to private sector through auction. Further, the amendment provided that mining lease and composite license of 24 critical and strategic minerals including Lithium, Niobium and REEs shall be auctioned by the Central Government.

What are critical minerals?

- A critical mineral is a metallic or non-metallic element that is essential for modern technologies, economies or national security. For Example, copper, lithium, nickel, cobalt and rare earth elements.
- They are used to manufacture advanced technologies including mobile phones, computers, fibre-optic cables, semi-conductors, banknotes, and defence, aerospace and medical applications.
- Many are used in low-emission technologies such as electric vehicles, wind turbines, solar panels, and rechargeable batteries. Individual countries develop their own lists of critical minerals based on the relative importance of particular minerals to their industrial needs and strategic assessment of supply risks.

What are Deep Seated Minerals?

- Deep-seated minerals such as gold, silver, copper, zinc, lead, nickel, cobalt, platinum group of minerals, diamonds, etc. are high value minerals. It is difficult and expensive to explore and mine these minerals as compared to bulk minerals. These minerals are extremely critical for new age electronics, transition to clean energy (solar, wind, electric vehicles) as well as in traditional sectors like infrastructure, defence, etc.

Relevance of Critical Minerals for India:

- Critical minerals are the foundation on which

modern technology is built. From solar panels to semiconductors, wind turbines to advanced batteries for storage and transportation, the world needs critical minerals to build these products. Simply put, there is no energy transition without critical minerals, which is why their supply chain resilience has become an increasing priority for major economies.

- Demand for critical minerals in India is expected to grow due to increased thrust of Govt. of India towards “make in India” and “Smart City” programme, Atmanirbhar Bharat, 100 GW target for Renewable Energy, PLI schemes for Consumer electronics industry, accelerated growth for electric vehicles etc. and which will drive the demand of critical minerals in the country.
- India’s future economic prosperity will depend on how well we can use our vast mineral resources to play to our strengths, and how well we can adapt to follow the global market shift towards zero emissions.

Challenges associated with Critical Minerals:

- One of the key challenges in the critical mineral supply chain lies in the global market dynamics, which can result in price volatility and supply disruptions. To overcome these challenges, the Government of India has been working tirelessly to identify and develop domestic resources of critical minerals.
- Demand of minerals like lithium used in lithium-ion batteries is likely to increase manifold as the focus shift towards clean energy. Currently, the country is dependent on imports for most of these important minerals as there is not much exploration or mining of these minerals due to existing legal provisions. These minerals have high economic importance and considerable supply risk due to geo-political uncertainties.
- The lack of availability of the critical minerals or concentration of their extraction or processing in a few geographical locations may lead to supply chain vulnerabilities and even disruption of supplies.
- Even though 100% FDI is allowed in mining and exploration sector through automatic route,

currently there is no significant FDI received in these sectors. There is an urgent need to attract FDI in these sectors.

Initiatives:

- Recently, Union Ministry of Coal and Mines has unveiled the first ever report of the country on “Critical Minerals for India”. It is for the first time India has identified the comprehensive list of 30 critical minerals. These are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.
- Creation of a Centre of Excellence for Critical Minerals (CECM) in the Ministry of Mines has been proposed. The Centre of Excellence will periodically update the list of critical minerals for India and notify the critical mineral strategy from time to time and will execute a range of functions for the development of an effective value chain of critical minerals in the country.
- Establishment of District Mineral Foundation for the welfare of the people and areas affected by mining and National Mineral Exploration Trust to give thrust to exploration and for ensuring stringent penalty for illegal mining.
- The Parliament has passed Mines and Minerals (Development and Regulation) Amendment Act, 2023 for making amendments to the Mines and Minerals (Development and Regulation) Act, 1957.
- The Act provides to remove certain minerals from the list of atomic minerals, viz. minerals of lithium, beryllium, titanium, niobium, tantalum and zirconium. These minerals are energy critical having use in space industry, electronics, technology and communications, energy sector, electric batteries.
- Upon removal of these minerals from the list of atomic minerals, exploration and mining of these minerals will be open to private sector. As a result, exploration and mining of these minerals is expected to increase significantly in the country.
- Act has further empowered the Central Government to exclusively auction mining lease and composite licence for certain critical minerals viz. molybdenum, rhenium, tungsten, cadmium, indium, gallium, graphite, vanadium, tellurium, selenium, nickel, cobalt, tin, platinum group of elements, minerals of “rare earth” group (not containing Uranium and Thorium); fertilizer minerals such as potash, glauconite and phosphate.

- Act introduced for provisions for grant of a Exploration Licence. The exploration licence granted through auction shall permit the licensee to undertake reconnaissance and prospecting operations for critical and deep-seated minerals mentioned in the newly proposed Seventh Schedule to the Act. This amendment is expected to provide conducive legal environment for attracting FDI and junior mining companies in the country.

International Collaboration:

- During PM Narendra Modi’s recent visit to USA, India joined the Minerals Security Partnership (MSP), a US-led alliance of 14 developed countries. India is the only developing country to become a part of the MSP, the elite critical minerals club set up in June 2022 to secure critical mineral supply chains.
- Furthermore, India and Australia signed Critical Minerals Investment Partnership by making investment in critical minerals projects to develop supply chains between the two countries.

Way Forward:

- As an emerging global economic powerhouse, it is essential to understand and harness the potential of critical minerals to fuel the country’s growth, competitiveness, and sustainable development. By developing a comprehensive understanding of India’s critical mineral resources, this work empowers policymakers, researchers, and industry stakeholders to make informed decisions and drive the clean energy revolution
- The release of the Critical Minerals List will mark a milestone in India’s pursuit of self-reliance and security in the domain of mineral resources. This list is designed to identify and prioritize minerals that are essential for various industrial sectors.
- The list will serve as a guiding framework for policy formulation, strategic planning and investment decisions in the mining sector. This initiative aligns with the larger vision of achieving ‘Net Zero’ target for India through Government’s commitment to creating a robust and resilient mineral sector.
- Involvement of private agencies in exploration would bring advanced technology, finance and expertise in exploration for deep-seated and critical minerals. The proposed exploration licence regime is foreseen to create an enabling mechanism where in the exploration agencies will bring in expertise from across the world in geological data acquisition, processing and interpretation value chain and leverage the risk-taking ability for discovery of mineral deposits through adoption of expertise and technologies.



National Issue

1

Cases Pending in State Information Commissions

Why in News:

A recent report by Satark Nagrik Sangathan (SNS) states that more than three lakh appeals and complaints are pending in 27 State Information Commissions across the country. SNS is a group of citizens working to promote transparency and accountability in governance.

Key points related to the report:

- According to the report, the highest number of pending appeals were recorded in Maharashtra (1,15,524) followed by Karnataka (41,047), out of the 3,21,537 pending appeals.
- As of 2022-23, the 2019 assessment found that a total of 2,18,347 complaints were pending in 26 Information Commissions as of 31 March 2019. This number was 2,86,325 by June 30, 2021 and crossed three lakh by June 30, 2022.
- Four Information Commissions of Jharkhand, Telangana, Mizoram and Tripura are inactive as no new Information Commissioner has been appointed after subsequent vacancies.
- Six information commissions, including the Central Information Commission, and the State Information Commissions of Manipur, Chhattisgarh, Maharashtra, Bihar and Punjab, are currently lack primary authorities.
- 2,20,382 appeals and complaints were registered between July 1, 2022, and June 30, 2023, by 28 Information Commissions for which relevant information was available.
- 2,14,698 cases were disposed of by 29 Information Commissions, information of which could be obtained.
- The report raises concerns over the diminishing capacity of Information Commissioners at a time when appeals and complaints continue to rise.
- The report also said that information commissions did not impose fines in 91 percent of cases where fines were potential.
- Karnataka's SIC registered 30,207 appeals and complaints, while Uttar Pradesh registered 29,637 and CIC 20,083 appeals/complaints.

About Right to Information Act 2005:

- Under this Act, every citizen of India can apply to get information from any government authority, this information is to be provided within 30 days.
- If the information sought is related to life and personal liberty, then there is a provision to provide the information within 48 hours.
- Its main objective is to bring transparency,

fix accountability, empower citizens, check corruption and ensure the participation of citizens in the process of democracy.

Way Forward:

Provisions of the RTI must be implemented assertively to maintain accountability and ensure adequate checks and balances. For instance, Section 25 of the RTI Act obliges every Commission to prepare a report every year, regarding the implementation of the provisions of the Right to Information Act, to be laid before the Parliament or the State Legislature.

2

Supreme Court's Ruling on the Same Sex Marriage

Why in News:

The Supreme Court recently issued its highly anticipated verdict, rejecting petitions to legalize same-sex marriage. The decision was made by a five-judge Constitution Bench with a 3:2 majority ruling against granting constitutional validity to same-sex marriages. The bench concluded that the court couldn't either invalidate or amend the Special Marriage Act of 1954 to include same-sex individuals in its scope, asserting that it's the responsibility of Parliament and state legislatures to create relevant laws.

Key Points of the judgement:

- The Supreme Court emphasized that the concept of marriage is not fixed and acknowledged that queer individuals have an equal right and freedom to form a "union."
- All five judges on the Bench unanimously agreed that there is no fundamental right to marry under the Constitution.
- In this landmark case, the Court's deference to the legislature and executive, particularly in the form of a committee suggested by the Solicitor General, indicated a missed opportunity for judicial activism.
- However, in the case of LGBTQ+ rights, the Court opted for a more cautious approach, deferring the issue to external committees.

What is the Special Marriage Act of 1954?

- The Special Marriage Act of 1954 is a significant legal framework for marriage registration in India. Unlike marriages governed by individual personal laws such as the Hindu Marriage Act of 1955 or the Muslim Personal Law Application Act of 1937, the Special Marriage Act offers a distinct avenue for marriage registration. The primary responsibility of the judiciary is to safeguard the rights of both spouses in such marriages. The Special Marriage Act, of 1954, is

designed to facilitate civil marriages for Indian citizens and Indian nationals residing in foreign countries, regardless of their religious beliefs or faith. This secular legislation serves a crucial role in liberating individuals from the traditional constraints associated with marriage.



As of Jun. 21, 2023 * Law approved in 2023, will come into effect on Jan. 1, 2024
 Sources: Pew Research Center, Statista research

United States, Australia, Canada, and France, have already legalized same-sex marriages. It is argued that India should align with global practices to ensure equal treatment for LGBTQ+ individuals and to promote inclusivity and diversity within society.

Arguments against legalizing same-sex marriage:

- In *Navtej Singh Johar vs Union of India*, the 2018 Supreme Court judgment decriminalized homosexuality but didn't address civil rights matters like marriage, inheritance, or adoption, leaving them unguaranteed for the LGBTQ+ community.
- While fundamental rights are crucial, they are not unbounded and should not override other constitutional principles. The government argues that court intervention in marital statutes based on personal laws would disrupt society and counter the intentions of Parliament in framing these laws.
- The existing legal framework in India does not enable LGBTQ+ community members to marry the person of their choice, causing uncertainty in areas such as adoption, joint bank accounts, and child admissions.

Way Forward:

Achieving the legalization of same-sex marriage necessitates a unified approach involving all stakeholders, including the LGBTQ+ community, the government, civil society and religious leaders. This collaboration can lead to more inclusive society where everyone has the freedom to love and marry the person of their choice, regardless of their gender.

3

Namo Bharat Train

Why in News:

Prime Minister Narendra Modi inaugurated the first phase of India's first Regional Rapid Transit System (RRTS) project running between Sahibabad and Duhai on 20 October 2023. RRTS trains will be known as "Namo Bharat Trains".

What is RRTS?

- The Regional Rapid Transit System (RRTS) is a new, dedicated, high-speed, high-capacity, comfortable commuter service connecting regional nodes in the National Capital Region (NCR). It differs from both metros and conventional railways in several ways.
- The entire RRTS network is expected to be completed by 2025.
- The RRTS is designed for longer trips with fewer stops and has higher speeds than the Metro.
- RRTS is more reliable than conventional railways

and provides point-to-point travel along a dedicated path.

Features of Namo Bharat Train:

- Namo Bharat Trains are a major investment in the future of transportation in India. They are expected to improve connectivity, reduce traffic congestion and create jobs in the area. Some of the key features of Namo Bharat Train are:
 - » Designed for speeds up to 160 km/h.
 - » Operates on a dedicated track.
 - » High frequency of 5 to 10 minutes.
 - » Equipped with modern amenities and facilities.



Benefits of Namo Bharat Train:

- **Travel time will be reduced:** Namo Bharat train will run at a speed of up to 160 km/hr, which will significantly reduce travel time between different cities of NCR.
- **Increased frequency:** Namo Bharat trains will operate at a higher frequency of 5 to 10 minutes, making it easier for passengers to travel at their convenience.
- **Better reliability:** The Namo Bharat train will run on a dedicated track, making it more reliable than other modes of transport.
- **Better comfort:** Namo Bharat trains will be equipped with modern amenities and facilities to ensure comfortable travel for passengers.
- **Corridors being developed under RRTS Phase I:**

Eight RRTS corridors have been identified for development in the National Capital Region, in which Delhi-Ghaziabad-Meerut; Delhi-Gurugram-SNB-Alwar and Delhi-Panipat corridor are given priority in Phase-I.

Conclusion:

RRTS will improve connectivity and accessibility across urban, industrial (SEZ/Industrial Park), regional and sub-regional centres in NCR to ensure sustainable development. Further, it will improve multi-modal connectivity in NCR through existing transport hubs.

4

Government Delay Disturbs Judicial Seniority: Supreme Court

Why in News:

Recently, the Supreme Court expressed its displeasure while hearing the petition of "The Advocates Association Bengaluru vs. Varun Mitra and others". When the collegium recommends a certain number of persons for judgeship, the Center appoints only a few, thereby distorting the seniority of the recommended persons.

Supreme Court's Concerns:

- Meritorious lawyers recommended by the Collegium for High Court judgeship often back out because the Central government appoints names selectively thereby affecting potential seniority of the candidates.
- The Court also questioned the delay by the government in clearing the Collegium's recommendations for the transfer of judges.
- When five senior judges of the Supreme Court collegium use their wisdom to recommend the transfer of judges, the Central government should proceed with it faster rather than sitting over the same, the Court said.
- The Supreme Court has expressed concern about the significant backlog of 70 High Court collegium recommendations pending with the government for more than 10 months.
- In November last year, the apex court had sought a response from the Union Law Secretary in this matter. The apex court noted that as of date, files relating to five reiterated names, five names recommended for the first time, and eleven transfers were pending with the Central government.
- The bench flagged 26 pending transfer recommendations that were yet to be notified by the government. Soon after, the Central government notified 16 transfers as well as the transfer of Delhi High Court judge Justice Siddharth Mridul to the Manipal High Court as

its Chief Justice.



Conclusion:

The government's practice of excluding names from the collegium recommended lists is a matter of serious concern. However, Additional Solicitor General Balbir Singh assured the bench that the pending cases would be reduced in two weeks.

5 Prohibition of Child Marriage (Amendment) Bill 2021

Why in News:

The Chairman of Rajya Sabha has granted a fresh three-month extension to the parliamentary committee, which seeks to examine the Prohibition of Child Marriage (Amendment) Bill 2021, to table its report. This bill was introduced in Lok Sabha in December 2021 and was referred to the Standing Committee on Education, Women, Children, Youth and Sports.

About the Bill:

- This bill seeks to increase the age of marriage of women from the present 18 to 21 years by amending the Prohibition of Child Marriage Act 2006. The bill will override any other law, custom or practice.
- Under the 2006 Act, a person married below the minimum age may apply for the annulment (declaring a marriage null and void) within two years of attaining majority that is before 20 years of age. The Bill increases this to 5 years that is 23 years of age.

Key Points of the Bill:

Significant Impact over Child Marriages-

- According to the National Family Health Survey-5 (2019-21) 23.3% of women aged 20-24 years were married before the age of 18 years. The latest survey shows that this problem is 27% more prevalent in rural India, while underage marriage accounts for 14.7% of all marriages in urban areas. In 1978, the Sharda Act was amended to increase the marriage age of women from 15 to 18, while a second amendment to the

marriage age of girls was planned in 2021. The Cabinet had approved the introduction of Child Marriage Prohibition Amendment Bill 20-21 to amend the Child Marriage Prohibition Act 2006.

- **Implementation Challenges-** As detection/reporting of child marriages is quite low.

Causes behind Child Marriage:

- According to UNICEF, while the roots of the practice of child marriage vary across countries and cultures, poverty, lack of educational opportunities, limited access to health care and poverty perpetuate it.
- With the introduction of this bill, it had been mentioned that prevailing social customs, traditions, illiteracy, poverty, low status of women in society and low awareness are the major causes.

Way Forward:

Although, legal interventions would not be sufficient to control the menace of child marriages but it would guide the whole government machinery towards a leading path. Therefore, adequate implementations of rules with swift nudging steps are required to develop a gender-sensitive society.

6 Law Commission's Suggestions on 'One Country-One Election'

Why in News:

An important meeting of the committee constituted under the chairmanship of former President Ramnath Kovind and the Law Commission was held on the issue of holding simultaneous elections for Lok Sabha and Legislative Assemblies.

- During this meeting, the Law Commission, after discussing with all the stakeholders to make the idea of 'One Country One Election' successful, gave a presentation to the High Level Commission highlighting possible obstacles and changes required in the Constitution.
- In 2018, a draft report submitted by the Law Commission to the Union Law Ministry had emphasized that holding simultaneous elections for the Lok Sabha and State Assemblies would save public money, reduce the burden on the administrative system and security forces and better implementation by the government will be ensured.

What is 'One Country One Election'?

- 'One Country One Election' means holding simultaneous elections of Parliament and State Legislative Assemblies. This idea was implemented in the country till the year 1967, but this system discontinued due to various reasons like defection, dismissal and dissolution

of the government.

Arguments in Favor:

- When elections are held at different times in different states, the government has to pay a heavy price in terms of time, labor and financial costs.
- This system will help the ruling parties to focus on governance instead of being constantly in election mode.
- It will reduce deviation from long-term planning and policy goals.
- **Encouraging voter turnout-** According to the Law Commission, this will increase voter participation.
- **Reforms in Administration-** This will increase the focus of the administrative machinery on the nation so that there is a sustained focus on developmental efforts.

Arguments Against:

- **Logistical Issues-** It will require around 30 lakh electronic voting machines (EVMs) and voter-verified paper audit trail (VVPAT) machines.
- **Increase in manpower-** This will require heavy deployment of central forces across the country.
- **Lack of coordination** – Till 1967, Parliament and state elections were held simultaneously, however since last few years, the Assemblies and Lok Sabha were dissolved before the end of their terms, so the elections were not synchronised.

Way Forward:

To make this process successful, some articles will need modification, ranging from articles related to the duration of the Houses of Parliament to the dissolution of the Lok Sabha by the President, the duration of the State Legislatures, the dissolution of the State Legislatures and President's rule in the states related to Article 356. The biggest challenge above this will be to bring all the political parties on one common platform.

7

Eradication of Manual Sewer Cleaning

Why in News:

The Supreme Court recently has directed all state governments and Central government to take appropriate measures, frame policies and issue directions to ensure that manual sewer cleaning is completely eradicated in a phased manner. The compensation amount to the next of kin of those who die while cleaning sewers has also risen from Rs. 10 lakh to Rs. 30 lakh.

The Menace of Manual Scavenging:

- A large segment of sewer cleaning in India is still

based on a manual basis. Manual scavenging is banned in India via Prohibition of Employment as Manual Scavengers and Rehabilitation Act, 2013 but this practice is very prevalent. Many people are being forced into it because of rigid caste rules and a lack of other livelihood options.

- Manual scavengers are hired by local corporations or private contractors to clean sewers and drains that are blocked because of mud and plastic.
- In 2021, it was reported that the government had identified 58,098 manual scavengers in India through surveys.

Deaths due to Manual Scavenging:

- Manual scavenging is a very inhumane practice that often leads to deaths due to asphyxiation from inhaling toxic gases in the sewer. In July 2023, the government reported that 339 people had died in the past 5 years while cleaning sewers and septic tanks.
- Another major cause behind manual scavenging is that many corporations and contractors do not have the equipment or capital for mechanical sewer cleaning. The sewers are also often designed in such a way that machines can't be used to clean them.

SC's Guidelines:

- The Supreme Court's judgement came on PIL seeking directions to the Centre and States to implement the provisions of the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act 1993 and Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.
- The SC provided guidelines in respect of compensation in case of permanent disability suffered by sewer victims. The apex court has also instructed the Union Govt. to devise a model contract, to be used wherever contracts are to be awarded by or its agencies and corporations should maintain standards in conformity with the 2013, Act.

Way Forward:

The survey has to be conducted with the collaborative efforts of the National Commission for Safai Karmchari, Nat. Comm. for SC/ST and Min. of Social Justice and Empowerment to identify the manual scavengers in India. The adequate provisioning of alternate sewer cleaning equipment and machines has to be done in all states so that manual scavenging can be checked as early as possible.



International Issue



1 IPC: Now a Member of PDG

Why in News:

The Pharmacopoeial Discussion Group (PDG) announced the Indian Pharmacopoeia Commission (IPC) as a PDG member during the PDG stakeholders' annual meeting in Hyderabad.

About the Pharmacopoeial Discussion Group:

- PDG will harmonize the European Pharmacopoeia (PH Euro), Japanese Pharmacopoeia (JP), United States Pharmacopoeia (USP) and Indian Pharmacopoeia (IP) to coordinate global pharmacopoeia standards.
- Its main objective is to reduce the burden on manufacturers of performing analytical procedures in different ways by using acceptance criteria to meet different pharmacopoeial requirements in different regions.

Indian Pharmacopoeia Commission (IPC):

- IPC was the only pharmacopoeia body in the world to be selected for the pilot phase starting in 2022.
- It represents continued commitment and capability to develop world-class quality standards for drugs and pharmaceuticals.

IPC's global impact as a PDG member:

- The inclusion of IPC in PDG will significantly enhance the Indian Pharmacopoeia on the international platform.
- It will establish IPC as a progressive pharmacopoeia that designs drug quality standards in line with global standards.
- This will help IPC to collaborate and harmonize pharmacopoeial standards with other standard-setting authorities which in turn will contribute to ensuring the quality and safety of pharmaceuticals globally.
- It is also likely to improve the acceptability of Indian pharmaceutical products in global markets, as they adhere to internationally recognized quality standards.
- The IPC will benefit from the exchange of information and best practices with other PDG members.
- Conformity to international standards will reduce trade barriers and make it easier for Indian pharmaceutical companies to access global markets.
- Harmonization of pharmacopoeia standards among PDG members will contribute to the global effort to ensure the safety and efficacy of

marketed pharmaceutical products.

- This will have a direct impact on public health around the world, as it will help in curbing the circulation of counterfeit medicines.

Conclusion:

IPC's membership in the PDG will be an important step towards contributing to global public health through promoting the harmonization of pharmaceutical standards, improving regulatory compliance, facilitating international recognition, and assurance of medicine quality and safety.

2 Global Maritime India Summit 2023

Why in News:

The Global Maritime India Summit 2023 was inaugurated by the Prime Minister in Mumbai to build business, forge partnerships and create opportunities to fulfil its aim of emerging as a global leader in the blue economy.

Key Points of the Summit:

- The theme of the Global Maritime India Summit 2023 was 'Harnessing the Blue Economy', which is in line with 'Make in India-Make for the World'.
- **Vision for Marine Blue Economy:** Prime Minister unveiled 'Amrit Kal Vision 2047' which includes strategic initiatives to enhance port facilities, promote sustainability and facilitate international cooperation in the marine blue economy sector.
- **G20 Consensus:** The Prime Minister highlighted the transformative impact of the proposed India-Middle East Europe Economic Corridor, enabled by a historic G20 consensus.
- **Foundation stone for the Projects:** The Prime Minister laid the foundation stone for projects worth over Rs 23,000 crore, which is in alignment with 'Amrit Kaal Vision 2047' for the Indian Ocean Blue Economy.
- **Infrastructure Developments:** Various infrastructure projects were outlined such as Next Generation Mega Port, International Container Trans-shipment port, island development, inland waterways, and multi-modal hubs.
- **Maritime Role in Trade:** Stressing the role of sea routes in global trade, the Prime Minister highlighted the need for a reliable global supply chain in the post-Corona world.
- **MoUs for Partnerships:** Over 300 Memorandums

of Understanding (MoUs) worth more than 7 lakh crores were dedicated to global and national partnerships in the maritime sector.

Focus Areas:

- **Decarbonization:** Exploring sustainable practices and strategies for reducing carbon emissions in the maritime sector.
- **Shipbuilding:** Examining India's role in shipbuilding and its aspirations to become a top shipbuilding nation in the coming decade.

Conclusion:

Global Marine India Summit envisages to sustainably use the marine resources by implementing best practices. GMIS will bring together the world's major players to encourage investment in India's maritime sector and will aid in growth of sustainable blue economy.

3 Synergistic Barriers Affecting Progress on SDGs

Why in News:

The world leaders at the SDG Summit in New York on 18 and 19 September, while disapproving lack of progress on various Sustainable Development Goals, once again reaffirmed their shared commitment to eliminate poverty and hunger.

Key Points of the Report:

The recently launched UN Expert Group report, titled 'Synergy solutions for a world in crisis: tackling climate and SDG action together' reports on the lack of synergistic action in the face of significant evidence. It makes the following points:

- As per the report, little progress has been made towards the 17 SDGs, with only 15% of the 169 targets on track to be met.
- An SDG stimulus of \$500 billion annually was pledged, but a significant investment gap remains, estimated at over \$4 trillion for developing countries.
- Synergy among SDGs is crucial for effective progress, but there is a lack of coordinated action and understanding of institutional barriers.
- The Indian context highlights the need to address such barriers and align targets with desired outcomes.
- Focusing on clean energy options can yield synergistic impacts, particularly in reducing air pollution and promoting human health.
- The SDGs are interconnected, and achieving them requires addressing synergies and trade-offs.
- The full cost estimation of alternative pathways

and their synergistic opportunities are crucial for sustainable development efforts.

- Investment in high-carbon outcomes may lead to higher dis-synergies and trade-offs in achieving energy and climate goals.

Conclusion:

Achieving the SDGs is important to ensure a prosperous and harmonious world for present and future generations. It is a collective responsibility of all to work toward these goals and protect the well-being of the planet while promoting social justice and economic stability.

4 China's Financial Aid to Sri Lanka

Why in News:

Recently, China reached an agreement with the Export-Import Bank of China to extend aid to Sri Lanka without political conditions and to cover approximately US\$4.2 billion of outstanding loans.

Key Points of the Agreement:

- Assurances of friendly, practical and timely support for Sri Lanka's debt adaptation program were noted. Although there was no mention of the debt owed by Sri Lanka in the statement from the Chinese side.
- The Chinese side is willing to work with relevant countries and international financial institutions to play a positive role in helping Sri Lanka overcome its current difficulties, reduce its debt burden and pursue sustainable development.
- Furthermore, Sri Lanka strongly supports and actively participates in, the Global Development Initiative, the Global Security Initiative, and the Global Civilization Initiative, proposed by China.
- Sri Lanka's decision comes a month after Nepal refused to join Xi's global security initiative when Prime Minister Pushpa Kamal Dahal Prachanda visited Beijing last month.

Initiatives by IMF and India:

- Sri Lanka received an IMF extended fund facility of US\$2.9 billion.
- Sri Lanka sought assistance from China and India where India gave a credit line of US\$ 500 million for fuel and US\$ 1 billion for the import of essential commodities.

India's Concerns:

- The Forum on Development of Indian Ocean Island Countries proposed by China was in opposition to India's SAGAR Initiative.
- China has formal control over Sri Lanka's

Hambantota port under a 99-year lease which is worrying for India's national security.

- Other South Asian countries such as Bangladesh, Nepal and Maldives are also turning to China to finance large-scale infrastructure projects.

Way Forward:

China has traditionally held bilateral talks on confidential terms whereas India insists on joining a common platform. This vision of India, however, does not include China, as it may impact its military and strategic interests in the Indian Ocean region.

5

8 Former Indian Navy Officers Got Capital Punishment in Qatar

Why in News:

Recently, 8 former Indian Navy officers have been sentenced to death by a Qatar court after keeping them in custody for more than a year. All these officers were working for a private firm 'Dahra Global Technologies and Consultancy Services' when they were detained by Qatar's intelligence agency in Doha in August last year.

Key points related to the case:

- All these officers were working for 'Dahra Global Technologies and Consultancy Services', a defence service provider organization which is owned by a retired member of the Royal Air Force of Oman. The owner of the firm was also arrested along with these officials but was released in November last year.
- So far, neither the Qatari nor the Indian government have made public statements related to this case, but if media reports are to be believed, these officials were accused of spying on Qatar's advanced submarines for Israel.
- India's Foreign Ministry said that we are deeply shocked by the decision to award a death sentence to 8 Indians detained in Qatar and are waiting for the detailed decision. We will also take up the decision with Qatari authorities.

India-Qatar Relations:

- Qatar, which is a key member of the Gulf Cooperation Council, Arab League and Organization of Islamic Cooperation, established diplomatic relations with India in 1973. This year, India and Qatar are celebrating 50 years of their relations. Since then, high-level visits have been taking place continuously from both countries.
- In economic relations, India imports LNG, LPG, chemicals and petrochemicals, plastics and aluminium articles from Qatar, while exporting

food items, copper items, iron and steel items, vegetables, plastic products, construction materials, textiles and apparel to Qatar. India imports about 70% of its natural gas needs from Qatar.

- There has been a bilateral trade between the two countries about \$15 billion in the financial year of 2021-22. Qatar has the largest expatriate Indian community in the Middle East which is contributing in different fields.

Way Forward:

Qatar Government should give the right of consular access that is provided by the Vienna Convention to protect these officials. Since millions of people are making a unique contribution to Qatar's economy, such step will deepen India-Qatar relations.

6

Vienna Convention

Why in News:

The adherence to the Vienna Convention on Diplomatic Relations has remained in the news, as the governments of India and Canada alleged each other for its violation. Both of the governments have downsized their diplomatic staffs amid the ongoing standoff.

Vienna Convention on Diplomatic Relations:

- The Vienna Convention on Diplomatic Relations -1961 is a United Nations treaty which sets common principles and terms on how countries must treat each other's diplomatic representatives. This convention aims to ensure friendly relations and maintain proper communication channels between countries.
- Article 29 of this convention says that the person of a diplomatic agent shall be inviolable. They shall not be liable to any form of arrest or detention.
- The receiving state shall treat them with due respect and take all essential steps to prevent any attack on their personal, freedom and integrity.

What was the standoff about?

- The standoff between India and Canada emerged after the Canadian Prime Minister raised concerns about the alleged involvement of Indian agents in the killing of a pro-Khalistani supporter in Canada.
- The External Affairs Ministry of India suspended visa services in Indian missions in Canada as the safety of diplomats has come under threat in Canada.
- In response to this, the Canadian government

recalled its 41 diplomats posted in India. The government of India has been demanding diplomatic parity with Canada as the number of Canadian diplomats in India is much higher than the number of Indian diplomats in Canada.

- India asserted that its actions are consistent with the tenets outlined in Article 11.1 of the convention, which deals with the size of international missions within other countries.

Challenges for India:

- The stance of Canada was supported by the USA and UK governments which was against the Indian interests. The diplomatic crisis between India and Canada is longstanding and has the potential to harm the national interests of India and Western groups of countries.
- The viewpoints of both countries are also different on various geo-political issues. Their disagreement over Khalistan and Kashmir matters have strained diplomatic relations.
- The commercial relations between India and Canada are also facing obstacles as the Free Trade Agreement between them has been paused again.

Way Forward:

India and Canada have to strengthen their diplomatic ties with active dialogue and cooperation because both nations have mutual interests concerning each other. The major portion of the Labor force of Canada is of Indian origin.

7 International Migration Outlook 2023

Why in News:

India witnessed the highest migration to Organisation for Economic Co-operation and Development (OECD) countries between 2021 and 2022, according to the 'International Migration Outlook 2023'.

About OECD Countries

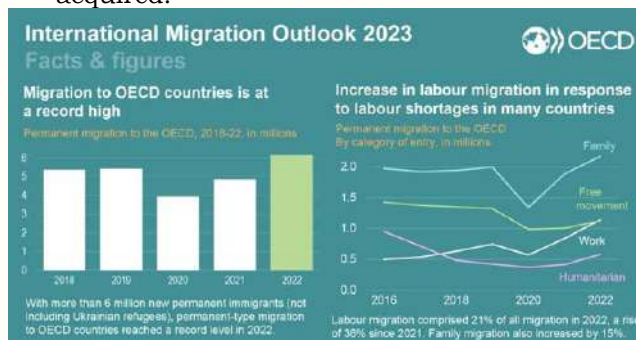
- The Organisation for Economic Co-operation and Development (OECD) is an intergovernmental economic organization, with 38 member countries. Most OECD members are high-income economies with a very high Human Development Index (HDI) and are regarded as developed countries.
- It is headquartered in Paris, France.
- India is not a member but a key economic partner.

Role of Immigrants:

- Migrant diaspora from developing countries and their organisations makes important

contribution to development as well as cooperation.

- They promote links between countries and populations, foster mutual understanding, make the case for development cooperation, and raise awareness regarding particular challenges.
- In many instances, their remittances constitute an important source of income and investment in the country of origin. Furthermore, they can share their experiences and transfer knowledge acquired.



Highlights of the Report:

- The OECD report emphasized that Indians constitute the largest high-skilled diaspora in OECD countries. As per data, there are over 4 lakh tertiary-educated migrants from India. This was 86% higher than 2 lakh Indians in 2020.
- China is ranked 2nd with 2 lakh new migrants followed by Romania, Ukraine and Germany.
- Climate-Induced Displacement and Policy - Responses
- OECD region experienced record refugee inflow due to the Russian-Ukraine war. Worker migration saw a significant increase from India, Uzbekistan, and Turkey, making them prominent source countries.
- All top four destination countries (United States, Germany, UK and Spain) registered large year-on-year increases, between 21% and 35%. The increase was smaller in Canada (8%), the fifth destination country.
- The OECD Economic Outlook has marginally increased India's GDP growth forecast for 2023-24 (FY24) to 6%, from an earlier projection of 5.9%.

Way Forward:

Indian diaspora is one of the richest minorities in many developed countries. Their advantage is evident in "diaspora diplomacy", whereby they act as "bridge-builders" between their home and adopted countries.



Environmental Issue



1

Pontus Tectonic Plate

Why in News:

Scientists studying ancient rocks in Borneo have discovered a tectonic plate one-fourth the size of the Pacific Ocean, which has been named 'Pontus'.

About Pontus Tectonic Plate:

- This tectonic plate is located in the northern and eastern regions of the Mediterranean Sea, covering parts of Southern Europe and Western Asia, in the northern part of the Eastern Hemisphere.
- This plate is known only from a few rocky fragments in the mountains of Borneo and the remains of its giant slabs have been found deep in the Earth.
- It was located under an ocean known as the Pontus Ocean.
- This plate is connected to the Eurasian Plate, Anatolian Plate, and Arabian Plate, the convergence zone between the Eurasian Plate and the Arabian Plate.
- The Pontus Plate formed at least 160 million years ago.

What is a Tectonic Plate?

- A tectonic plate is a giant slab of solid rock, usually composed of both continental and oceanic lithosphere.
- These tectonic plates move independently in different directions on the Earth's asthenosphere.
- Plate tectonic theory is used to understand sea level spreading, continental drift, crustal structure, earthquakes, volcanic activity etc.

What is plate tectonic theory?

- According to plate tectonic theory, the earth's crust is divided into many small and big plates.
- The solid terrestrial part of the Earth is called a plate and the broken part is called tectonic.
- The plates present on the Earth move independently in different directions on the Earth's asthenosphere.
- These movements of plates and the various shapes resulting from these movements are studied under plate tectonic theory.

Conclusion:

The study of tectonic plates is fundamental to understanding the dynamic processes that have shaped the earth's surface. The discovery of the Pontus Plate provides valuable information about the Earth's tectonic history and helps close gaps in our understanding of the dynamics of ancient tectonic plates.

2

Green Credit Programme and Eco-Mark Scheme

Why in News:

The environmental ministry has notified two key initiatives - the Green Credit Program (GCP) and the Eco-mark Scheme, to encourage environmentally friendly practices by people across the country, taking forward the country's approach to climate change and sustainability while promoting eco-conscious actions.

About Green Credit Program:

- Green Credit is a singular unit of incentive provided for a specified activity, delivering a positive impact on the environment.
- It was first announced in the 2023-24 budget, under mission LiFE.
- It can be earned by individuals, Farmers-Producer Organizations (FPOs), industries, and rural and urban local bodies, among other positive stakeholders for their environment positive actions.
- It is a mechanism that complements the domestic Carbon Market. While the domestic Carbon Market focuses solely on CO2 emission reductions, the Green Credit System aims to meet other environmental obligations as well, incentivizing sustainable actions by companies, individuals, and local bodies.

Implementation of the Green Credit program:

- The environment ministry has selected 8 activities for which Green Credit can be earned - Tree Plantation, Water, Sustainable Agriculture, Waste Management, Air pollution reduction, Mangrove conservation and restoration, Eco-mark, Sustainable building and infrastructure-based green credit.
- A Steering Committee headed by the environment secretary will govern the implementation of GCP.
- Administrator - The Indian Council of Forestry Research and Education (ICFRE)

About Eco-mark Scheme:

- Eco Mark is a voluntary non-binding scheme which labels consumer products as environment friendly. Any product which is made, used or disposed of in a way that significantly reduces the harm it would otherwise cause to the environment could be considered an Environment-Friendly Product.
- The Central Pollution Control Board (CPCB) will administer the scheme in partnership with Bureau of Indian Standards (BIS), which is the

national body for standards and certification.

Objectives of the Scheme:

- To provide an incentive for manufacturers and importers to reduce the adverse environmental impact of products.
- It will build consumer awareness regarding environmental issues and encourage eco-conscious choices.
- The scheme seeks to ensure accurate labelling and prevent misleading information about products.

Conclusion:

Both the schemes align with the global sustainability goals and reflect the government's commitment to conservation and protection of the environment.

3 100 million Hectares of Arable Land Lost yearly to Degradation: UN Report

Why in News:

According to recently published United Nations Convention to Combat Desertification (UNCCD) data, from 2015-2019, the world lost at least 100 million hectares of healthy and productive land each year.

Key Points of the Report:

- Land degradation is accelerating in all regions of the world, according to the UNCCD's first data dashboard, which compiled national figures from 126 countries.
- Eastern and Central Asia, as well as Latin America and the Caribbean, witness the most severe land degradation, impacting over 20% of their total land area.
- Sub-Saharan Africa, Western and Southern Asia, Latin America, and the Caribbean all experienced faster rates of land degradation than the global average.
- Sub-Saharan Africa, Latin America and the Caribbean have lost 163 million and 108 million hectares, respectively, to land degradation since 2015.
- Botswana reduced its land degradation from 36% to 17% of its territory.
- Similarly, between the years 2015 and 2019, the Dominican Republic's proportion of degraded land decreased from 49% to 31%, with ongoing efforts to restore.
- The drying of the Aral Sea has degraded three million hectares of land in Uzbekistan. From 2018 to 2022, Uzbekistan planted 1.6 million hectares of saxaul to eliminate salt and dust emissions from the Aral Sea's drained bottom.
- Degraded Land Area in India has increased from 4.42% in 2015 to 9.45 % in 2019.

- To achieve Sustainable Development Goals, the world must restore 1.5 billion hectares of degraded land by 2030 if current land-degradation trends continue.

Global efforts to tackle land degradation:

- **The Bonn Challenge:** Aims to restore 150 million hectares of deforested and degraded land by 2020 and 350 million hectares by 2030.
- **Great Green Wall:** Launched by the African Union to restore 100 million hectares of currently degraded land; sequester 250 million tons of carbon and create 10 million green jobs by 2030.

Way Forward:

Land degradation affects not only biodiversity but has a ripple effect on people, their livelihoods and the economy of the nations involved. Sustainable land management practices should be tailored to the specific environmental conditions and challenges of each region to conserve land from degradation.

4 Drought in Amazon

Why in News:

The recent condition of drought in the Amazon region is one of the dangerous signs of adverse impacts caused by climate change. Due to the occurrence of the El-Nino phenomenon and other aggravating anthropogenic causes, the lushest green region of the world is experiencing extreme temperatures and high rainfall.

Reasons behind such phenomenon:

- Drought generally refers to a prolonged dry period resulting in water shortage. The critical situation of drought emerged in the Amazon region due to El Nino's impact on the Amazon region.
- The Amazon rainforest is spread across nine countries of South America- Brazil, Venezuela, Colombia, Suriname, Peru, Ecuador, Bolivia, French Guiana and Guyana.
- During El Nino, surface waters of the Pacific Ocean get warm in abnormal ways due to which there is a reduction in the humidity and a lack of rainfall in the Amazon region.
- The anthropogenic causes like deforestation (for expanding agricultural land and road construction), disorganized mineral extraction and hydroelectric dams are further exacerbating the impacts of drought.

The Impact of Amazon Drought:

- The drought in general has devastating impacts on vegetation, flora, fauna and the provision of ecosystem services around the affected region. The uncontrolled logging activity further reduces the ability of the Amazon rainforest to regulate

climate and retain moisture.

- The concretization of land due to the construction of highways like BR-319 in the south Amazonas state has reduced the water retaining capacity of the Amazon region.
- There have been a lot of deforestation activities that have further reduced the rate of evapotranspiration which is a crucial process for water balance in the region.
- The spillover impact of deforestation has raised hurdles for navigation and logistics due to the drought conditions in the riverine ecosystem.
- The emission of greenhouse gases from hydroelectric dams, due to the decomposition of organic matter in large reservoirs has further accelerated climate change.
- The aggravated impacts of the above factors are causing damage to aquatic and terrestrial ecosystems. The livelihood of people, who depend upon primary activities, is also being adversely impacted by these damages.

Way Forward:

Scientific studies show that we are already at the threshold of deforestation and environmental degradation that could be tolerated by the Amazon. Therefore, all major developmental projects in the Amazon region need to be assessed from the environmental point of view. Strict adherence to anti-deforestation policies should be maintained. Collaborative efforts of International and National agencies are also required.

5 Buff-Breasted Sandpiper

Why in News:

The Buff-breasted Sandpiper, a rare bird of the Arctic tundra, has been sighted in Madayipara grasslands in Kannur, Kerala.

About Buff-breasted Sandpiper:

- The buff-breasted sandpiper (*Calidris subruficollis*) is a small seabird.
- This species is brown-coloured with yellow-coloured legs and a small beak.
- It is one of the most beautiful shorebirds. It is a long-distance migratory bird which during winters leaves its high-Arctic dry tundra nesting grounds, migrating thousands of miles in the grasslands of Brazil, Argentina, Uruguay and Paraguay. It breeds in the open arctic tundra of North America and usually in winters in South America.

Conservation Status:

- IUCN: It is considered Near Threatened on the IUCN Red List.
- Threats – Habitat loss, fragmentation, and degradation are probably the primary threats to

buff-breasted sandpiper populations.

Madayipara Grasslands:

- Madayipara is a plateau located in Kannur district of Kerala state.
- It is drained by the Kuppam River, Ramapuram River and Perumba River.
- It is known for its low-altitude grasslands, laterite stone peaks, ancient temples, and a ruined fort.
- Rare species of plants, insects and birds are found here.
- It has reserves of iron ore, manganese and titanium.

Facts About Arctic Tundra:

- This is the northernmost biome, a vast, dry, rocky area with few trees. It reaches south to the Hudson Bay region of Canada and the northern part of Iceland.
- In the Arctic Tundra the ground is rocky and the soil is low in nutrients. This is because organic matter breaks down very slowly there.
- Despite the lack of trees, this biome is still considered a major carbon sink. This is due to the large amount of organic matter found in peat and humus deposits.
- Annual rainfall here is about 150 to 250 mm. Most of this rainfall does not evaporate due to low temperature.

6 Microalgae Adapting to Warming Climate, Declining Nutrient Level in Seas

Why in the News:

Recently, a research study published in the journal Nature Microbiology has revealed that Microalgae have adopted a unique strategy to adapt to global warming.

About the Microalgae:

- Microalgae are invisible to the naked eye. They are typically found in freshwater and marine systems. They are unicellular species that exist individually or in chains or groups. Unlike higher plants, microalgae do not have roots, stems, or leaves. Microalgae are capable of performing photosynthesis. They produce approximately half of the atmospheric oxygen and capture the carbon dioxide from the atmosphere.

Importance and applications of Microalgae:

- **Food Chain:** They play a crucial role in the food chain.
- **Nutrition:** Some species of microalgae, such as spirulina and chlorella, are highly nutritious and are used as dietary supplements. They are rich in proteins, vitamins, minerals, and other essential nutrients.
- **Biofuel:** Microalgae can be used to produce

biofuels, such as biodiesel. They have a high lipid content, which can be converted into fuel through various processes.

- **Environmental Remediation:** Microalgae can help in wastewater treatment and carbon capture. They can absorb nutrients and pollutants from water and help improve water quality.
- **Biotechnology:** Microalgae are used in biotechnology for the production of various compounds, including pigments, pharmaceuticals, and chemicals.

Strategy adopted by Microalgae to adapt to global warming:

- As climate change reduces nutrient availability in the ocean, microalgae activate a protein called rhodopsin. This protein is related to the one responsible for low-light vision in the human eye. Rhodopsin enables these microalgae to thrive by using sunlight instead of traditional chlorophyll when nutrients are scarce. Rhodopsins are proposed to be major light capturers in the ocean. They absorb light as much as chlorophyll-based photosynthesis in the sea to generate energy and food.

Way Forward:

Microalgae are the primary source of nutrition for a wide range of aquatic organisms. They are often consumed by various aquatic creatures, including zooplankton, which, in turn, are eaten by larger organisms like fish. Rhodopsins produced by these microalgae may be able to mitigate the adverse consequences of changing environmental circumstances, including the warming of the ocean and the decline in crop output.

7

Southwest Monsoon

Why in News:

According to the India Meteorological Department, India's monsoon has been withdrawing from the country with a delay of eight days from normal. Late withdrawal of monsoon has been happening for the last 13 years and any delay in its withdrawal may impact agricultural production.

About Withdrawal of Monsoon:

The withdrawal of the monsoon is a gradual process. Monsoon begins to withdraw over the north-western states of India from early September. By mid-October, it disappears completely from the northern half of the peninsula. The withdrawal from the southern half of the peninsula is becoming more rapid. By early December, the monsoon withdraws from the rest of the country.

What IMD Said?

- India has received 796.4 mm of rain during this monsoon season so far, compared to a normal of 843.2 mm, representing a deficit of 6%. Rainfall between 94% and 106% of the long-period average (LPA) is considered normal. Normally, the country receives an average of 870 mm of precipitation during the four-month monsoon season (June to September).
- This year, India experienced a rainfall deficit in June but saw excessive precipitation in July due to consecutive western disturbances over northwest India and a favourable phase of the Madden-Julian Oscillation (MJO), known for increasing convection in the Bay of Bengal and the Arabian Sea.
- MJO is a large-scale atmospheric disturbance originating in tropical Africa and travelling eastward, typically lasting 30 to 60 days.
- August 2023 marked the driest month since 1901 and the hottest ever recorded in India, attributed to the strengthening of El Nino conditions.
- However, September brought excessive rain due to multiple low-pressure systems and the positive phase of MJO.

Pre Monsoon Prediction of IMD:

- In a pre-monsoon briefing, the IMD had predicted a normal monsoon for India. It had, however, cautioned that El Nino (warming of waters in the Pacific Ocean near South America) might influence the latter half of the southwest monsoon. El Nino results into weaker monsoon winds and drier conditions in India.

About Southwest Monsoon:

- The South-West Monsoon is a seasonal wind pattern bringing rainfall to the Indian subcontinent originating from the southwest and moving across the Arabian Sea, covering much of India, Nepal, Bhutan, and parts of Southeast Asia.

Formation of southwest monsoon:

- The Thar Desert and surrounding areas of the northern and central Indian subcontinent become quite hot during hot summers.
- This creates a low pressure area over the northern and central Indian subcontinent.
- To fill this void, moisture-laden winds from the Indian Ocean come into the subcontinent.
- These winds full of moisture are drawn towards the Himalayas.
- The Himalayas act like a high wall, blocking the winds from reaching Central Asia and forcing them to rise.
- As clouds rise, their temperature drops and precipitation occurs.



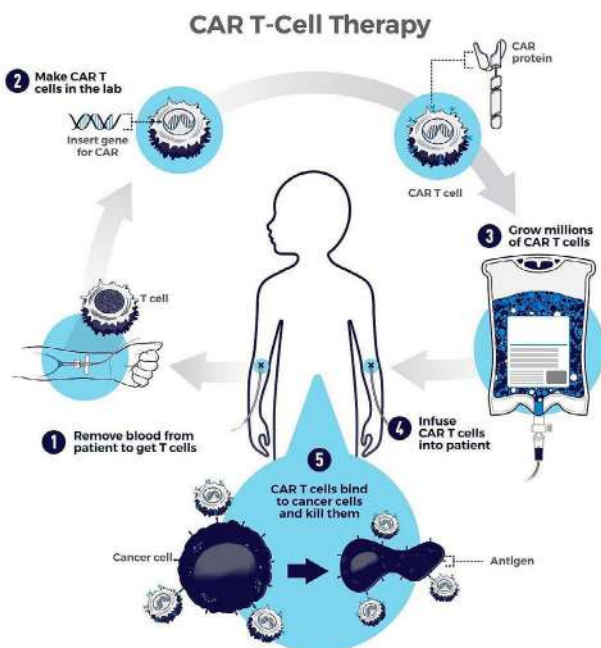
1 CAR-T Cell Therapy

Why in News:

A Mumbai-based ImmunoAdaptive Cell Therapy Pvt Ltd (ImmunoACT) has announced India's first chimeric antigen receptor (CAR) T-cell vaccine approved by the Central Drugs Standard Control Organization (CDSCO) for the treatment of relapsed-refractory B-cell lymphoma and leukemia.

About NexCAR19:

- It is an indigenously developed CD19-targeted CAR-T cell therapy. CD-19 is a biomarker for B lymphocytes and can be used as a target for leukemia immunotherapy.
- It has been completely developed in India.
- NexCAR19 also exhibits a favorable safety profile with a notable absence of Cytokine Release Syndrome (CRS) and neurotoxicity, distinguishing it from CD19-directed CAR-T cell therapies.



What is CAR-T cell therapy?

- This is a type of cancer immunotherapy treatment, in which firstly, the blood is taken from the patient. Then, immune cells called T-cells are genetically modified in a laboratory and injected back into the patient to make the cells able to more effectively detect and destroy cancer cells.

- CAR T-cells release large amounts of chemicals called cytokines into the blood as they grow, which can strengthen the immune system.

How does it work?

- The patient's blood is used to collect T-cells and immune cells that play an important role in destroying tumor cells.
- In CAR T-cell therapy, when modified T-cells are introduced into the body, the immune system is activated, allowing these cells to slowly and steadily kill the tumor as it grows.

Importance:

- CAR-T cell therapy costs around Rs 3-4 crore per patient. NexCAR19 will cost Rs 30-40 lakh per patient, which is a fraction of the cost abroad.
- Technical availability puts India among the few countries that have access to CAR-T therapy.

Way Forward:

NexCAR19 is a significant step forward in cancer treatment that will provide a precise and affordable therapy for relapsed-refractory B-cell lymphoma and leukemia in India, making India a leader in CAR-T cell therapy and providing access to advanced cancer treatment.

2 Quantum Algorithms

Why in News:

Quantum computers are often pitched as the remedy for solving complex problems which classical computers can't do. However, even though the hardware is available to build a quantum computer, exploiting its quantum features requires writing smart algorithms.

About Quantum Computing:

- Quantum computing is a cutting-edge field of computing that leverages the principles of quantum mechanics to perform computational tasks in fundamentally different ways than classical computers. In classical computing, information is processed using bits, which can be represented either a 0 or a 1. In contrast, quantum computing uses quantum bits or qubits, which can exist in a superposition of states, representing both 0 and 1 simultaneously.

What is Algorithm?

- An algorithm is a well-defined, step-by-step procedure or a set of rules for solving a specific problem or performing a particular task. It is a sequence of logically connected mathematical or

computational steps that guide the process from an initial input or state to a desired output or result. Algorithms are fundamental to computer science, mathematics, and various fields, and they provide the essential blueprint for solving problems efficiently and consistently.

Quantum Algorithms vs. Classical Algorithms:

- Quantum computers can efficiently solve problems that are extremely challenging for classical computers.
- Quantum algorithms are essential for harnessing the power of quantum computers and require the use of quantum gates for implementation.
- Quantum computers use qubits, which can exist in superposition, meaning they can be in a state of both 0 and 1 simultaneously, which is a fundamental difference from classical bits.

Shor's Algorithm: Efficient Factorization

- Shor's algorithm is a quantum algorithm that efficiently factors large numbers.
- It outperforms classical factorization algorithms, posing a potential challenge to classical cryptography.

Grover's Algorithm: Quantum Search:

- Grover's algorithm is a quantum search algorithm that can find patterns in large datasets much faster than classical algorithms.
- It achieves exponential speed-up, reducing the number of steps required for pattern identification.

Deutsch-Jozsa Algorithm

- The Deutsch-Jozsa algorithm is another quantum algorithm that efficiently determines relations between sets.
- It can distinguish constant and balanced relations with a single quantum computation, irrespective of input size, due to superposition.

Applications of Quantum Algorithms:

- Quantum algorithms are being researched for various applications, including optimization, drug design, and pattern search, with the potential to revolutionize these fields.
- Interdisciplinary Field and ongoing Research.
- Quantum computing is an interdisciplinary field involving computer science, mathematics, and physics.

Way Forward:

Quantum computing involves a combination of advancements in hardware, algorithm development, interdisciplinary collaboration, error correction, software, scalability, and a focus on practical applications. As the field continues to evolve, researchers and experts across various disciplines must work together to unlock the full potential of

quantum computing.

3

White Phosphorus

Why in News:

White phosphorus munitions have recently come into focus due to allegations of their use by the Israel Defense Forces (IDF) in Gaza and Lebanon.

What is White Phosphorus?

- White phosphorus is a pyrophoric substance that ignites when exposed to oxygen, producing thick, light smoke and intense 815-degree Celsius heat. Pyrophoric substances ignite spontaneously or very quickly when in contact with air.
- It falls under "Pyrophoric solids, category 1" in the Globally Harmonized System of Classification and Labelling of Chemicals, indicating its extreme reactivity.
- White phosphorus emits a distinct garlic-like odour.

Military Uses of White Phosphorus:

- Its primary military use is as a smokescreen, concealing troop movements on the ground. The smoke also interferes with infrared optics and weapons tracking systems, protecting forces from guided missiles.
- Munitions can either be ground-burst for concentrated smoke or air-burst to cover a larger area.
- It can be used as an incendiary weapon to force concealed combatants to abandon their positions.

Harmful Effects of White Phosphorus:

- Exposure to white phosphorus can cause severe burns, often down to the bone, which are extremely painful, slow to heal, and prone to infections.
- Particles of white phosphorus left in the body can reignite upon contact with air. Even burns on just 10% of the body can be fatal.
- Inhaling white phosphorus particles or smoke can lead to respiratory damage and harm to internal organs. Survivors often experience lifelong suffering, including impaired mobility and scars.
- White phosphorus can devastate infrastructure, damage crops, and kill livestock, especially when ignited in windy conditions.

Historical Usage of White Phosphorus Munitions:

- White phosphorus munitions were first used by Irish nationalists in the late 19th century, in a formulation known as "Fenian fire."

- British and Commonwealth forces extensively used white phosphorus during World War I in grenades, bombs, shells, and rockets.
- These munitions have been used in various conflicts, including World War II, the US invasion of Iraq in 2004, and the Nagorno-Karabakh conflict. Russia was accused of using white phosphorus bombs during the invasion of Ukraine.

Legal Status of White Phosphorus Munitions:

- White phosphorus munitions are not banned outright, but their use is regulated under International Humanitarian Law (IHL).
- They are not classified as chemical weapons because their primary operational utility is based on heat and smoke rather than toxicity.
- The use of white phosphorus is governed by the Convention on Conventional Weapons (CCW), specifically Protocol III, which addresses incendiary weapons. Palestine and Lebanon have ratified Protocol III, but Israel has not.

Way Forward:

With recent allegations of Israel using white phosphorus munitions in Gaza and Lebanon, it is essential to adhere to international legal frameworks and engage in diplomatic efforts to address these concerns and ensure compliance with IHL.

4 Large Language Models

Why in News:

India will set up a “high powered committee” to explore the development of large language models, tools that harness artificial intelligence to create applications that can understand and process human language. .

What is a Large Language Model?

- A Large Language Model (LLM) is a deep learning algorithm that is primarily designed for Natural Language Processing (NLP) tasks. These models are built upon transformer architectures and are trained on extensive and diverse datasets, hence the term “large.”

Key Components of Large Language Models:

- The embedding layer creates embeddings from the input text. This part of the large language model captures the semantic and syntactic meaning of the input, so the model can understand context.
- The Feedforward Layer (FFN) of a large language model is made of up multiple fully connected layers that transform the input embeddings.
- The recurrent layer interprets the words in the

input text in sequence.

- The attention mechanism enables a language model to focus on single parts of the input text that is relevant to the task at hand.

How do large language models work?

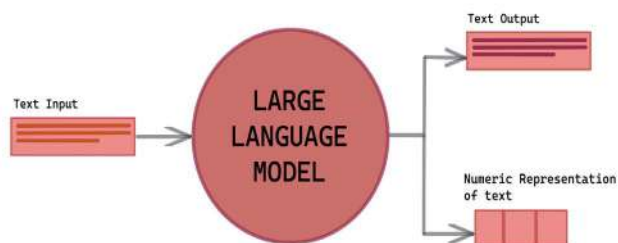
- A large language model is based on a transformer model and works by receiving an input, encoding it, and then decoding it to produce an output prediction.

Pre-Training:

- **Corpus:** These models are initially trained on a massive corpus of text from the internet, containing billions of words and spanning a wide range of topics and languages
- **Unsupervised Learning:** During pre-training, the model engages in unsupervised learning

Fine-Tuning:

- **Adaptation to Specific Tasks:** After pre-training, the model is fine-tuned for specific tasks.
- **Supervised Learning:** Fine-tuning is usually done through supervised learning



Benefits of Large Language Models:

- large language models are powerful tools with diverse applications and the ability to learn and adapt rapidly. They excel in providing information in a clear, conversational style, making them a valuable resource for addressing a wide range of problems and challenges across different industries and domains

Limitations and Challenges of Large Language Models:

- **Hallucinations:** LLMs can produce false or unrelated outputs, human identity, or romantic feelings.
- **Security Risks:** Improperly managed LLMs can leak private information, and produce spam, contributing to misinformation.
- **Bias:** Outputs reflect biases in the training dat.
- **Scaling Challenges:** Scaling and maintaining

LLMs is resource-intensive and time-consuming.

Way Forward:

India's exploration of large language models and its deep tech startup policy signal its commitment to advancing technology, fostering innovation, and establishing itself as a global player in the technological landscape. These developments are likely to have a significant impact on India's technological future and its position in the global tech ecosystem.

5 Pill Against Dengue

Why in News:

A pill for dengue fever developed by Johnson & Johnson appeared to protect against a form of the virus in a handful of patients in a small human challenge trial in the United States, according to data presented by the company.

Dengue as a Global Threat:

- Dengue virus affects approximately 400 million people worldwide each year.
- It primarily occurs in tropical and sub-tropical regions and poses a significant health threat due to the absence of effective medicines.

Trial Results:

- The trial involved a compound named JNJ-1802, which exhibited antiviral activity against the DENV-3 strain of dengue in humans compared to a placebo.
- The trial, conducted in collaboration with the Johns Hopkins Bloomberg School of Public Health, included 10 volunteers who received a high dose of the J&J pill five days before being exposed to dengue.
- Participants continued taking the pill for 21 days after exposure.
- In the initial phase of the trial, six out of the ten volunteers had no detectable dengue virus in their blood after exposure, and their immune systems showed no response to the virus during an 85-day monitoring period.
- In contrast, the five individuals in the placebo group, who were also exposed to dengue, had detectable virus levels.

Mechanism of Action:

- The pill works by blocking the action of two viral proteins, preventing the virus from replicating.
- It was well-tolerated by all trial participants.

Future Challenges:

- Ensuring access to the new drug, especially in low- and middle-income countries where it is

needed, will be a key challenge.

- This development follows the challenge faced by the dengue vaccine that the World Health Organization (WHO) supported earlier.

Dengue's Severity and Spread:

- Dengue fever is often referred to as "break-bone fever" due to the severity of joint pain and spasms.
- It remains a significant health concern, causing millions of infections and tens of thousands of deaths each year.
- Climate change is likely to expand the areas where the mosquitoes that transmit dengue are present.

Symptoms of Dengue Fever:

- Common symptoms of dengue fever include high fever, severe headache, eye pain, muscle and joint pains, nausea, vomiting, swollen glands, and rash.
- Dengue can be riskier when it affects an individual for the second time, leading to severe symptoms such as abdominal pain, persistent vomiting, rapid breathing, bleeding gums, fatigue, restlessness, extreme thirst, and fatigue.

Way Forward:

The next phase will involve testing the pill as a treatment for dengue in addition to prevention. Research and development will continue to refine and improve the treatment, ensuring its safety and effectiveness on a larger scale.

6 Most Distant 'Fast Radio Burst'

Why in News:

The recent discovery of a "Fast Radio Burst" (FRB) that is the most distant ever detected is an exciting development in the field of astrophysics.

What are Fast Radio Burst?

- First observed in 2006, these bursts are extremely short-lived and intense phenomena.
- They are invisible to the naked eye but can be detected by radio telescopes.
- Most FRBs originate from distant galaxies instead of our own Milky Way galaxy.
- FRBs are trillion times more energetic than pulsars, which are rotating neutron stars in our galaxy.
- They provide a tool for studying the "cosmic web" of matter between galaxies, revealing insights about the distribution of normal matter in the universe.

- More distant and extreme FRBs can help uncover further secrets about the universe and are of great interest to astronomers.

Key Findings:

- Scientists have detected the most distant FRB ever, an 8-billion-year-old pulse that has been traveling for more than half the lifetime of the universe.
- FRBs provide a tool to study the “cosmic web” of matter between galaxies, and the degree of their slowing down helps determine the distance they have travelled.
- The discovery of more distant and extreme FRBs can reveal further secrets about the universe.
- The most distant FRB, named “FRB 20220610A,” was found using the Australian SKA Pathfinder (ASKAP) radio telescope and confirmed using the Very Large Telescope (VLT) in Chile.
- The redshift of the FRB indicates that it was emitted more than 8 billion years ago, breaking the record for the most distant FRB.

Significance:

- **Cosmic Distance Record:** This discovery represents the detection of an 8-billion-year-old FRB, which has travelled for more than half the lifetime of the universe, breaking the record for the most distant FRB ever detected.
- **Revealing Missing Matter:** Analysis of previous FRBs has contributed to the revelation that the cosmic web contains more than half of the normal matter in the universe, a previously missing component that astronomers have been seeking to account for.
- **Exploring Distant Universe:** By detecting FRBs from distant galaxies, astronomers can study the structure and composition of galaxies in the early universe, providing insights into how galaxies have evolved over cosmic time.

Way Forward:

The discovery paves the way for further research into FRBs, with plans to enhance the sensitivity of radio telescopes like ASKAP and the development of more advanced instruments such as the Square Kilometre Array (SKA), which will allow for even greater discoveries in the field of astrophysics.

7

Tapeworm Disease in Kenya

Why in News:

The international team of different institutes' researchers has found the spread of tapeworm disease into the non-endemic area of Kenya for the

first time. This disease has been endemic to Kenya's northwestern part and Maasailand, in pastoralist communities.

Tapeworm:

- *Echinococcus granulosus*, a type of tapeworm is a harmful parasite that affects around a million people worldwide.
- This parasite can grow slowly in people for years to form thick-walled cysts in vital organs, such as the liver and lungs causing a disease known as hydatid disease.
- It is a zoonotic disease as it spreads from animals to humans, with a life cycle involving humans, dogs and ruminant livestock. It is categorized as a 'neglected disease' by the World Health Organisation (WHO).
- Neglected Diseases or Neglected tropical diseases (NTDs) are a diverse group of 20 viral, parasitic and bacterial diseases that mainly affect the world's poorest people and are prevalent in tropical areas.

Kenya and Tapeworm:

- The tapeworm disease has been endemic to Kenya for a long time. The pastoralist community of this East African country who live mainly in the northwest part and Maasailand and work closely with livestock has concentrated the risk of disease. However, due to the expanding meat industry, this disease is also spreading to other parts of Kenya.

Burden of Disease:

- This disease can cause abdominal pain, nausea, and vomiting and if not treated can be fatal. It costs approximately \$3 billion to treat cases and compensate for losses to the livestock industry worldwide.
- Other regions of high tapeworm disease prevalence- Latin America, Eastern Europe, Sub-Saharan Africa, India and Asia.

Way Forward:

The tapeworm disease is spreading at a faster rate due to the intersection of infected livestock from endemic tapeworm regions and dogs scavenging to disposed animal by-products. Therefore, system of disease surveillance and provisioning of tools and equipment to diagnose the diseases in humans need to be developed to prevent any potential health outbreaks.



Economic Issues



1 Farmers lose \$3.8 trillion due to disasters in the past 30 years: FAO

Why in News:

A recent Food and Agriculture Organization (FAO) report states that farmers have lost an estimated \$3.8 trillion worth of crop and livestock production due to natural disasters over the past 30 years, with Asia accounting for the largest share of total economic losses.

Key Points of the Report:

- These losses average \$123 billion per year or 5 percent of annual global agricultural gross domestic product (GDP). This is the first global estimate of the impact of disasters on agricultural production focused on crops and livestock.
- Grain losses over the past three decades averaged 69 million tonnes per year, which is equal to the entire grain production of France in 2021.
- Losses in cereals were followed by losses of fruit, vegetables and sugar crops, each averaging 40 million tonnes per year.
- For fruits and vegetables, the deficit is equivalent to the entire production of fruits and vegetables in Japan and Vietnam in 2021.
- An average of 16 million tonnes of meat, dairy products and eggs were lost per year, equivalent to the combined production of meat, dairy products and eggs in Mexico and India in 2021.
- Loss figures may be higher if systematic data were available on losses in the fisheries, aquaculture and forestry subsectors.

Data from other continents:

- Asia as well as Africa, Europe and the Americas showed a similar pattern of losses.
- The loss in Asia was only 4 percent of agricultural value added, while in Africa it was about 8 percent.
- Over the past three decades, disasters have caused the greatest relative losses to low- and lower-middle-income countries, amounting to 15 percent of their total agricultural GDP.
- Disasters also significantly affected small island developing nations, causing them to lose about 7 percent of their agricultural GDP.

Persistent increase in disasters:

- Disaster incidence has increased from 100 per year in the 1970s to approximately 400 per year worldwide in the last 20 years.

- Farmers, especially smallholders farming in rain-fed conditions, are the most vulnerable in agri-food systems, bearing the brunt of disaster impacts.
- Disaster risk drivers include climate change, poverty and inequality, population growth, pandemic health emergencies, unsustainable land use and management, armed conflict and environmental degradation.

Way Forward:

Effective Disaster response must be developed by improving data and information on the impacts of disasters on all sub-sectors of agriculture including crops, livestock, fisheries, aquaculture and forestry, as well as multi-sectorial and multi-hazard integration into policy and programming at all levels. A disaster risk reduction approach has to be developed for better adaptation and reduced fatalities at several levels.

2 India's Space Economy: \$44 bn by 2033

Why in News:

India's space economy has the potential to grow to USD 44 billion by 2033, with 8% of the global share, according to IN-SPACE Chairman Pawan Goenka.

About Indian National Space Promotion and Authorisation Centre (IN-SPACE):

- In-SPACE is an autonomous and single window nodal agency in the Department of Space for the promotion, encouragement, and regulation of space activities of both government and private entities. It acts as a link between ISRO and private sector entities.

Profound Growth Potential:

- Currently, India's space economy is valued at Rs. 6,700 crore (\$8.4 billion) with a 2% share in the global space economy. However, IN-SPACE's vision projects that India's space economy can expand substantially, reaching Rs.35,200 crore (\$44 billion) by 2033, accounting for approximately 8% of the global market share.

Market Share Enhancement:

- The present domestic market share stands at Rs.6,400 crore (\$8.1 billion), while the export market share is Rs. 2,400 crore (\$0.3 billion). The objective is to elevate the domestic share to Rs. 26,400 crore (\$33 billion) and the export share to Rs. 88,000 crore (\$11 billion), demonstrating a concerted effort to bolster both

local and global contributions.

Investment Commitment:

- Over the next decade, an investment of Rs.17,600 crore (\$22 billion) is earmarked, aiming to boost infrastructure, R&D in the Indian space sector.

Three Key Focus Areas:

- The decadal vision categorizes the space ecosystem into three primary segments: Space-for-Earth, Access-to-Space, and Space-for-Space, reflecting a comprehensive approach to space-related activities.

Decadal Vision:

- The decadal vision focuses on several key areas, including the creation of demand, local manufacturing capabilities, infrastructure development, and the establishment of a clear and comprehensive regulatory framework. This framework is designed to encourage and facilitate the participation of non-governmental entities (NGEs) in the growth of the space sector.

Collaboration:

- Dr. Pawan Goenka, Chairman of IN-SPACe, emphasized the importance of collaboration between all stakeholders to accelerate growth in the Indian space sector. ISRO is working to open its doors to increased private sector participation to boost the space economy.

Key Strategic and Enabling Capabilities:

IN-SPACe aims to achieve its decadal vision through the following strategic capabilities:

- » Demand generation
- » Earth Observation (EO) platform
- » Communication platform
- » Navigation platform
- » Research & Development ecosystem
- » Creation of a talent pool
- » Access to finance
- » International synergy
- » Collaboration
- » Policy and regulation development

Way Forward:

The vision and strategy of IN-SPACe aims to foster the growth of the Indian space economy, promote

collaboration among stakeholders, and enhance private sector participation, contributing to a stronger and self-reliant “Aatmanirbhar Bharat” (self-reliant India) in the field of space exploration and technology.

3 Industrial sector credit growth slows due to decline in new projects

Why in News:

According to the latest data from the Reserve Bank of India (RBI), credit expansion in the industrial sector is slowing down. On the other hand, the growth in total non-food credit slowed marginally to 15 per cent by August 2023 from 16 per cent a year ago.

Key points related to data:

- The growth of outstanding credit to large industrial sectors fell to 5.4 per cent (Rs 25.30 lakh crore) by August 2023, from 6.3 per cent a year ago.
- The medium sector witnessed a sharp decline in growth to 9.8 per cent (Rs 2.55 lakh crore).
- Last year from 36.6 percent and from 27.7 percent in Micro and small industry, the credit growth slowed to 10.7 percent. This decline in credit growth comes amid a decline in new projects in the last two quarters.
- According to CARE Ratings report, profitability has improved due to softening input prices. Improving profitability of corporates will help revive the private capital expenditure cycle.
- While the private sector has overtaken the government in terms of new projects announced in H1FY24, it has lagged the government sector in terms of completed projects and projects under implementation.

CMIE Data on Projects:

- Data from the Center for Monitoring Indian Economy (CMIE) shows a sharp slowdown in net new projects in the first half of FY2024.
- The value of new projects declined to Rs 1.2 lakh crore in Q2FY24 from Rs 6.6 lakh crore in Q1FY24 and Rs 13.4 lakh crore in Q4FY23.
- Increase from Rs 3 lakh crore in Q4FY23 to Rs 4.2 lakh crore in Q1FY24 and Rs 4 lakh crore in Q2FY24.

Credit Cards Outstanding on Aadhar:

- Credit cards outstanding on an Aadhar basis increased by 30 per cent to Rs 2.17 lakh crore, which was 26.8 per cent last year. Gold loan outstanding increased by 22.1 per cent to Rs

Making Space

India accounts for only **2%** of the global space economy

In **2033**, IN-SPACE aspires to make the country corner **8%** of the global market, including **\$11 billion** of exports over a 10-year period

At present, the share of the domestic market is **\$8.1 b**

THE EXPORT MARKET SHARE IS **\$0.3 BILLION**

The aim is to increase the domestic share to **\$33b**

96,265 crore as against 9.2 per cent.

Conclusion:

Industries are drivers of development and growth in any major economy. Even though many Indian industrial sectors have witnessed growth, the core industries form the basis of industrial infrastructure. Among core industries, credit growth to basic metals and textiles accelerated in August 2023 compared to the same month last year, while credit growth for chemicals and chemical products, food processing and infrastructure declined. The need of the hour is to provide effective stimulus to these industries so that the industrial sector grows sustainably in the long run.

4 India to be Asia's Second Largest Economy by 2030: S&P

Why in News:

A recent S&P Global Market Intelligence report said India's gross domestic product (GDP) is expected to grow to US\$7.3 trillion by 2030, making it the second-largest economy in the Asia-Pacific region, surpassing Japan.

Key Points of the Report:

- According to the report, India is now the third largest economy in the Asia-Pacific region and the fifth largest economy in the world.
- Its GDP in US dollar terms is projected to grow from US\$3.5 trillion in 2022 to US\$7.3 trillion by 2030.
- As a result of this rapid pace, the size of Indian GDP will exceed that of Japanese GDP by 2030, making India the second-largest economy.
- According to the report, India will remain one of the world's fastest-growing economies over the next decade, making it one of the most important long-term growth markets for multinationals across a wide range of industries, including manufacturing industries such as auto, and electronics.
- After two years of rapid economic growth in 2021 and 2022, the Indian economy is projected to see sustained growth during the 2023 calendar year.
- The country's GDP growth rate increased year-on-year to 7.8 percent in the April-June quarter of 2023, compared to 6.1 percent growth in the January-March quarter of 2023.

Other important highlights the report made:

Increase in Foreign Direct Investment inflows into India:

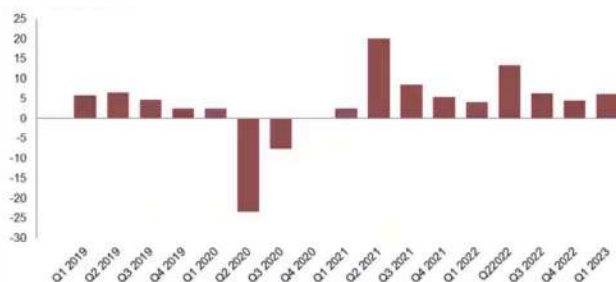
- According to the report, the pickup in foreign direct investment (FDI) inflows into India

reflects a favorable long-term growth outlook for the Indian economy, helped by a young demographic profile and rapidly rising urban household incomes.

- The long-term outlook for the Indian economy is supported by several key growth drivers, with its large and fast-growing middle class being a key factor that is helping to boost consumer spending.

India's GDP growth (2019-23)

(Year on year growth by percentages)



Data courtesy S&P Global

India as an important investment destination:

- The Indian domestic consumer market as well as its large industrial sector have made the country an important investment destination for multinational companies in many sectors, including manufacturing, infrastructure and services

E-commerce boom due to digital transformation:

- Digital transformation is expected to accelerate the growth of e-commerce, transforming the retail consumer market landscape over the next decade. It is attracting leading global multinationals in technology and e-commerce to the domestic market.

Way Forward:

India's GDP is expected to surpass Germany's by 2030. It has been said that by the end of 2022, the size of Indian GDP will be bigger than the GDP of UK and France.

5 India Launches Reference Fuel to Cut Import Dependency

Why in News:

Indian Oil Corporation Limited (IOCL) launched India's first indigenously developed gasoline and diesel reference fuels. The launch was done by the

Union Minister of Petroleum and Natural Gas.

What are Reference Fuels:

- Reference fuels are specialized high-quality fuels with stringent specifications. They are used by auto manufacturers for testing and calibrating internal combustion engines and vehicles. Reference fuels help engine and vehicle manufacturers ensure optimal engine performance across diverse climatic conditions globally. These fuels aid in assessing vehicles' emission characteristics as well.
- It is the basis of the four-pronged energy security strategy adopted by the Ministry of Petroleum and Natural Gas guided by the Prime Minister's vision to transform India into an energy-reliant nation by 2047. These strategies include:
 - » Diversification of energy supply.
 - » Increasing India's exploration and production presence.
 - » Completing the energy transition through alternative energy sources and gas based economy.
 - » Green hydrogen and EVs.

Impact of Reference Fuels:

- This indigenously developed product, by Indian Oil meets Automotive Industry Standard (AIS) specifications, will promote import substitution for vehicle manufacturers at better prices and minimum time frames.
- It will accelerate implementation of fuel blending to reduce emissions, pursuing the ambitious target of achieving 20 per cent blending by 2025 to 2030.
- India has consistently pursued important policy initiatives towards fulfilling its aspirations for a more sustainable future. Like recently, introducing green hydrogen fuel cell buses in Delhi.
- Its local manufacturing will best utilize its potential as a leading country in the global energy market while maintaining balanced crude oil prices.

Way Forward:

The launch of indigenous reference fuels demonstrates India's phenomenal progress in oil refining and specialty chemicals. If nurtured appropriately, India can become a global manufacturing hub for high-technology fuels.

6

Government Launches Digital Crop Survey to create data on Cultivation

Why in News:

The present system of estimation of crop area and production is "completely manual" resulting in "delay and manual errors", so, there is a need to digitize the process by adopting the Digital Crop Survey System, highlighted the Centre.

About Digital Public Infrastructure:

- Digital public infrastructure for agriculture is built as an open-source, open-standard and interoperable public good. This will enable inclusive, farmer-centric solutions through relevant information services for crop planning and health, improved access to farm inputs, credit and insurance, help for crop estimation, market intelligence, and support for the growth of the Agri Techs industry and start-ups. Example- AgriStack and Krishi DSS will solve the issues & challenges faced in the Agriculture sector.
- Digital Crop Survey will establish a clear picture of crops being sown across all the farmlands in the country during the different agricultural seasons. The project aims to create one verified source of truth about the farmers and their crop-sown data.
- Only a few states like Karnataka, Telangana and Andhra Pradesh have established a digital-data collection system in the form of GPS-enabled mobile application for crop areas. Therefore, a need was felt to reform the existing production estimation system through the use of technological intervention.
- Use of Geo-referencing Tool for Drones Survey - Global Information System (GIS) and Global Positioning System (GPS) technologies are used to ensure the positioning of the farmland.
- To move ahead with the initiation of the Digital Crop Survey in the states, MoUs were signed between the State Governments of Assam, Gujarat, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and the Government of India.

Role of Satellite in the Survey:

- Indian Space Research Organisation (ISRO) has launched Resourcesat - 2A, Radar Imaging Satellite (RIS) - 1A in polar orbits and Indian National Satellite (INSAT) 3D in geostationary orbits.
- These are aimed at providing data for assessing the total area under cultivation, damage from natural calamities, disease attacks, and agromet services across the country.

Way Forward:

A robust, effective, on-time, transparent digitally driven crop survey system, that uses the latest

1 No Progress to help people with Disabilities in Disaster Management

Why in News:

According to a new global survey by the United Nations Office for Disaster Risk Reduction (UNDRR), the past decade has seen a lack of progress in government policies to protect people with disabilities during natural disasters,

Key Points of the Report:

- About 16 percent of the world's people have some form of disability and they are two to four times more likely to die in disasters than the rest of the population.
- UNDRR, citing Rehabilitation International, an international disability rights organization, said people with disabilities were twice as likely to die in the 2011 East Japan earthquake.
- Only 11 percent reported that they were aware of a disaster management plan in their local area, down from 17 percent in 2013.
- Countries with inadequate procedures to protect persons with disabilities from disasters may violate international law under the Convention on the Rights of Persons with Disabilities, which specifies obligations to ensure the protection of persons with disabilities from disasters.
- UNDRR said the Sendai Framework for Disaster Risk Reduction 2015-2030 also calls for disability inclusion, the provision of accessible disaster risk information and the establishment of inclusive warning systems.

Disaster response among disabled persons:

- 84 percent of persons with disabilities reported that they did not have any personal preparedness plan for disasters.
- 56 percent reported that communities were not aware of or did not have access to disaster risk information in accessible formats.
- Awareness of disaster-risk education plans among persons with disabilities remains low, with only 11 percent at the national level and 14 percent at the sub-national level aware of disaster-risk reduction plans.
- 86 percent of persons with disabilities reported that they have no participation in community-level DRR decision making and planning.

About UNDRR:

- UNDRR works with countries to help them better understand and respond to risks associated with disasters.

- It does this by supporting governments and partners to implement the Sendai Framework for Disaster Risk Reduction 2015-2030.

Way Forward:

When persons with disabilities are abandoned in disaster situations, this is the ultimate betrayal of the commitment to leaving no one behind. Everyone has the right to life. Governments need to increase their efforts and focus on creating leadership roles for persons with disabilities in disaster management decision-making.

2 Kongali Bihu

Why in News:

Prime Minister Narendra Modi greeted the people of Assam on the auspicious occasion of Kongali Bihu.

About Kongali Bihu:

- Kongali Bihu is one of the three Bihu festivals celebrated in the Indian state of Assam.
- Bihu festivals are an integral part of Assamese culture and are linked to the agricultural cycle.
- Kongali Bihu, also known as Kati Bihu, is the second Bihu festival and is celebrated in mid-October, marking the end of the sowing season and the beginning of the harvesting period.

Importance and Celebration:

- **Agricultural significance:** Kongali Bihu is primarily an agricultural festival that marks the completion of sowing of crops and the beginning of their growth.
- **Prayers and Prasad:** People light earthen lamps in front of Tulsi plants, granaries and paddy fields to seek blessings for a bountiful harvest.
- **Cultural events:** People wear traditional Assamese attire, and the community comes together to participate in various cultural activities.

Rituals and Traditions:

- **Lighting earthen lamps:** Lighting earthen lamps is an important ritual during Kongali Bihu. It symbolizes worship of the Goddess of wealth and seeking her blessings for a prosperous harvest.
- **Offerings to the Gods:** People offer prayers and offerings to various gods, seeking their blessings for the well-being of their families and the success of their agricultural endeavours.
- **Community Engagement:** Kongali Bihu emphasizes community engagement, in which people come together to participate in cultural programs, feasts and various rituals, thereby

promoting unity and harmony within the community.

Conclusion:

Bihu festivals collectively represent the cultural richness and agricultural importance of Assam. These festivals not only celebrate the agricultural cycle but also promote a sense of community, unity and cultural identity among the people of Assam.

3 Religious Scriptures and Intellectual Property Rights

Why in News:

The Delhi High Court has observed large-scale infringement of the copyrights of Bhaktivedanta Book Trust. This has brought attention to the copyright issues concerning religious scriptures and related texts.

More about the Issue:

- The Bhaktivedanta Book Trust has claimed that certain social media platforms, Instagram handles and mobile applications were making its copyrighted works available on their respective platforms. In most cases, the reproduction is an exact copy of the works whose copyright exclusively belongs to the trust.
- After the death of Swami Prabhupada in 1977, the trust received the copyright of his works. These works were published in several languages simplifying the religious books and scriptures.

Copyright laws in the Indian context:

- The Indian Copyright Act of 1957 safeguards "original work," creative expressions independently created and fixed in a tangible medium. It also protects transformative works, which creatively modify, reinterpret, or build upon existing material to create something distinct.
- In the context of religious texts and scriptures, they belong to the public domain. However, interpretations and any other creative analogies by the author are protected under copyright laws.
- For instance, religious texts like the Ramayan and Bhagwat Gita might not come under the preview of copyright laws, their creative interpretations either in the visual, audio or visual form are protected under law.

Court's Observation:

- The court emphasized that although religious scriptures can be reproduced in their original form, the copyright protection applies to the

original parts of literary works that preach, teach, or explain the scripture.

- The court ruled that adaptations of sacred scriptures, including explanations, meanings, interpretations, and audio-visual works, are entitled to copyright protection because they represent original works by the authors themselves.
- The court acknowledged that unauthorized reproduction, including shlokas (verses), translations, and interpretations, by defendant entities would result in immense revenue loss for the trust.

Conclusion:

The Delhi High Court ruling regarding the copyright protection of religious texts will have far-fetched implications. It will serve as a guardian that will safeguard the IPRs of organisations imparting spiritual knowledge and discourage any form of unauthorized reproduction of their respective works.

4 Project Udbhav

Why in News:

Defense Minister Shri Rajnath Singh recently launched 'Project UDBHAV' in the presence of Army Chief General Manoj Pandey, Air Chief Marshal VR Chaudhari, Air Force Chief, Vice Admiral during the inauguration of the Indian Military Heritage Festival.

About Project Udbhav:

- 'Udbhav', translated as 'Origin', acknowledges our nation's ancient scriptures and writings, which are centuries old and contain deep knowledge that can benefit modern military strategies.
- The project aims to synthesize ancient knowledge with contemporary military practices, creating a unique and holistic approach to address modern security challenges.
- It is a visionary initiative of the Indian Army that seeks to integrate age-old knowledge with contemporary military pedagogy.
- The ancient Indian knowledge system is rooted in a 5000 year old civilizational heritage that has placed great importance on knowledge; It is the world's largest and astonishingly vast collection of intellectual texts, manuscripts, thinkers and schools in many fields of knowledge.
- This project will facilitate a deeper understanding of our knowledge systems and philosophies and will also aim to understand their enduring

relevance and applicability in modern times.

Objective of Project Udbhav:

- It aims to effectively integrate ancient knowledge with modern military pedagogy through interdisciplinary research, workshops and leadership seminars.
- It will facilitate the emergence of previously less explored ideas and principles related to strategic thinking, statecraft and warfare, promote deeper understanding and contribute to enriching the military training curriculum.
- 'Project Udbhav' will usher in a new era for the Indian Army that reflects a commitment to building a future where our military might and strategic thinking are enhanced by our rich and strategic past.

Benefits for Army from Project Udbhav:

- 'Project Udbhav' will set the stage for a strong, progressive and future-ready Indian Army that not only resonates with the country's historical military vision but also matches the demands and dynamics.

Way Forward:

The launch of Project Udbhav will usher in a new era for the Indian Army, reflecting their commitment to building a future where our military might will drive our prosperity and strategic thinking.

5

Nipah Virus Antibodies Detected in Bats in Wayanad

Why in News:

The Indian Council of Medical Research (ICMR) has confirmed the presence of the deadly virus in samples of fruit bats collected from Mananthavady and Sultan Bathery areas of Wayanad.

What is Nipah Virus (NiV)?

- It is a zoonotic virus that spreads from animals to humans.
- Hendra virus (HeV) infection is a zoonosis that causes severe and fatal diseases in both infected horses and humans.
- It was first found in domestic pigs and since then it has been found in many species of domestic animals including dogs, cats, goats, horses and sheep.
- The organism that causes Nipah virus encephalitis is a ribonucleic acid (RNA) virus of the family Paramyxoviridae, genus Henipavirus, and is related to Hendra virus.
- It first spread in Malaysia and Singapore in 1998 and 1999.

Key points of the survey:

- ICMR has detected Nipah virus (NiV) antibodies in Pteropus bat species in 14 states and one Union Territory in a bat surveillance survey.
- The discovery indicates the widespread presence of the virus and raises concerns about a possible outbreak across the country.
- Work is underway to develop indigenous monoclonal antibodies against Nipah. This development is important for more effective treatment, especially considering that the strain in India is different from the imported monoclonal antibodies.
- Despite experiencing Nipah outbreaks, scientific understanding of viral spillover events, transmission routes and factors contributing to outbreaks concentrated in certain areas of Kerala remains limited. Climate change and changes in agriculture/vegetation patterns are known to be potential variables influencing these events.

Establishment of Kerala One Health Centre:

- Kerala One Health Platform is setting up Kerala One Health Center for Nipah Research in Kozhikode to enhance prevention, treatment and research efforts related to the Nipah virus.
- The One Health Center will function in the microbiology lab at the Government Medical College Hospital, Kozhikode, which has been playing a vital role in Nipah testing and surveillance activities since the 2021 NiV outbreak.

Conclusion:

It is a matter of pride for the state's health system that it managed to detect the case early in the outbreak and all the containment measures adopted were successful. Credit also goes to the health system which managed to bring the death rate down to 33.3% instead of the normal 70-90%.

6

Mehrauli Archaeological Park

Why in News:

The structures of Mehrauli Park, located in Delhi, were redesigned recently. Lieutenant Governor Shri Vinay Kumar Saxena unveiled the renovated historical structures and monuments in the park in South Delhi in the presence of the Minister of State for Culture Meenakshi Lekhi. A Rs. 2.6 crore project to restore and conserve 55 monuments in the Mehrauli Archaeological Park was launched in March.

About Mehrauli Archaeological Park:

- In 1997, the renovation of the area as an

archaeological park and the restoration of important structures began.

- It is spread over 200 acres and is adjacent to the UNESCO World Heritage Site of Qutub Minar.
- It is made up of more than 100 sites of historical importance and has sites which belong to the era of Khalji, Tughlaq, Lodi, Mughal, and British.
- These include the Jamali Kamali Mosque, Metcalfe House, and Rajon Ki Baoli, as well as the tombs of Mamluk Sultan Ghiyas-ud-din Balban and Mughal governor Shah Quli Khan.

Construction by multi-agency:

- The work was started in March by multiple agencies led by the Delhi Development Authority (DDA) and the Archaeological Survey of India (ASI) at a cost of about Rs. 2.6 crore.
- Apart from restoring the structures, silt has been dredged from water bodies in the park, and pathways have been built to connect the monuments.
- The principles of the Delhi Master Plan 2021 and the Unified Building Bylaws of 2016, which promote adaptive reuse of historic buildings, were implemented during the redevelopment work.

Conclusion:

The Mehrauli Archeological park has a rich history. Many people know the history of Delhi only from the 14th–15th centuries, but the city has much more to tell. History must be reworked again and again, and redevelopment of other heritage sites must be considered as well, to conserve and develop Indian archaeological heritage and culture.

7

Vajra Mushti Kalaga: A form of Martial Arts headed for a Final Decline

Why in News:

Recently, the Wadiyar family organised Vajra Mushti Kalaga, which is a martial art form that is extinct and is organised only around Dussehra.

What is Vajra Mushti Kalaga?

- Vajra Mushti is a form of Kalaga martial art which involves disarming the opponent and countering their weapon.
- It mainly comprises hand-to-hand combat such as grappling, wrestling, and striking.
- The weapon used here is a knuckle duster, which is a small metal weapon made from animal horns and worn on the knuckles of fighters

Characteristics:

- “Vajra Mushti Kalaga” is a form of wrestling different from traditional wrestling and involves two Jetyas who hit each other on the head with knuckledusters.
- The one who first draws blood from the opponent’s head is declared the winner.
- The fight is real, and Jetyas makes all efforts to draw blood from the opponent’s head and the referee intervenes after seeing the first drop. Sometimes the fight ends within a few seconds.
- It was popular during the 14th–17th century Vijayanagara rulers.
- Medieval Portuguese travellers observed this form of wrestling during the Navaratri festival in the Vijayanagara Empire and gave detailed descriptions.

Conclusion:

Historically, this form of martial arts was popular and has a storied past, but presently it is almost going extinct and has fallen out of practice. The recent event will help it become popular again, which will increase its cultural importance.


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Aspirational Blocks Programme

About the Programme

The Aspirational Blocks Programme (ABP) was launched by the Prime Minister on January 7, 2023, during the 2nd National Conference of Chief Secretaries.

The Programme focuses on improving governance to enhance the quality of life of citizens in the most difficult and underdeveloped blocks of India by converging existing schemes, defining outcomes, and monitoring them on a constant basis.

Partnerships & Networks

Blocks will undertake the following to make ABP a Jan Andolan:

- Seek guidance of elected representatives.
- Involvement of College, Universities and Schools in ABP.
- SHGs as motivators and instruments of behaviour change.
- Intensive IEC for community awareness and participation.

Capacity Building

Capacity building is a central component of the ABP with the emphasis on enhancing governance via capacity building. The ABP capacity building strategy is centred on:

- Programme orientation and leadership training
- Building domain expertise
- Partnership with NIRDPR and SIRDs
- Use of iGOT for capacity building

Pillars of ABP

- Convergence (of Central & State Schemes).
- Collaboration (of NITI Aayog, Central Ministries and Departments, State Governments and District and Block Administration).
- Competition among blocks driven by a spirit of mass Movement.

Strategy for ABP

Development of Block Development Strategy:

- Blocks would identify key interventions across all the sectors of ABP that could help achieve saturation of services and surpass the State average on key socio-economic parameters.

Flexibility to States:

- States would have requisite flexibility to choose some indicators based on their context.

API Based Data Sourcing:

- The Programme would source data against indicators directly from Management Information Systems of Ministries and Departments.

Capacity Building of Functionaries:

- ABP would ensure continuous capacity building of block level functionaries to ensure effective and accelerated implementation of schemes.

Knowledge Portal for Continuous Learning:

- The Programme would have a knowledge portal for documentation and dissemination of best practices.
- A systematic approach to knowledge management would be adopted for continuous learning under the programme.

Ranking of Blocks:

- The programme would rank all the blocks every quarter based on their performance.
- The financial incentives to blocks will also be given on a quarterly basis.

Awards and Incentives:

- ABP will provide awards and incentives for exemplary contribution towards attainment of ABP Objectives.

Selection of Blocks

- The 500 Blocks that are part of the ABP were selected by an Inter-Ministerial Committee in consultation with States.
- An index of backwardness was developed based on data set pertaining to health and nutrition, education, basic infrastructure, and a proxy of poverty using Mission Antyodaya and Socio-Economic Caste Census (SECC) 2011-12.

Swachh Bharat Mission Gramin

About the Scheme

To accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation, PM had launched the Swachh Bharat Mission on 2nd October 2014. The mission was implemented as Janandolan which aimed at eliminating open defecation in rural areas through mass scale behavior change, construction of household-owned and community-owned toilets and establishing mechanisms for monitoring toilet construction and usage.

Sustaining ODF Communities

The achievement of ODF involves working on behaviour change to a great extent, sustenance of which requires concerted efforts by the community. Many districts and States have evolved parameters to maintain sustainability of ODF.

Focus on Behaviour Change

- Behaviour change has been the key differentiator of Swachh Bharat Mission and therefore emphasis is placed on Behaviour Change Communication (BCC).
- Emphasis is placed on awareness generation, triggering mindsets leading to community behaviour change and demand generation for sanitary facilities in houses, schools, Anganwadis, places of community congregation, and for Solid and Liquid Waste Management activities.

Achievement

Under the mission, all villages, Gram Panchayats, Districts, States and Union Territories in India declared themselves “open-defecation free” (ODF) by 2 October 2019, the 150th birth anniversary of Mahatma Gandhi, by constructing over 100 million toilets in rural India.

Vision

The aim of Swachh Bharat Mission (Gramin) phase II is to ensure the open defecation free behaviours are sustained.

Objectives

- Open defecation free behaviours are sustained and no one is left behind.
- Solid and liquid waste management facilities are accessible and reinforcing ODF behaviours and focus on providing interventions for safe management of solid and liquid waste in villages.
- To encourage cost effective and appropriate technologies for ecologically safe and sustainable sanitation.
- To develop, wherever required, community managed sanitation systems focusing on scientific Solid & Liquid Waste Management systems for overall cleanliness in the rural areas.
- To create significant positive impact on gender and promote social inclusion by improving sanitation especially in marginalized communities.

Strategy

The focus of the Strategy is to move towards a ‘Swachh Bharat’ by providing flexibility to State governments, as sanitation is a State subject, to decide on their implementation policy, use of funds and mechanisms, taking into account State specific requirements.

Key Elements of the Strategy:

- Augmenting the institutional capacity of districts for undertaking intensive behaviour change activities at the grassroots level.
- Strengthening the capacities of implementing agencies to roll out the programme in a time-bound manner and to measure collective outcomes.
- Incentivizing the performance of State-level institutions to implement behavioural change activities in communities.

National Skill Development Mission

About the Mission

The National Skill Development Mission was officially launched by the Prime Minister on 15/07/2015 on the occasion of World Youth Skills Day. The Mission has been developed to create convergence across sectors and States in terms of skill training activities. To achieve the vision of 'Skilled India', NSDM would not only consolidate and coordinate skilling efforts, but also expedite decision making across sectors to achieve skilling at scale with speed and standards.

Seven sub-missions have been proposed initially to act as building blocks for achieving overall objectives of the Mission.

- » Institutional Training,
- » Infrastructure,
- » Convergence,
- » Trainers,
- » Overseas Employment,
- » Sustainable Livelihoods,
- » Leveraging Public Infrastructure.

Mission Statement

To rapidly scale up skill development efforts in India, by creating an end-to-end, outcome-focused implementation framework, which aligns demands of the employers for a well-trained skilled workforce with aspirations of Indian citizens for sustainable livelihoods.

Concerned Ministry

It has been implemented through a streamlined institutional mechanism driven by Ministry of Skill Development and Entrepreneurship (MSDE).

Institutional Mechanisms

Key institutional mechanisms for achieving the objectives of the Mission have been divided into three tiers.

- Governing Council for policy guidance at apex level
- Steering Committee
- Mission Directorate

Mission Directorate has been supported by three other institutions:

- National Skill Development Agency (NSDA),
 - » The NSDA focuses on policy research via National Skills Research Division, quality assurance and implementation of quality standards across all skilling agencies.
 - » It develops protocols for training and accreditations for private trainers, etc.
- National Skill Development Corporation (NSDC)
 - » NSDC overlooks training, capacity building aspects of trainers, both public and private, lead the engagement with industries, drive the sectors skills councils.
- Directorate General of Training (DGT)
 - » The DGT maintains the skill training structures of Advanced Training Institutes (ATIs), Regional Vocational Training Institute (RVTIs) and other such institutes.
 - » It advises on training policies, trains instructors, provides technical support, runs women-centric training institutes, etc.

APAAR

About the Scheme

APAAR (Automated Permanent Academic Account Registry) is envisioned as a special ID system for all students in India, starting from childhood. This is part of the 'One nation, One Student ID' initiative of the Union government, stemming from the new National Education Policy of 2020.

Solution

- Government informed that the information shared by students will be kept confidential and will not be shared with any third party except for entities engaged in educational activities.
- At any given time, students have the option to stop sharing their information with the mentioned parties, and their data processing will be halted.
- However, any personal data already processed will remain unaffected if consent is withdrawn.

Concerns Regarding APAAR

Parents and students have concerns about sharing their Aadhar details because they worry that their personal information could be leaked to outside parties.

Purpose of APAAR

- Under the initiative, each student would get a lifelong APAAR ID, making it easy for the learners, schools, and governments to track academic progress from pre-primary education to higher education.
- APAAR would also serve as a gateway to Digilocker, a digital system where students can store their important documents and achievements, digitally, making it easier to access and use them in the future.

Need of APAAR

- The goal behind introducing APAAR is to make education hassle-free and reduce the need for students to carry physical documents.
- The vision is to create a positive change, allowing state governments to track literacy rates, dropout rates, and helping them make improvements.
- APAAR also aims to reduce fraud and duplicate educational certificates by providing a single, trusted reference for educational institutions.
- Under this scheme, only first party sources that issue certificates will be allowed to deposit credits into the system, ensuring authenticity.

Govts Vision for APAAR

- Every individual will have a unique APAAR ID, which will be linked to the Academic Bank Credit (ABC).
- ABC is a digital storehouse that contains information of the credits earned by students throughout their learning journey.
- With the APAAR ID, students would be able to store all their certificates and credits (from formal education or informal learning both).
- When a student completes a course or achieves something, it's digitally certified and securely stored in her account by authorised institutions.
- If the student changes schools, whether within the state or to another state, all her data in the ABC gets transferred to her new school just by sharing the APAAR ID. She won't need to provide physical documents or transfer certificates.

Made-In-India EV Charging Standard

About the Standards

The Bureau of Indian Standards (BIS) has approved an indigenously developed AC and DC combined charging connector standard for light electric vehicles (LEVs) such as scooters, bikes, and rickshaws. Electric vehicle (EV) charging connector standards are conceptually similar to charging connector standards for mobile phones.

Status in Other Countries

CHINA:

- The world's largest electric car market in terms of both sales and vehicles on the road, uses a national standard for EV charging connectors that is called GB/T.
- The national standard, along with one of the densest networks of charging stations in the world, has allowed China to productively address concerns around range anxiety.

USA:

- The US does not have a national standard, but EV makers have been collaborating to push for some degree of standardisation.

EUROPE:

- In Europe, CCS is the predominant charging connector standard, and is also a European Union (EU) requirement for EV charging networks.

Objectives

- To enable faster adoption of electric vehicles in India by ensuring safe, reliable, accessible and affordable charging infrastructure and eco-system.
- To provide for affordable tariff chargeable from Charging Station Operators/Owners and Electric Vehicle (EV) owners.
- To generate employment/income opportunities for small entrepreneurs.
- To proactively support creation of EV charging infrastructure.
- To encourage preparedness of Electrical Distribution System to adopt EV Charging Infrastructure.
- To promote energy security and reduction of emission intensity of the country by promotion of entire EV ecosystem.

Importance of the New EV Charging Standard

- The indigenously developed charging standard is the first in the world that combines alternating current (AC) and direct current (DC) for LEVs.
- Combined AC and DC charging standards for electric four-wheelers are already in use around the world, like the Combined Charging System (CCS) standard that is widely used in Europe.
- A combined charging standard is attractive because of its interoperability which means that it can be used by different kinds of EV models and charging infrastructure providers.

Need of National Standard in India

- In India, EV makers are not mandated to follow a specific standard for charging connectors. Thus, electric two-wheeler makers use different charging standards for their EVs.
- Even now, although the new approved standard fixes the problem of different standards for AC and DC charging by creating a combined standard, it does not mandate EV makers to use a uniform standard that can help address range anxiety and promote faster adoption of EVs.

BRAIN BOOSTERS

Sagar Samriddhi

About Sagar Samriddhi

The National Technology Centre for Ports, Waterways, and Coasts (NTCPWC), the MoPSW's technology arm, created this system. The system replaces the previous Draught & Loading Monitor (DLM) system. The method seeks to improve efficiency and contract management while also encouraging the proper reuse of dredged material. It is consistent with the visions of Atmanirbhar Bharat and Make in India.

About NTCPWC

- The NTCPWC was founded at IIT Madras in April 2023 as part of the MoPSW's Sagarmala Programme, with a total cost of RS 77 Crores.
- The center's mission is to facilitate marine sector R&D, enabling solutions toward the ultimate goal of developing a thriving marine industry in the country.
- This cutting-edge facility offers world-class capabilities for conducting 2D and 3D research and consultation studies for the Port, Coastal, and Waterways sectors across all disciplines.

Capabilities

- Real time dredging progress report.
- Daily and monthly progress visualisation.
- Dredger performance and downtime monitoring.
- Easy location track data with snapshot of loading, unloading and idle time.

Importance

- The following can be achieved by the use of technology:
 - » Timely completion of projects.
 - » Lower dredging cost.
 - » Increased transparency & efficiency.
 - » Promotion of environmentally sustainable projects .
- The yearly maintenance of dredging at Major Ports & Waterways is around 100 million cubic meters, for which the Ports & IWAI spends approximately Rs.1000 crores per year.
- The dredging cost will be greatly reduced by adopting the Addendum and employing the 'Sagar Samriddhi' method, assuring transparency & efficiency.
- The approach improves project planning, lowers operational costs, and speeds up the building of deep draught ports.

About Dredging

- Dredging is the process of removing sediments and debris from the bottoms of lakes, rivers, harbors, and other bodies of water.
- Sedimentation, the natural process of sand and silt pouring downstream, progressively fills channels and harbors in streams all over the world.

Some Important Data

- Cargo Traffic at Major Ports : 795 MT (FY 2021-22)
- Growth rate in the cargo handled by Major Ports : 10.4%
- Total Cargo Capacity of all Indian Ports : 2 MTPA (FY 2020-21)
- Maritime Transport Accounts for India's external trade by:
 - » Approximately 95% (by volume)
 - » 68% (by value)

BRAIN BOOSTERS

Sagarmala

About the Scheme

The concept of Sagarmala was approved by the Union Cabinet on 25th March 2015. As part of the programme, a National Perspective Plan (NPP) for the comprehensive development of India's 7,500 km coastline, 14,500 km of potentially navigable waterways and maritime sector has been prepared which was released by the Prime Minister, on 14th April, 2016 at the Maritime India Summit 2016.

Components of Sagarmala

- **Port Modernization & New Port Development:** De-bottlenecking and capacity expansion of existing ports and development of new greenfield ports.
- **Port Connectivity Enhancement:** Enhancing the connectivity of the ports to the hinterland, optimizing cost and time of cargo movement through multi-modal logistics solutions including domestic waterways.
- **Port-linked Industrialization:** Developing port-proximate industrial clusters and Coastal Economic Zones to reduce logistics cost and time of EXIM and domestic cargo.
- **Coastal Community Development:** Promoting sustainable development of coastal communities through skill development & livelihood generation activities, fisheries development, coastal tourism etc.
- **Coastal Shipping & Inland Waterways Transport:** Impetus to move cargo through the sustainable and environment-friendly coastal and inland waterways mode.

Need for Port-Led Development in India

- India is one of the fastest growing large economies in the world and ports play an important role in the overall economic development of the country.
- Indian ports still have to address infrastructural and operational challenges before they graduate to the next level.
- Last mile connectivity to the ports is one of the major constraints in smooth movement of cargo to/from the hinterland.
- Significant savings can be achieved by shifting movement of industrial commodities like coal, iron ore, cement and steel to coastal and inland waterways.
- The location of industries/manufacturing centres vis-à-vis the ports is an important aspect.

Mode of Transportation	Transportation Cost (Rs/Ton-Km)
Road	2.0-3.0
Rail	1.2-1.5
Waterways	1.1-1.2
Pipelines	0.1-0.15

Vision

Vision of the Sagarmala Programme is to reduce logistics cost for EXIM and domestic trade with minimal infrastructure investment. This includes:

- Reducing cost of transporting domestic cargo through optimizing modal mix.
- Lowering logistics cost of bulk commodities by locating future industrial capacities near the coast.
- Improving export competitiveness by developing port proximate discrete manufacturing clusters.
- Optimizing time/cost of EXIM container movement.

Institutional Framework

- The institutional framework for implementing the Sagarmala Programme is designed to create a coordinating role for the Central Government.
- It aims to provide a platform for the Central, State Governments and Local Authorities to work in tandem and coordinate under the established principles of "cooperative federalism".
- The Bodies include:
 - » National Sagarmala Apex Committee
 - » Sagarmala Coordination & Steering Committee
 - » State Sagarmala Committee

Practice Questions for Mains Exam

1. Critically analyse the status of malnutrition in India in the context of National Family Health Survey-5. Has the Government initiatives failed to tackle the issue of malnutrition in India?
2. India's space sector has achieved great heights in recent years. In view of this statement evaluate the role of private sector in the space programme of India.
3. Cooperative Federalism has been the foundation of centre-state relation in India. How far Regional Councils have been successful in strengthening the cooperative federalism in India?
4. Elaborate the concept of Good Governance. How good governance model can provide better and transparent services?
5. Explain why India and Israel relations have been a bone of contention in India's relations with west Asia?
6. Evaluate the role of Aspirational Blocks Programme in the development of backward areas in India.
7. Discuss the features of APAAR Programme. How it will help in achieving the efficient Higher Education in India?
8. Discuss the features of SAGARMALA. How SAGARMALA initiative will help in achieving the Port led growth in India?
9. Pendency of appeals and complaints in State Information Commission affects people's access to information. Discuss.
10. In the context of the recent report of the UN Expert Group, what are the major obstacles to achieving coherence among the Sustainable Development Goals and how can they be addressed?
11. Manual scavenging is a byproduct of the caste system in India which still prevails in society. Critically analyze the government effort and suggestions in this regard.
12. Analyze the efficacy of efforts taken by the government to synchronize the goal of developed India with SDGs.
13. The recent drought in the Amazon region is one of the dangerous effects of climate change. Analyze the efforts made by global governments to avoid such a situation.
14. Discuss the formation of south West monsoon in India. How does a delay in the Southwest monsoon in India affect agricultural production?
15. What are the reasons which contributed to the emerging Indian space economy? Comment upon the role of IN-SPACE in this regard.

News Of National and International Importance

ITES Ltd & IRCON Granted Navratna status

Iron International Limited (IRCON) and RITES Ltd(RITES) both Central Public Sector Enterprise (CPSE) under the Ministry of Railways, have been announced as 15th and 16th Navratna respectively among CPSEs.

Key Points:

- RITES Limited is a leading transport infrastructure consulting and engineering firm of India. It provides services in various sectors of transportation, railways, export of rolling stock, highways, airports, metros, urban engineering, sustainability, ports, waterways and energy management.
- Navratna status will help RITES to further enhance its brand, compete more effectively in the global market and navigate new frontiers for growth.
- IRCON has executed projects in the areas of railway construction including ballast less track, electrification, tunnelling, signals and telecommunications as well as locomotive leasing, roads, highways, commercial, industrial, residential buildings and complexes. It is also involved in the construction of airport runways and hangars.
- The company has reported a consolidated annual turnover of Rs 10,750 crore in the financial year 2022-23.
- Receiving Navratna status will help companies enhance market credibility and undertake large-sized PPP projects.

Pramod Mahajan Rural Skill Development Centers

The Prime Minister recently launched 511 Pramod Mahajan Rural Skill Development Centers in Maharashtra through video conferencing. Set up in 34 rural districts of Maharashtra, these centres will conduct skill development training programs in various sectors to provide employment opportunities to rural youth.

Key Points:

- Each skill centre will train about 100 youth in at least two vocational courses. This training will be provided by industry partners and agencies empanelled under the National Skill Development Council.
- This skill centre has been named after the former Member of Parliament Late Pramod Mahajan.
- These skill development centres will also provide training in soft skills so that youth can avail opportunities abroad too.
- According to a study, 16 countries have planned to employ about 40 lakh skilled youth.
- Further, emphasis will also be laid on the need to provide training in soft skills like basic foreign language skills, and the use of AI tools for language interpretation.
- The establishment of these centres will help the sector achieve significant progress towards developing more capable and skilled manpower.

Gyan Sahayak Yojana

Gyan Sahayak Yojana was recently announced by the Gujarat Government. The objective of this scheme is to fill the vacancies in government schools with the appointment of teachers on contract basis until the process of regular appointments is completed.

Key Points:

- The Gyan Sahayak Scheme is applicable for government and aided schools.
- The government has announced the contractual appointment of 15,000 knowledge assistants in primary schools and 11,500 knowledge assistants in secondary and higher secondary schools.
- Primary School Knowledge Assistants will be provided a salary of Rs 21,000, Secondary School Knowledge Assistants Rs 24,000 and Higher Secondary School Knowledge Assistants Rs 26,000 per month.
- To become a Knowledge Assistant in Primary School, a candidate must qualify for the Teacher Eligibility

Test (TET)-2 conducted by the Gujarat Examination Board, while for Secondary and Higher Secondary Knowledge Assistant, one must qualify for the Teacher Aptitude Test (TAT).

- Both primary and secondary school teachers should be below 40 years of age, for higher secondary school the age limit is 42 years.

Sakharov Human Rights Prize for Mahsa Amini

Mahsa Amini, a 22-year-old Kurdish-Iranian woman who died in police custody in Iran, was awarded the Sakharov Prize, the European Union's top human rights award.

Key Points:

- Amini sparked worldwide protests against the country's conservative Islamic theocracy.
- This award was started in 1988 to recognize individuals or groups who defend human rights and fundamental freedoms.
- Mahsa Amini died on September 16, 2022, after being arrested for violating Iran's mandatory headscarf law.
- The Sakharov Prize carries a total of 50,000 Euros and is a major recognition of individuals and movements advocating human rights and freedoms.
- The award serves as a powerful reminder of the ongoing struggle for justice and equality globally.

Election Commission appoints Rajkumar Rao as its National Icon

The Election Commission of India (ECI) has appointed actor Rajkumar Rao as one of its 'National Icons' ahead of the 5 state elections this year and the Lok Sabha elections in 2024.

Key Points:

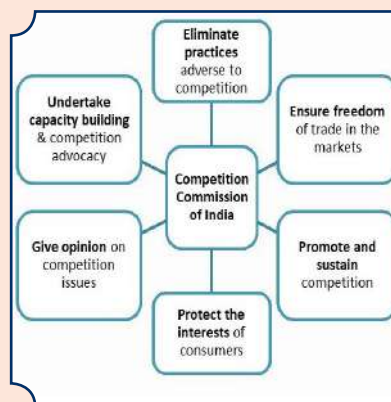
- In Newton Film, Rao's character played the role of a polling booth official in a town in Chhattisgarh, who works hard to conduct free and fair elections despite various obstacles, including threats from Naxalites.
- Rajkummar Rao received Filmfare Award and National Film Award for his role in the 2017 movie 'Newton', which was India's official entry to the 90th Academy Awards in the 'Best Foreign Language Film' category.
- The film depicts Rao as a government clerk who did everything possible to ensure free and fair elections.
- Earlier, the Election Commission had recognized actors Pankaj Tripathi, Aamir Khan, Sachin Tendulkar, MS Dhoni and MC Mary Kom as national icons.

CCI Becomes Member of the Steering Group of the ICN

The Competition Commission of India (CCI) has become a member of the steering group of the International Competition Network (ICN). ICN comprises 140 competition agencies from 130 countries.

Key Points:

- ICN comprises 140 competition agencies and is guided by its apex body – the Steering Group.
- The ICN provides an exclusive but informal venue for competition authorities to maintain regular contact and address practical competition concerns.
- It is the only global body dedicated exclusively to competition law enforcement and its members represent national and multinational competition authorities.
- India hosted the bi-annual conference of competition regulators of the BRICS group after a decade, which inter alia deliberated on new dimensions of antitrust rules.



India-EU Joint Naval Exercise

India and the European Union conducted their first joint naval exercise in the Gulf of Guinea recently, reflecting the growing maritime security cooperation between the two sides.

Key Points:

- The exercise reflects the breadth and dynamism of EU-India cooperation on maritime security and signals a common determination to uphold the United Nations Convention on the Law of the Sea (UNCLOS).
- The main objective of the exercise is to strengthen naval maritime security cooperation in support of the region.
- INS Sumedha, an offshore patrol ship of the Indian Navy, joined ships from three EU member states. Three EU Member States' ships—Italian Foscari, French Ventôse and Spanish Tornado—joined the Indian Naval Ship Sumedha to practice tactical manoeuvres.
- Following the exercise, a knowledge-sharing session was held in Accra, Ghana, based on joint experiences at sea to improve operational knowledge.



Paintbrush Swift Butterfly

The Paintbrush Swift butterfly had been photographed and documented for the first time in Chamba, Himachal Pradesh. 430 butterfly species are found here, which is about 25% of the total number of butterfly species found in India.

About Paintbrush Swift Butterfly:

- It is a species of butterfly belonging to the HesperIIDae family.
- It is identified on the basis of two distinct spots in the upper forewing cell and distinguished on the same from its closely related species.
- The larvae of this species feed on bamboo and some other grass species.
- The Paintbrush Swift is commonly found in North-East, Central and South India, and is rare in Uttarakhand.
- This species of butterfly is seen on the lower hills of Dhauladhar mountain range.
- This species of butterfly was photographed during a field survey conducted under the Wild Bhattiyat Project by Bhattiyat Forest Range of Dalhousie Forest Division of Himachal Pradesh Forest Department.
- This species of butterfly was discovered in the Eastern Himalayas in 1878.
- Other butterfly species seen in Himachal Pradesh include Anomalus Nawab, Blank Swift, Tailed Jay, Siren etc.



Chetan Bhagat

Edtech startup Henry Harwin Education (HHE) recently announced acclaimed author and speaker Chetan Bhagat as its brand ambassador. This partnership represents a shared vision and commitment to empower the youth of India.

Key Points:

- Henry Harwin Education is a leading provider of training and consulting services. With a global presence in over 11 cities across the United States, India and UAE, including key locations such as Fremont, Dubai, Noida, Delhi, Bangalore, Mumbai, Chennai, Hyderabad, Pune, Kochi and Chandigarh.

- As a brand ambassador, Chetan Bhagat will play a key role in inspiring and guiding young minds towards their goals by emphasizing the importance of perseverance, creativity and intellectual growth.

India Mobile Congress

The 7th edition of the country's biggest telecom industry event 'India Mobile Congress 2023' (IMC) was organized at Pragati Maidan, Delhi.

About Mobile Congress:

- The event has attracted over 1,00,000 participants, over 1,300 delegates and over 400 speakers.
- The three-day India Mobile Congress (IMC) showcases the broader convergence of telecom with new domains like semiconductors and deep tech.
- The theme of this year's IMC is 'Global Digital Innovation'.
- This initiative is focused on promoting entrepreneurial development among young innovators and industry professionals in telecom and other digital domains.
- In the congress, cutting-edge technologies like 5G, 6G, broadcasting, satellite and semiconductor were discussed.
- IMC is co-hosted by the Department of Telecommunications (DOT) and the Cellular Operators Association of India (COAI), the premier representative body of the Indian telecom industry.

Interconnected Disaster Risk Report 2023

The Institute for Environment and Human Security (UNU-EHS), the academic arm of the United Nations University, Bonn, Germany, published its Interconnected Disaster Risks Report 2023, which focused on groundwater conditions in Punjab and Haryana. The report warned of a groundwater depletion risk, stating that 70% of groundwater withdrawals were used for agriculture.

Key Points:

- In addition to groundwater depletion, the report also analyses accelerating extinction, melting mountain glaciers, space debris, unbearable heat and an uninsurable future.
- The report says agricultural intensification is a major factor pushing us towards the tipping point of risk of groundwater depletion. Groundwater irrigation sustains about 40 percent of the world's crop production, including a large share of major crops such as rice and wheat.
- To support farmers and reduce their operating costs, some countries subsidize the energy costs for water pumping.

Green Energy Corridor Phase-II

The Cabinet Committee on Economic Affairs chaired by the Prime Minister has approved the Green Energy Corridor (GEC) Phase-II – Inter-State Transmission System (ISTS) project for 13 GW renewable energy project in Ladakh.

Highlights related to the project:

- The project is targeted to be set up by FY 2029-30 with a total estimated cost of Rs 20,773.70 crore and Central Financial Assistance (CFA) for 40 per cent of the project cost i.e. Rs 8,309.48 crore.
- Power Grid Corporation of India Limited will be the implementing agency for this project.
- To extract this power, the transmission line will go through Himachal Pradesh and Punjab to Kaithal in Haryana, where it will be integrated with the national grid.
- The project will involve setting up 713 km transmission lines (including 480 km HVDC lines) and a 5 GW capacity HVDC terminal at Pang (Ladakh) and Kaithal (Haryana).
- This project will contribute to achieving the target of 500 GW installed power capacity from non-fossil fuels by the year 2030.
- It will create huge direct and indirect employment opportunities for both skilled and unskilled personnel in power and other related sectors, especially in Ladakh region.

Current Affairs at a Glance

1. The presence of Tilapia Parvovirus (TiPV) has been detected for the first time in India, affecting Tilapia, a freshwater fish species reared in ponds at Walajah in Ranipet district in Tamil Nadu.
2. Sports Authority of India approved the establishment of 'Khelo India State Center of Excellence' in Ladakh.
3. Punjab Government launched 'Hope Initiative' to make the state completely drug free.
4. The Jammu and Kashmir government has constituted a panel to identify foreigners living illegally in the Union Territory.
5. The Haryana government is making plans to work together with the Maize Research Institute under the Indian Council of Agricultural Research to increase the cultivation of maize.
6. Dhordo village of Gujarat received the best tourism village award by the United Nations World Tourism Organization.
7. Imphal, the third indigenous destroyer of Project 15B, was handed over to the Indian Navy.
8. REC Limited, the Maharatna Central Public Sector Enterprise under the Ministry of Power, has been recognized for its exceptional performance in risk management with the esteemed Golden Peacock Award, given by the Institute of Directors (IOD).
9. Japan, South Korea and the US conducted joint naval missile defense exercises in the Sea of Japan after North Korea launched rocket based on its intercontinental ballistic missile (ICBM) technologies.
10. Union Minister of State for Skill Development, Shri Rajiv Chandrashekhar launched "Heartland Tripura", a skill development initiative being launched in collaboration with Deloitte and National Institute of Electronics and Information Technology (NIELIT) in Agartala.
11. Indian Institute of Corporate Affairs and Skill Council for Persons with Disabilities signed MoU for 'Job Coach for Inclusion Programmes'.
12. Joint bilateral training exercise between Indian and Malaysian armies "Exercise Harimau Shakti 2023" began at Umroi Cantonment, India. The Indian contingent is represented by a battalion of the Rajput Regiment.
13. Former Mumbai captain and domestic cricket legend Amol Majumdar was chosen as the head coach of the Indian women's cricket team.
14. Indian Army Chief General Manoj Pandey virtually inaugurated the Vertical Wind Tunnel (VWT) at the Special Forces Training School (SFTS) in Himachal Pradesh.
15. Robert Fico has been appointed Prime Minister of Slovakia for the fourth time.
16. Indian para-athletes created history with India's highest ever medal haul at the Asian Para Games. He won a total of 111 medals including 29 gold medals. Earlier, India had won 14 medals in the 2010 edition of the Asian Para Games, 33 in 2014 and 72 in 2018.
17. Ministry of Youth Affairs and Sports in collaboration with Ministry of Home Affairs organized the 14th Tribal Youth Exchange Program for the development of tribal youth in New Delhi.
18. External Affairs Ministry spokesperson Arindam Bagchi has been appointed India's Permanent Representative to the United Nations and other international organizations in Geneva.
19. Mahila Thana located in Bhopal has been awarded ISO certificate. It has become the first women police station in the country to get ISO certificate. It was awarded '9001:2015' ISO certification.
20. Daniel Noboa becomes Ecuador's youngest President, winning 52% of the votes in violence-hit elections.
21. Union Commerce and Industry Minister Shri Piyush Goyal to attend G7 Trade Ministers' Meeting in Osaka, Japan.
22. Memorandum of Understanding signed between ICAR Indian Agricultural Research Institute and Indian Institute of Technology, Kanpur to support incubators and start-ups.

Places in News

Orkney Islands

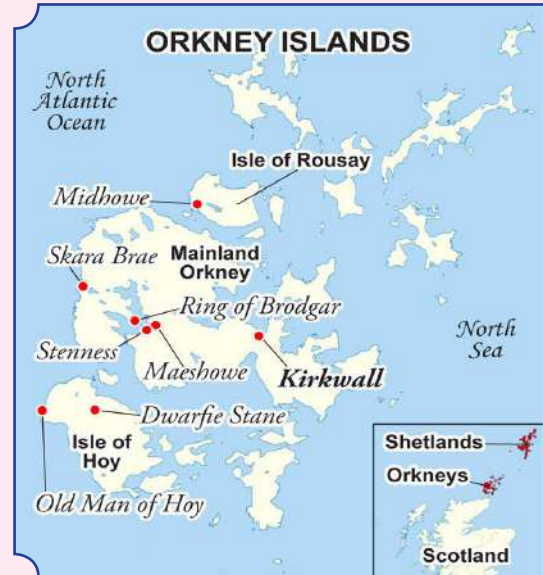
Recently, archaeologists have made an extraordinary discovery in Orkney, uncovering the remains of a 5,000 year old tomb.

About the Orkney Islands:

- Orkney Islands are an archipelago situated approximately 10 miles off the north coast of Scotland.
- The archipelago comprises 70 individual islands, with only 20 of them being inhabited.
- They are home to numerous archaeological sites, including Neolithic stone circles and chambered tombs, such as Maeshowe.
- The “Heart of Neolithic Orkney” is a UNESCO World Heritage site, comprising four significant Neolithic monuments: The Ring of Brodgar, Stones of Stenness, Maeshowe and Skara Brae.

Archipelago:

- An archipelago is a group or chain of islands closely scattered in a body of water, such as a sea, ocean, lake or river.
- These islands are typically formed through geological processes like volcanic activity, tectonic movements or sediment accumulation.



Marshall Islands

Recently, the United States signed a 20-year agreement with the Marshall Islands, providing economic assistance exceeding \$2 billion.

Marshall Islands (Capital: Majuro):

- Location: The Marshall Islands is situated in the Northwestern Pacific Ocean. It is west of the International Date Line and north of the equator.

Geographic Features:

- Atolls and Islands: The Marshall Islands is primarily composed of 29 coral atolls and five islands.
- Island Chains: The Marshall Islands are divided into two major island chains - Ratak in the east and Ralik in the west.
- Shark Sanctuary: The country declared world's on of the largest shark sanctuary to protect these marine animals.

Historical Background:

- The Marshall Islands has a history that includes Spanish and German influence, Japanese occupation during World War I and U.S. administration post-World War II, which involved nuclear tests.
- The nation gained its independence in 1979 through a Compact of Free Association with the United States.



Aral Sea

Recently, a piece of good news has come about the Aral Sea which has been facing the threat of losing its existence for a long time.

Important Points:

- For the first time in many years, a rise in water level has been observed in the Aral Sider Darya basin. Earlier it was believed to be on the verge of drying up. Due to the increase in its water level, it is great news for water resource conservation in Central Asia.
- The Aral Sea, which was formerly the fourth-largest lake in the world and was known for its rich natural reserves, was on the verge of drying up for decades. Satellite images show that its water level has decreased 40 times in the last 5 decades.
- This lake is considered to be classified into two parts: the Big Aral Lake which is in the Central Asian country Uzbekistan and the Small Aral Lake which is in Kazakhstan. Two transboundary rivers, the Amu Darya and the Sidra Darya, flow into the Aral Sea. The Sidra Darya originates in the highlands of Kyrgyzstan and flows through Uzbekistan, Tajikistan, and Kyrgyzstan and its final destination is Kyzylorda.
- The drying up of this sea started due to a plan of the Soviet Union. In 1960, the flow of rivers was diverted for the Soviet Union's irrigation project, after which the process of drying up of this sea continued. Kazakhstan's dam project to protect the sea from drying up and filling part of the Northern Aral Sea was completed in 2005, after which the water level in the sea rose by 12 meters in 2008 compared to 2003. However, despite all this, Sea's condition didn't improved much.



Rosebank Oil Field

Recently, the UK approved a major North Sea oil project despite environmental concerns and the commitment to achieve net-zero carbon emissions by 2050.

Location:

- The Rosebank oil field is situated in the North Sea, northwest of the Shetland Islands.

Oil Reserves:

- It holds significant untapped oil reserves with the potential to yield around 300 million barrels of oil.

UK Oil Production:

- The project is expected to contribute 8% of the UK's total oil production and generate jobs until 2051.

Environmental Concerns:

- Approval of the project has raised environmental concerns, given the UK's commitment to achieving net zero carbon emissions by 2050.

North Sea Geography:

- The North Sea is a shallow sea connecting multiple European countries and is a critical location for the oil and gas industry.
- It connects to the Atlantic Ocean through the English Channel in the south and the Norwegian Sea in the north.



MCQs Based on Current Affairs

1. **Consider the following statements with reference to NexCAR19:**
 1. It is an indigenously developed CD19-targeted CAR-T cell therapy.
 2. NexCAR19 also exhibits a favorable safety profile with notable absence of cytokine release syndrome (CRS) and neurotoxicity.
 3. It has been completely developed in India.Which of the above statements is/are correct?
A. 1 and 2
B. Only 2
C. All Three
D. None of the Above
2. **According to a recent Vigilant Citizens Organization (SNS) report, more than three lakh appeals and complaints are pending in 27 State Information Commissions across the country. Consider the following statements with reference to it:**
 1. Of the pending appeals, the highest number was recorded in Maharashtra (1,15,524) followed by Karnataka (41,047).
 2. Six information commissions, including the Central Information Commission, and the state information commissions of Manipur, Chhattisgarh, Maharashtra, Bihar and Punjab, are currently headless.
 3. The report also said that information commissions did not impose fines in 91 percent of cases where fines were probable.Which of the above statements is/are correct?
A. Only 1
B. Only 2
C. All three
D. None of the above
3. **Recently Indian Pharmacopoeia Commission (IPC) has been declared a member of PDG. Consider the following statements in this regard:**
 1. Its main objective is to meet the different pharmacopoeial requirements in different regions.
 2. IPC was the only pharmacopoeia body in the world to be selected for the pilot phase launched in 2020.
 3. It represents IPC's continued commitment and ability to develop world-class quality standards for drugs and pharmaceuticals.Choose the correct statement with the help of the above statements:
A. Only 1 and 2
B. Only 2 and 3
C. 1, 2 and 3
D. Only 1 and 3
4. **Consider the following statements with reference to the recently released Food and Agriculture Organization (FAO) report:**
 1. According to the report, farmers have lost an estimated \$3.8 trillion worth of crop and livestock production due to natural disasters over the past 30 years.
 2. Meat, dairy products and eggs lost an average of 16 million tonnes per year, which is equivalent to the combined production of meat, dairy products and eggs in Mexico and India in 2021.
 3. The loss in Asia was only 4 percent of agricultural value added while in Africa, it was about 8 percent.Which of the above statements are correct?
A. Only 1 and 2
B. Only 2 and 3
C. 1, 2 and 3
D. Only 1 and 3
5. **Consider the following statements with reference to the Pontus tectonic plate:**
 1. This tectonic plate is located in the northern and eastern regions of the Mediterranean Sea, covering parts of southern Europe and western Asia.
 2. This plate is a small tectonic plate located in the northern part of the Eastern Hemisphere.
 3. It was located under an ocean known as the Pontus Ocean.Which of the above statements is/are incorrect?
A. Only 1
B. Only 2
C. Both
D. None of the Above
6. **Consider the following statements with reference to slowing down of credit growth in the industrial sector due to decline in new projects:**
 1. Micro and small industry credit growth declined from 27.7 percent to 10.7 percent while this decline in credit growth comes amid a decline in new projects in the last two quarters.
 2. Value of new projects declined to Rs 1.2 lakh crore in Q2FY24.
 3. Credit card outstanding on Aadhar basis increased by 30 per cent to Rs 2.17 lakh crore, which was 26.8 per cent last year.Which of the above statements is correct?
A. Only 1
B. Only 2
C. 1 2 and 3
D. None of the Above

7. Consider the following statements with reference to India becoming Asia's second largest economy by 2030, surpassing Japan:

1. India's gross domestic product (GDP) is expected to grow to US\$7.3 trillion by 2030, S&P Global Market Intelligence reported.
2. According to the report, India is now the third largest economy in the Asia-Pacific region and the fifth largest economy in the world.
3. GDP is projected to grow from US\$3.5 trillion in 2020 to US\$7.3 trillion by 2040.

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

- A. Only 1 B. 1 and 2
C. 1 2 and 3 D. None of the Above

8. Consider the following statements with reference to project origination:

1. It is a visionary initiative of the Indian Army that seeks to integrate age-old knowledge with contemporary military pedagogy.
2. It may benefit ancient military strategies.
3. It aims to effectively integrate ancient knowledge with modern military pedagogy through interdisciplinary research, workshops and leadership seminars.

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

- A. Only 1 B. 1 and 3
C. 1 2 and 3 D. None

9. Consider the following statements with reference to Nipah Virus (NiV):

1. It is a zoonotic virus that spreads from animals to humans.
2. It first spread in Malaysia and Singapore in 1998 and 1999.
3. It was first found in domestic pigs and has since been seen in many species of domestic animals including dogs, cats, goats, horses and sheep.

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

- A. Only 1 B. 1 and 3
C. 1 2 and 3 D. None

10. Consider the following statements with reference to a new global survey by the United Nations Office for Disaster Risk Reduction (UNDRR):

1. The report states that about 16 percent of the world's people have some type of disability.
2. Among persons with disabilities, in which 84 percent reported that they did not have any personal preparedness plan for disasters.
3. 86 percent of persons with disabilities reported that they have no participation in community-level DRR decision making and planning.

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

- A. Only 1 B. 1 and 3
C. 1, 2 and 3 D. None

11. Recently a decline of 7.5% has been observed in the active workforce of MNREGA. Consider the following statements in this regard:

1. The number of active workers under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) has seen a decline of 7.5% between April and September 2023.
2. The report revealed that there has been an increase of 9% in the work day under MNREGA as compared to the last financial year.
3. The report shows that there has been a 9% increase in person days under MNREGA compared to the last financial year.

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

- A. Only 1 B. 1 and 3
C. 1, 2 and 3 D. None

12. Consider the following statements with reference to Global Maritime Summit and indicate which statement is correct.

- A. This is the fourth edition of the Global Maritime Summit.
- B. This is the vision of the Amrit Kaal of the 75th year of independence.
- C. Laid the foundation stone for projects worth over Rs 23,000 crore that are in line with the blue economy.
- D. This summit was organized under the auspices of the Indian Ministry of External Affairs.

13. Consider the following statements and indicate which statement is correct.

- A. 17 Sustainable Development Goals were adopted at the United Nations Sustainable Development Conference in September 2015.
- B. The recently launched report of the UN Group of Experts titled 'A Core Plan to Achieving a Better and More Sustainable Future for All Peoples and the World by 2030'
- C. There has been little progress towards the SDGs, with only 18% of the 169 targets on track to be met.
- D. None of these.

14. Consider the following statements and indicate which statement is correct.

- A. The economic loan to Sri Lanka was mentioned in China's official statement under

this agreement.

B. Sri Lanka signed an agreement with the Export-Import Bank of China to cover US\$4.2 billion.

C. China Forum on Development of Indian Ocean Island Countries was not opposed to India's SAGAR Initiative.

D. None of these.

15. Consider the Following Statements:

1. The practice of child marriage in India was first legally prohibited in 1929 through the Child Marriage Restraint Act, 1929.

2. In the 1929 Act, the minimum age of marriage was 14 years for girls and 18 years for boys.

3. In 2006, the Prohibition of Child Marriage Act raised the age limit of marriage for girls and boys to 18 years and 21 years respectively.

How many of the above statements are/are correct?

A. Only 1

B. Only 2

C. Only 3

D. None

16. What is/are the importance of the United Nations Convention to combat desertification?

1. It aims to promote effective action through innovative national programs and supportive international partnerships.

2. It has a special/special focus on the South Asia and North Africa regions, and its Secretariat facilitates the allocation of a larger share of financial resources to these regions.

3. It is committed to a bottom-up approach by encouraging participation of local people in combating desertification.

Choose the correct statement given below.

A. Only 1

B. Only 2 and 3

C. Only 1 and 3

D. 1, 2 and 3

17. Consider Mehrauli Archaeological Site -

1. Jamali Kamali Masjid, Metcalf House, Rajon ki Baoli are located here.

2. It contains the tombs of the Mamluk Sultan Ghiyas-ud-din Balban and the Mughal governor

Shah Quli Khan.

3. Mehrauli Archaeological Park is not located near the Qutub Minar World Heritage Site.

How many of the above statements are correct?

A. One

B. Two

C. All Three

D. None of These

18. Consider the following statement with reference to Madeira River -

1. Amazon is the largest tributary of the river.

2. It is a left bank tributary of the Amazon River.

3. Forms the border between Bolivia and Brazil.

Which of the above statements is/are correct?

A. Only 1 and 2

B. Only 2 and 3

C. Only 1 and 3

D. 1, 2 and 3

19. Which of the following is not included in the list of neglected tropical diseases?

A. Dengue

B. Chikungunya

C. Echinococcosis

D. Alzheimer

20. What type of body is the National Safai Karmachari Commission?

A. Constitutional body

B. Parliamentary body

C. Executive body

D. Statutory body

21. Consider the recently discussed Vajra Mushti Kalaga -

1. It was popular during the 14th-17th century Vijayanagara rulers.

2. The weapon used a knuckle duster, which is a small metal weapon.

Which of the above statements is/are correct?

A. Only 1

B. Only 2

C. Both 1 and 2

D. Neither 1 nor 2

Answer

1. C

4. C

7. B

10. C

13. D

16. C

19. D

2. C

5. D

8. B

11. C

14. B

17. B

20. D

3. D

6. C

9. C

12. C

15. B

18. C

21. C

Environment & Ecology Part-I

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Sustainable Development

Aravali Green Wall Project

Why in News?

Central government unveil Aravali Green Wall Project. It is part of National Action Plan to Combat Desertification and Land Degradation through Forestry Interventions.



About the project:

- The Aravali Green Wall Project is a scheme to combat desertification and land degradation.
- This ambitious initiative aims to create a 1,400 km long and 5 km wide green belt buffer around the ancient Aravalli mountain range covering the states of Haryana, Rajasthan, Gujarat and Delhi.
- The Aravali Green Wall Project is to address serious environmental challenges.
- It will restore degraded lands through strategic afforestation along the Aravalli hill range, acting as a natural shield against dust storms coming from western India and Pakistan.
- Enhancing biodiversity and ecosystem services are key components of the Aravalli Green Wall Project.
- By planting native trees, the project aims to promote carbon sequestration, provide habitat for wildlife, and improve the quality and quantity of water in the area.
- Participation of local communities in afforestation, agroforestry and water conservation activities is important to promote sustainable development, generate income and employment opportunities, and ensure food security and social benefits for

people.

Sludge as Fertiliser

Why in News?

Recently, a paper published in the open-access journal Frontiers in Nutrition Scientists say that thermally conditioned sewage sludge serves as an excellent fertilizer to improve soil properties.



- The major advantage of this fertiliser is Sustainable re-use of essential and finite phosphorus resources.
- **Bhabha Atomic Research Center (BARC)** has developed the technology to convert sludge into bio-fertilizer. The use of bio-fertilizers provides organic carbon and other nutrients to the soil. This process also helps in recycling the waste material into useful bio-fertilizer.
- Sludge is the thick residue filtered out of sewage treatment plants that while rich in organic chemicals is also a repository of heavy metals, industrial effluents and bacterial contaminants.

Chennai High-Level Principles for Blue Economy

Why in News?

During G20 summit Chennai High-Level Principles for blue economy were published.

- The Chennai High-Level Principles for a

Sustainable and Resilient Blue/Ocean-based Economy emphasises a sustainable ocean-based economy, strengthening international coordination to solve maritime challenges and enhancing ocean finance.

- The Chennai HLPs for a Sustainable and Resilient Blue Economy focus on keeping our oceans healthy.
- The countries also reaffirmed their commitment to ending illegal and unregulated fishing as well as harmful fishing methods. The countries also supported the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), within the Antarctic Treaty system.



Blue Economy:

- Blue economy or Ocean economy, is a term used to describe the economic activities associated with the oceans and seas. The World Bank defines the blue economy as the “sustainable use of ocean resources to benefit economies, livelihoods and ocean ecosystem health.”

Methanotrophs

Why in News?

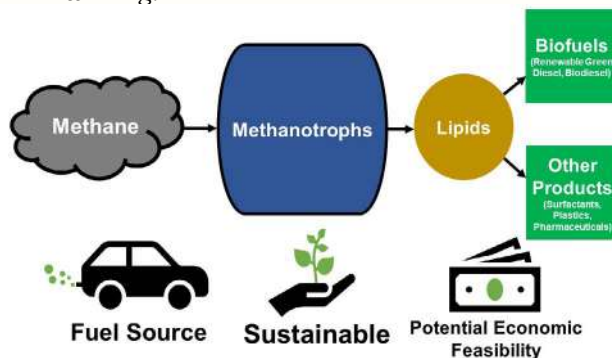
The recent study revealed that the *Methylobacterium buryatense* 5GB1C, a Methanotroph could potentially remove methane from major emission sites. Methane is a powerful greenhouse gas that contributes to global warming.

- Methanotrophs metabolise and convert methane into carbon-di-oxide. They can effectively reduce the emission of methane, which is the second most important greenhouse gas (GHG) and 26 times more potent as compared to carbon-di-oxide. In rice fields, methanotrophs are active near the roots or soil-water interfaces

About Methanotrophs:

- A type of bacteria has the ability to remove methane from major emissions sources, reducing its impact on global warming.

- The bacterial strain *Methylobacterium buryatense* 5GB1C consumes methane, a potent greenhouse gas.
- It is responsible for about 30% of total global warming.



Breakthrough Agenda Report

Why in News?

Recently second edition Breakthrough Agenda Report published.

About the Report:

- The 2023 edition of the Breakthrough Agenda Report examines the advances made and actions needed to deliver the Breakthrough Agenda - a clean technology commitment signed by 48 countries at COP26 in Glasgow in 2021.
- The annual process aims to align actions by countries to reduce emissions, scale up investment and drive down clean technology costs across key sectors: power; road transport; steel; hydrogen; agriculture; buildings and cement. Collectively, these seven sectors account for more than 60% of global GHG emissions.
- This report shows that current efforts on clean energy and sustainable solutions are not delivering the levels of investment and deployment required to meet international climate goals; and calls on governments to strengthen collaboration in key areas – such as standards and regulation, financial and technical assistance and market creation – to turbocharge the transition.

Mission 50K-EV4ECO

Why in News?

Small Industries Development Bank of India (SIDBI) has launched Mission 50K-EV4ECO, an initiative that will finance the purchase of 50,000 EVs in the country to boost the local ecosystem.

- Under this mission, SIDBI will provide direct loans to eligible small and medium enterprises

(SMEs) for purchase of EVs and development of charging infrastructure including battery swapping.

- It focuses on increasing the consumption of electric two-wheelers, three-wheelers and four-wheelers through direct and indirect loan assistance to vehicle aggregators, fleet operators and leasing companies.



Advantage of Electric vehicle:

- Has the potential to reduce greenhouse gas emissions.
- Reduces dependence on petroleum.
- Reduces health effects of air pollution.
- Reduces dependence on petroleum.
- They produce little or no tailpipe emissions.

Water Trading Mechanism of NITI Aayog

Why in News?

Recently, NITI Aayog has proposed water trading mechanism for Indian water users.

About the Mechanism:

- Water trading is a water market mechanism that considers water as a commodity that can be traded among users according to their needs. Under this, water rights are allocated to each sector and they use it according to their needs and buy when they need more water and sell when they require less of it.

Second North Sea Summit

Why in News?

9 European nations agreed to turn North Sea into green power plant. The declaration, signed at the Second North Sea Summit in Ostend, Belgium. They set ambitious targets including the production of at least 120 GW of offshore wind energy in the North Sea by 2030.

- The 2nd North Sea Summit in Ostend follows the first North Sea Summit which was held in May 2022 in Esbjerg, Denmark.

About the Declaration:

- The signatory countries also aim to double their

total offshore wind capacity to at least 300 GW by 2050.

- The declaration aims to accelerate deployment of offshore renewables and connectivity within the maritime area encompassed by the signatory countries
- It focuses on the mass production of offshore wind and renewable hydrogen, as well as on electricity and hydrogen interconnections and national projects. The declaration also indicates the possibility of co-financing by countries that do not have direct access to the sea.



About the North Sea:

- The North Sea lies between Great Britain, Denmark, Norway, Germany, the Netherlands, Belgium and France. An epicurean sea on the European continental shelf, it connects to the Atlantic Ocean through the English Channel in the south and the Norwegian Sea in the north.

Global Conference on Compressed Biogas

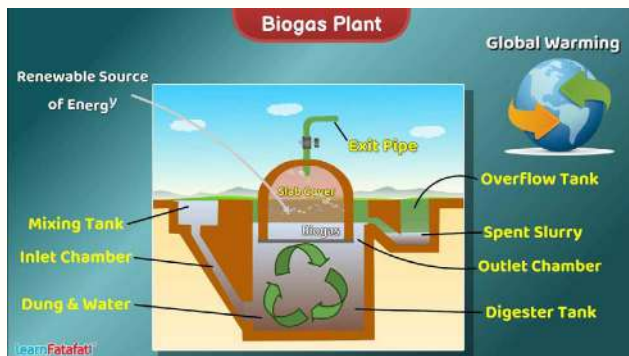
Why in News?

Global Conference on Compressed Biogas under theme "Towards Progressive Policy Framework for a Robust CBG Foundation and Growth" was organised by IFGE- CBG Producers Forum and supported by Ministry for Petroleum & Natural Gas, Government of India.

Objective of the Conference:

- The objective of the conference is to give

information to the industry regarding the initiatives taken by Government of India for development of Compressed Biogas Industry and to identify the areas where policy modifications are required.



India's Target:

- India is dedicated to achieve net zero target by 2070, there are several initiatives taken by current leadership and government by various means to reduce emission. Compressed Biogas (CBG) has also an important role in emission reduction and it is being promoted by SATAT Scheme (Sustainable Alternative Towards Affordable Transportation). CBG has higher calorific value and properties similar to CNG and can be utilized as alternative green renewable and can replace CNG in automotive, industrial and commercial areas, given the abundance of biomass availability within the country.

Tracking SDG7 Report

Why in News?

Recently, the Tracking SDG7: Energy Progress Report was published jointly by International Energy Agency (IEA), International Renewable Energy Agency (IRENA), United Nations Statistics Division (UNSD), world Bank and World Health Organization (WHO).

- The report provides a comprehensive overview of progress made towards achieving Sustainable Development Goal 7 (SDG7), which aims to ensure access to affordable, reliable, sustainable and modern energy for all by 2030. The report also highlights the challenges and opportunities in achieving this goal.

Highlight of the Report:

- The report reveals that despite some progress in recent years, the world is still far from achieving SDG7.
- About 759 million people lacked access to electricity in 2020, down from 860 million in 2018. Several key economic problems, such

as an uncertain macroeconomic outlook, high levels of inflation, currency volatility, financial distress in many countries, a shortage of finance, supply chain bottlenecks, tighter budgetary circumstances, and skyrocketing prices, are hampering global SDG 7 implementation.

SUSTAINABLE DEVELOPMENT GOALS



About SDG 7:

- SDG Goal 7 is about ensuring access to clean and affordable energy, which is key to the development of agriculture, business, communications, education, healthcare and transportation.

Green Credit Program (GCP)

Why in News?

The Centre has introduced a Green Credit Program (GCP) that allows individuals and entities to earn Green Credits, which can be traded on a dedicated exchange.

GREEN GROWTH

MOVING FORWARD TO ACHIEVE THE CLIMATE GOALS

- Green Credit Programme to be launched to incentivize sustainable actions
- PM-PRANAM* to be launched to incentivize States/UTs to promote alternative fertilizers
- 500 new 'Waste to Wealth' plants to be established under GOBARDHAN Scheme
- MISHTI* to be taken up for Mangrove plantation along coastline
- Amrit Dharohar to be implemented over next 3 years for optimal usage of wetlands



- It is an innovative market-based mechanism designed to incentivize voluntary environmental actions across diverse sectors, by various stakeholders like individuals, communities,

private sector industries, and companies.

- The scheme seek to encourage environmentally friendly practices rooted in tradition and conservation; reflecting the ideas of LiFE concept.

About the LiFE movement:

- The idea of LiFE was introduced by India during the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow in 2021.
- The idea promotes an environmentally conscious lifestyle that focuses on 'conscious and deliberate use' rather than 'mindless and wasteful consumption'.

International Zero Waste Day

Why in News?

International Zero Waste Day was first observed on 30 March 2023 and is jointly organized by UNEP and UN-Habitat.



About the Day:

- It aims to raise awareness of the importance of zero waste and responsible consumption and production practices and urban waste management that contribute to achieving sustainable development.
- The day calls for rethinking our practices and adopting a circular economy to address the triple planetary crisis of climate change, nature loss and pollution and put the planet and humanity on a path to health and prosperity.
- According to the Ministry of Environment, Forest and Climate Change, India currently generates 62 million tons of waste (both recyclable and non-recyclable) every year, with an average annual growth rate of 4%. Solid waste, plastic waste and E-waste are the principal waste materials.

Global Biofuel Alliance (GBA)

Why in News?

During the 18th G20 Summit under the presidency of India at New Delhi, the G20 leaders launched the Global Biofuel Alliance (GBA) – a forum of 30 countries and international institutions to facilitate the adoption of biofuels. GBA is an India-led initiative towards the goal of sustainability and clean energy.

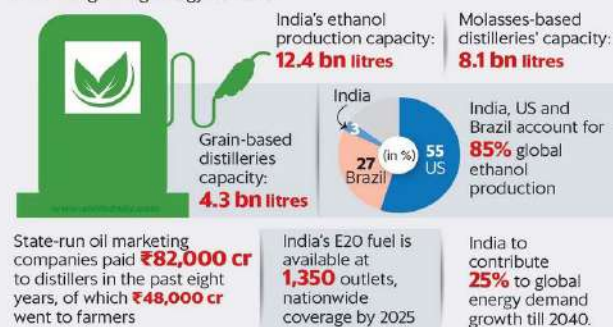
- GBA aims to serve as a catalytic platform, fostering global collaboration for the advancement and widespread adoption of biofuels.

About Biofuel:

- Any hydrocarbon fuel that is produced from organic matter (living or non-living material) over a short period of time (days, weeks or months) is considered a biofuel.
- Biofuels can be solid, liquid or gaseous in nature.
- **Solid:** wood, dried plant material and compost
- **Liquid:** Bioethanol and Biodiesel
- **Gas:** Biogas

Establishing Global Biofuel Alliance (GBA)

India is looking to ramp up biofuel production capability in view of growing energy demand.



Methanol Based Economy

- NITI Aayog's 'Methanol Economy' programme is aimed at reducing India's oil import bill, greenhouse gas (GHG) emissions, and converting coal reserves and municipal solid waste into methanol.
- Although slightly lower in energy content than petrol and diesel, methanol can replace both these fuels in the transport sector (road, rail and marine), energy sector (comprising DG sets, boilers, process heating modules, tractors and commercial vehicles) and retail cooking (replacing LPG [partially], kerosene and wood charcoal).
- Blending of 15% methanol in gasoline can result in at least 15% reduction in the import of gasoline/crude oil. In addition, this would

bring down GHG emissions by 20% in terms of particulate matter, NO_x, and SO_x, thereby improving the urban air quality.

- Methanol Economy will also create close to 5 million jobs through methanol production/application and distribution services. Additionally, Rs 6000 crore can be saved annually by blending 20% DME (Di-methyl Ether, a derivative of methanol) in LPG. This will help the consumer in saving between Rs 50-100 per cylinder.
- The Bureau of Indian Standards has notified 20% DME blending with LPG, and a notification for M-15, M-85, M-100 blends has been issued by the Ministry of Road, Transport and Highways.
- Methanol is a low carbon, hydrogen carrier fuel produced from high ash coal, agricultural residue, CO₂ from thermal power plants and natural gas.

National Green Hydrogen Mission

Why in News?

Union Cabinet approved the National Green Hydrogen Mission with an outlay of Rs.19,744 crore from FY 2023-24 to FY 2029-30. The overarching objective of the Mission is to make India a global hub for production, usage and export of Green Hydrogen and its derivatives. The mission's goal is to generate 5 million tonnes of green hydrogen for domestic use.



Cabinet approves National Green Hydrogen Mission with an outlay of Rs 19,744 crore

Rs 17,490 crore for SIGHT program

outcomes

- Hydrogen production capacity to reach **5 MMT per annum**
- Addition of **125 GW** renewable energy capacity by 2030
- Creation of over **6 lakh jobs**
- Reduction in fossil fuel imports of over **Rs 1 Lakh crore**
- Reduction of **50 MMT** of annual greenhouse gas emissions

About Green Hydrogen:

- Green hydrogen is a clean energy source produced through the electrolysis of water using renewable energy sources such as wind, solar, and hydro power. It has the potential to become a key player in the transition to a carbon-free economy and can help mitigate climate change. The hydrogen produced can be stored and used as a fuel for transportation, industry, and

agriculture.

LEED Rating System

- LEED (Leadership in Energy and Environmental Design) is the world's most widely used green building rating system. LEED certification provides a framework for healthy, highly efficient and cost-saving green buildings, which deliver environmental, social and governance benefits.

SATAT Scheme

Why in News?

Government has set target to increase share of gas in energy mix up to 15 per cent by 2030 and achieving this target, SATAT scheme is very crucial.

- SATAT scheme on Compressed Bio Gas (CBG) encourages entrepreneurs to set up CBG plants, produce & supply CBG to Oil Marketing Companies (OMCs) for sale as automotive & industrial fuels.
- It was launched in 2018. It aimed at 5,000 such plants by the end of 2023-24.

Benefit of the Scheme:

- Developmental effort to benefit vehicle-users as well as farmers and entrepreneurs.
- Efficient tackling of urban air pollution due to farm stubble-burning and carbon emissions.
- Reduce dependency on crude oil imports and realize PM's vision of enhancing farmers' income, rural employment and entrepreneurship.
- Efficient treatment and disposal of municipal solid waste.
- Promotion of organic farming by using Fermented Organic Manure (FOM) produced from CBG plants.

Electrified Flex Fuel Vehicle

Why in News?

Recently, Union Minister for Road Transport and Highways Nitin Gadkari launched the world's first prototype of BS6 Stage II 'Electrified Flex Fuel Vehicle'. The vehicle is based on the Innova Hycross and is developed by Toyota Kirloskar Motors. The vehicle is capable of running on 85% ethanol blended petrol and features an electric powertrain.

About Electrified Flex Fuel Vehicle:

- Electrified Flex Fuel Vehicle integrates both a Flex Fuel engine and an electric powertrain, offering the dual benefit of higher ethanol use and improved fuel efficiency.
- The integration of an electric powertrain reduces

reliance on conventional fuels, contributing towards sustainable transportation and India's 'Aatmnirbhar Bharat' initiative as production of ethanol increases.

- India has advanced the 20% ethanol blending target to 2025-26, ahead by 5 years and approx 5000 fuel stations are already dispensing E20 fuel.

4th National Water Awards

Why in News?

The Vice President of India, Shri Jagdeep Dhankhar has conferred 4th National Water Awards to total of 41 winners, including joint winners, covering 11 categories. Each award winner will be conferred with a citation and a trophy as well as cash prizes in certain categories.

- The 1st Prize for the Best State is conferred on Madhya Pradesh; Best District is conferred on Ganjam District, Odisha; Best Village Panchayat is conferred on Jagannadhapuram Village Panchayat, Bhadradi Kothagudem district, Telangana; Best Urban Local Body is conferred on Chandigarh Municipal Corporation.

About the Award:

- The awards are organised by the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti.
- The Jal Shakti Ministry had launched the first 'National Water Award' in 2018.
- They focus on the good work and efforts made by individuals and organisations across the country, and the government's vision for the path to 'Jal Samridh Bharat'.

Adoption of Electric Vehicle in India

Why in News?

- Union Power and New & Renewable Energy Minister launches dashboard for Data on Adoption and Forecasts of Electric Vehicles.

About electric vehicle in India:

- Electric vehicles, have an electric motor instead of an internal combustion engine. The vehicle uses a large traction battery pack to power the electric motor.
- India's electric vehicle (EV) market is poised for an unprecedented surge, with projected growth reaching an impressive \$152.2 billion by 2030. By 2030, the goal is to achieve 30% EV penetration in private cars, 70% in commercial vehicles, and a remarkable 80% in two and three-wheelers.

- One of the key initiatives driving the EV revolution is the Faster Adoption and Manufacturing of (Hybrid) and Electric Vehicles (FAME) scheme, launched in 2015. This scheme provides financial incentives to incentivize the adoption of EVs, benefiting both manufacturers and buyers. Furthermore, the National Electric Mobility Mission Plan (NEMMP) has set a target of putting 6-7 million electric vehicles on Indian roads by 2025, further reinforcing the commitment to sustainable transportation.
- In line with its commitment to curbing pollution and reducing oil imports, the government has introduced the second phase of the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME 2) scheme. With a significant expenditure of INR 10,000 crore, this scheme aims to provide the necessary impetus to accelerate the adoption of EVs.
- As of August 8, 2023, there are over 2.8 million registered electric vehicles (EVs)—28,30,565 units—navigating Indian roads.

Artificial Reef for Rejuvenating Coastal Fisheries

Why in News?

To promote sustainable practices, Department of Fisheries has sanctioned 732 artificial reef units for 10 coastal states with a total investment of Rs 126 crore as a sub-activity under "Integrated Modern Coastal Fishing Villages" of the Centrally Sponsored Scheme (CSS) of Pradhan Mantri Matsya Sampada Yojana (PMMSY).

- Artificial reefs are engineering technology interventions used to rehabilitate and/or improve natural habitats, increase productivity and manage aquatic resources including habitat enhancement.

Benefit of this Initiative:

- Similar to natural reefs, ARs used for aggregating fish and provide a home for fish to live and grow, reduce wave damage on coasts, helps regeneration of marine ecosystem and act as a carbon sink.
- Provide a firm substrate for marine life such as corals, algae and plankton to attach to and grow. They provide favorable conditions for sea ranching and serve as spawning and nursery grounds for fish.
- Enhance recreational fisheries, snorkeling, eco-tourism, creating suitable areas for diving and reducing conflicts.



Biodiversity



Prosopis Chilensis

Why in News?

Recently, a study revealed that An alien invasive plant (*Prosopis chilensis*) is threatening to pulverise native vegetation across 21 islands in the Gulf of Mannar Biosphere Reserve (GoMBR) .

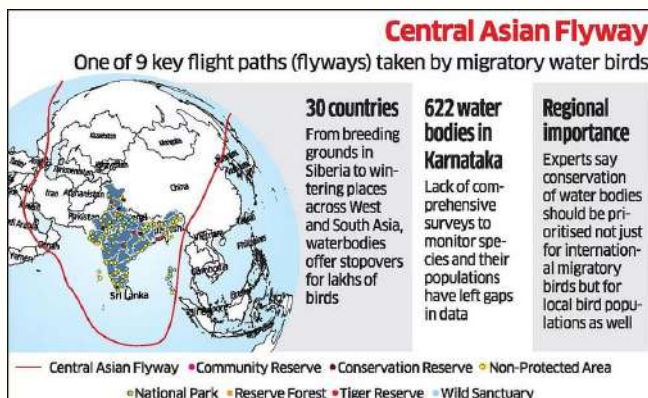
About *Prosopis Chilensis*:

- *Prosopis chilensis* is also known as Chilean mesquite. It is a small to medium-sized fruit tree that grows up to 12 m in height and 1 m in diameter. It is a drought-resistant plant that is native to the dry regions of four South American countries namely Argentina, Bolivia, Chile and Peru.

Central Asian Flyway (CAF)

Why in News?

Recently, eleven countries have agreed on an institutional framework to save the migratory birds. The framework, known as Central Asian Flyway (CAF), is aimed to strengthen efforts for conservation of migratory birds and their habitats in a coordinated manner.



About Central Asian Flyway:

- The Central Asian Flyway is a major migratory route for birds, covering 30 countries from the Arctic Ocean to the Indian Ocean. It is home to more than 400 species of migratory birds, including threatened and endangered species such as the Siberian crane and the lesser white-fronted goose.
- Of these 30 countries, 11 have come on-board for coordinated efforts to save migratory birds within the Central Asian flyway. These eleven countries are India, Armenia, Bangladesh,

Kazakhstan, Kyrgyzstan, Kuwait, Mongolia, Oman, Saudi Arabia, Tajikistan and Uzbekistan.

Sea Butterflies

Why in News?

The population of sea butterflies in the Southern Ocean (Antarctic) is declining due to climate change, making them extremely vulnerable.

About Sea Butterflies:

- Sea butterflies, scientific name Thecosomata (thecosomes, [shell-body, are a taxonomic suborder of small pelagic swimming sea snails.
- They are holoplanktonic (creatures that spend their entire lives floating, floating or weakly floating in water) opisthobranch gastropod mollusks.
- They have muscular legs that allow them to swim in water rather than sliding on solid surfaces.
- They are found in all oceans but are more diverse and abundant in cold waters.

Gecko Mizoramensis

Why in News?

Recently a new species of flying lizard named Gecko *Mizoramensis* was found near the Myanmar border.

About Gecko *Mizoramensis*:

- It is a subgenus of the gecko genus *Pytchozoon*.
- There are 13 species worldwide and they are found in Southeast Asia.
- Before the establishment of this species, only one species – *Pytchozoon leonotum* or Smooth-backed Gliding Gecko – was found in Mizoram.
- Its habitat extends into Mizoram as well as parts of Bangladesh, Myanmar, Thailand and Cambodia.
- It is a tree dweller, nocturnal and flies from one tree to another.

Baobab Tree

Why in News?

The Madhya Pradesh government has decided that the forest department cannot give permission to translocate Dhar's famed Baobab trees, some of which are centuries old, and that this can be done only by the State Biodiversity Board.

About Baobab tree:

- Baobabs are long-lived deciduous, small to large trees from 20 to 100 ft tall with broad trunks and compact tops.
- The Baobab Tree is also known as the upside-down tree.
- The baobab is a prehistoric species which predates both mankind and the splitting of the continents over 200 million years ago.

State of India's Birds Report 2023

Why in News?

Recently, the State of India's Birds (SoIB) 2023 was released, which highlighted that despite some bird species thriving, many bird species have experienced substantial declines.

- SoIB 2023 is a first-of-its-kind collaborative effort of 13 government and non-government organizations including Bombay Natural History Society (BNHS), Wildlife Institute of India (WII), and Zoological Survey of India (ZSI).



Highlights of the Report:

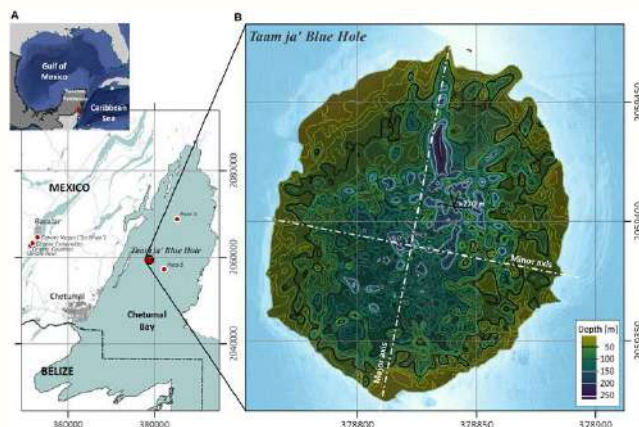
- 942 species of Indian birds assessed in this report.
- 150% increase in the abundance of peafowl across the country over the past decades.
- 39% of species show clear declines over the past decades.
- 178 species classified as of High Conservation Priority, and require immediate attention.
- 14 species, including Indian Roller, recommended for IUCN Red List reassessment.

Second Deepest Blue Hole

Why in News?

Scientists have discovered the second deepest blue hole. It is said to be 900 feet deep and is located off Mexico coasts. The second deepest blue hole of the world has been found off Mexico coast.

- The deepest known blue hole of the world, which was discovered in 2016 in the South China Sea and is known as the Dragon Hole.



About Blue Hole:

- A blue hole is a large marine cave or sinkhole, which is open to the surface and developed as a bank or island made of carbonate bedrock (limestone or coral reef).
- Their existence was discovered by fishermen and recreational divers in the late 20th century.
- Blue holes usually contain tidally influenced water of fresh, marine or mixed chemistry.
- They extend below sea level for most of their depth and may provide access to submerged cave passages
- Well-known examples are the Dragon Hole (in the South China Sea) and, in the Caribbean, the Great Blue Hole and Dean's Blue Hole.

Eurasian Otter

Why in News?

Recently three Eurasian otters were seen in Neeru stream of Chenab watershed which highlights that some stretch of Chenab river still not polluted in Jammu and Kashmir.

About Eurasian Otter:

- It is a semi-aquatic carnivorous mammal.
- It is found in three continents Europe, Asia and Africa.
- In India, it is found in northern, northeastern

and southern India.

- It lives in a variety of aquatic habitats, including highland and lowland lakes, rivers, streams, swamps, marshy forests, and coastal areas.
- Conservation status:
- **IUCN:** Near Threatened.
- Wildlife Protection Act, 1972: Schedule II.
- **Citation:** Appendix I.

Cryptobiosis

Why in News?

Scientists have revived 46,000 - Year - Old Roundworms from Siberian Permafrost. The nematodes had survived in a state of slowed metabolism called cryptobiosis, according to research.

Cryptobiosis

- **Anhydrobiosis:**
 - occurs in situations of extreme desiccation
- **Anoxybiosis:**
 - occurs in situations oxygen lack
- **Chemobiosis:**
 - occurs in response to high levels of environmental toxins
- **Cryobiosis:**
 - occurs in reaction to decreased temperature
- **Osmobiosis:**
 - response to increased solute concentration



- Some organisms have ability to suspend life processes when under adverse environmental conditions, Called cryptobiosis or suspended animation, it is a survival tool. Organisms under suspended animation revive when environmental conditions become favourable

Salsola Oppositifolia Desfontania

Why in News?

Recently, researchers from Gandhinagar-based Gujarat Ecological Education and Research (GEER) Foundation have discovered a new species of saltwort named *Salsola oppositifolia desfontania*.

About *Salsola Oppositifolia Desfontania*:

- *Salsola oppositifolia Desfontania* is a species of saltwort belonging to the Amaranthaceae family.
- Saltwort is a halophyte growing naturally in the

highly saline areas of the Indian desert.

- It is a perennial shrub that grows in the saline, arid to semi-arid environments of Kutch district of Gujarat.
- It can grow one to two meters tall and has a smooth, cylindrical, woody base.
- It is a halophyte which does not have hair.
- The leaves of this plant grow opposite to each other in the stem.
- *Salsola oppositifolia desfontania* is the sixth species of the *Salsola* genus discovered in India.
- Salty juice is stored in the leaves of plants of *Salsola* family.
- *Salsola oppositifolia* is used as raw material for manufacturing soda ash.
- *Salsola* species is used in making soap.

Tharosaurus Indicus

Why in News?

Scientists at IIT-Roorkee and the Geological Survey of India have found fragments of a sauropod species, *Tharosaurus indicus* dating to the Middle Jurassic period. The 167-million-year-old partial skeleton is India's first diplodocoid sauropod found in the Thar Desert near the Jaisalmer Basin .



About *Tharosaurus Indicus*:

- *Tharosaurus indicus* belongs to the family dicraeosaurid and the superfamily Diplodocoidea.
- At 167 million years old, the dicraeosaurid is not only the first of its kind found in India, it is also the oldest yet found.
- Scientists named the dinosaur *Tharosaurus indicus*, with *tharo* originating from the Thar desert, *saurus* originating from the Greek 'sauros' or lizard, and *indicus* originating from Indian origin.
- This family was unique: its members were small and had shorter necks and tails than other long-necked sauropods.

- Sauropods first appeared on Earth during the Jurassic period, about 200 million years ago.
- They were one of the most influential groups of dinosaurs, surviving until the end of the Cretaceous period, 65 million years ago, when dinosaurs became extinct.
- According to scientists, fossils of dichryosaurid dinosaurs have already been found in North and South America, Africa and China, but such fossils were not known in India.

Deepak Verma Committee

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

Trans-Border Conservation of Red Panda

Why in News?

SBI Foundation and WWF India join hands for Red Panda transboundary conservation in Sikkim and Darjeeling, Kalimpong District of West Bengal.

About Red Panda:

- It is a small mammal with reddish-brown hair and white-lined ears.
- It is also known as miniature panda.
- Scientific Name: *Ailurus fulgens*
- Uniqueness: Even though it belongs to the class Carnivora, it has adopted a vegetarian diet like the giant panda.
- It typically lives in the cool, mountainous regions of the eastern Himalayas at altitudes between 2,200 m and 5,000 m. It prefers mixed deciduous and coniferous forests.
- In the eastern part of the Himalayas, this type of habitat is available only in the Singalila and Neora Valley National Parks in the Darjeeling and Kalimpong districts of West Bengal.
- In India, the largest suitable habitat for the red panda is Kanchenjunga National Park, Sikkim.
- It is protected ex-situ in the Padmaja Naidu Himalayan Zoological Park (PNHZP) in West Bengal.
- PNHZP is the only zoo in India designated for

the conservation and breeding of red pandas in captivity.

Milkweed Butterfly

Why in News?

A recent study conducted by a team of researchers has thrown light on the migration patterns of milkweed butterflies in southern India.

About Milkweed Butterflies:

- They are one of a group of butterflies in the brush-footed butterfly family (Nymphalidae).
- There are about 300 species in the group, including the iconic monarch butterfly.



Distribution:

- Most species are found in tropical regions of both the Old and New World (the Old World refers to Europe, Africa, and Asia, while the New World refers to North America, South America, and the Caribbean).
- However, some well-known members of the group, such as the monarch butterfly and queen butterfly, live in temperate regions.

Features:

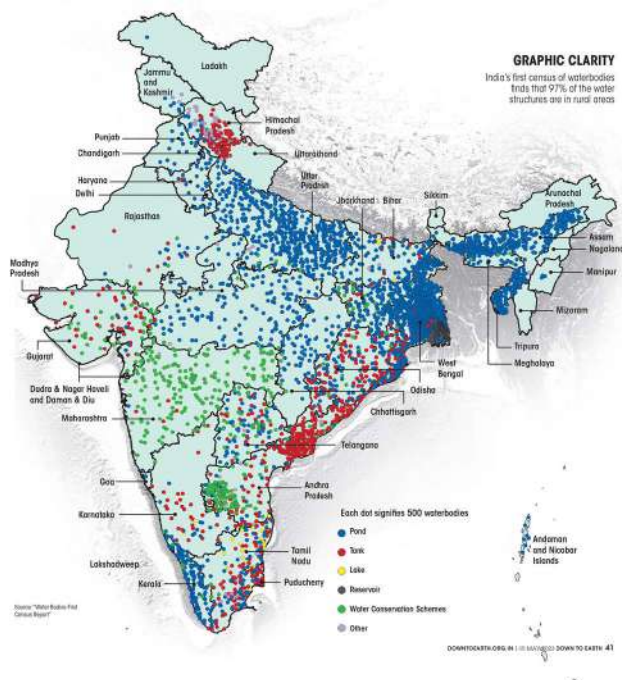
- The large, colorful adults have long, usually brown or orange wings marked with black and white patterns.
- They fly slowly, and some, such as the monarch butterfly, migrate great distances.
- They mainly eat milkweed and occasionally nightshade.
- These plants contain a pungent, milky sap that probably makes the larvae and later stages unpalatable to predators. This, combined with a distinctive color, protects them.

First Census of Water Bodies

Why in News?

Ministry of Jal Shakti launched the first census

of water bodies in convergence with the sixth minor irrigation census (reference year 2017-18), under the centrally sponsored scheme – “Irrigation Census”. The objective of the census of water bodies is to develop a national database for all water bodies by collecting information on all important aspects of the subject including their size, condition, status of encroachments, use, storage capacity etc.



Key Findings:

- In the first census of water bodies, a total of 24,24,540 water bodies were reported in the country out of which 23,55,055 water bodies are in Rural areas and 69,485 water bodies are in Urban areas.
- The lesser proportion of water bodies in the urban areas is quite obvious since the urban areas have undergone expansions and infrastructural development which might have caused depletion of water bodies. Water being a State subject, steps for augmentation, conservation and efficient management of water resources are primarily undertaken by respective State Governments.
- All natural or man-made units bounded on all sides with some or no masonry work used for storing water for irrigation or other purposes (e.g. industrial, pisciculture, domestic/drinking, recreation, religious, ground water recharge etc.) were treated as water bodies in the first census of water bodies.

Himalayan Brown Bear (*Ursus ArctosIsabellinus*)

Why in News?

The Himalayan brown bear population in Kashmir is facing several challenges, threatening both their survival and human safety.

About Himalayan Brown Bears:

- Himalayan brown bears are a subspecies of brown bears that inhabit the highlands of the Himalayas from Pakistan to Bhutan.
- They have thick fur that is often sandy or reddish-brown.



- They can grow up to 2.2 meters long and weigh up to 250 kilograms.
- IUCN Red List- Critically Endangered.
- The brown bear (*Ursus arctos*) is listed as least concern.
- Indian Wildlife (Protection) Act 1972 – Schedule 1.
- They are Omnivorous.
- They are nocturnal, and their sense of smell is acutely developed and is believed to be their primary means of finding food.
- They found in northwestern and central Himalayas, including India, Pakistan, Nepal, the Tibetan Autonomous Region of China, and Bhutan.

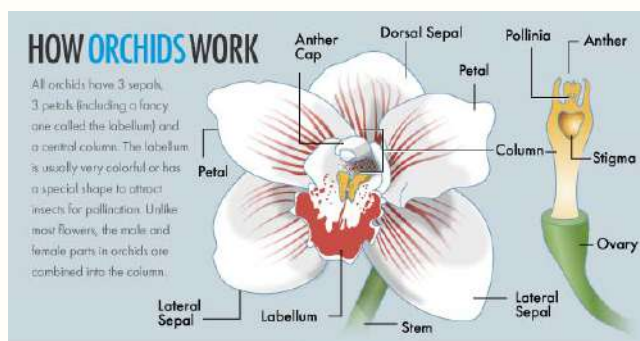
Wild Orchids of North Bengal

Why in News?

Epiphytic Orchids found in the Dooars and Darjeeling hills are facing extinction due to deforestation caused by human intervention. These beautiful and fragrant flowers, known for their medicinal properties, are at risk of being lost forever.

About Orchid:

- Orchids are plants that belong to the family Orchidaceae.
- They are flowering plants with blooms that are often colourful and fragrant.
- Orchids are natural indicator of air quality because they don't grow in polluted air. They draw pollinators like bees and other insects to their nectar and thereby help cross-pollination.



- Orchids are broadly categorized into three life forms:
 - Epiphytic (plants growing on another plants including those growing on rock boulders and often termed lithophyte).
 - Terrestrial (plants growing on land and climbers).
 - Mycoheterotrophic (plants which derive nutrients from mycorrhizal fungi that are attached to the roots of a vascular plant).
- The entire orchid family is listed under appendix II of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) and hence any trade of wild orchid is banned globally.

MISHTI Programme

Why in News?

The Union Budget for 2023-24 announced an initiative for mangrove plantation along the coastline and on saltpan lands, under MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes).

- MISHTI is a new programme that will facilitate mangrove plantation along India's coastline and

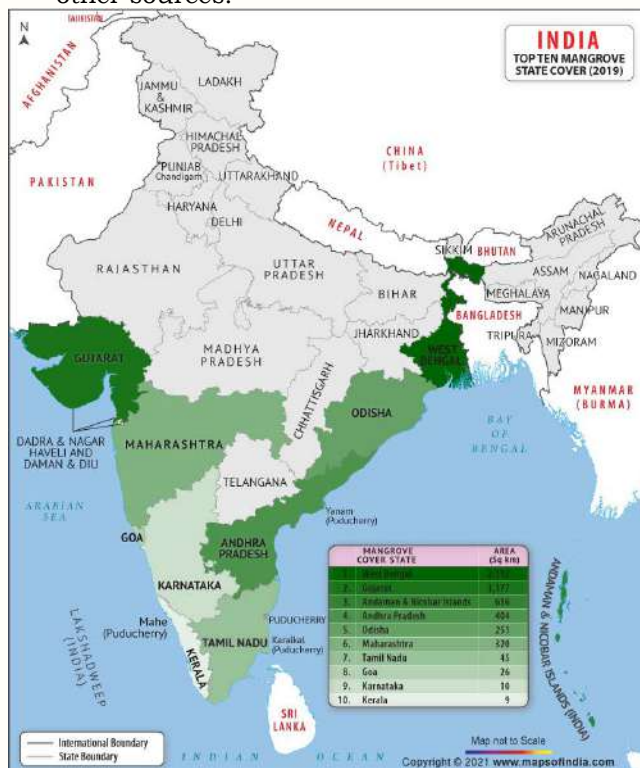
on salt pan lands.

- This new programme will aim at intensive afforestation of coastal mangrove forests.

Implementation strategy of the programme:

The Budget states that MISHTI will be implemented through convergence between-

- MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme).
- CAMPA (Compensatory Afforestation Fund Management and Planning Authority) Fund and other sources.



Hoolock Gibbon

Why in News?

The Global Gibbon Network (GGN) recently held its inaugural meeting in Haikou, Hainan Province, China, highlighting the dire situation facing these primates.

- The Global Gibbon Network was launched at the International Gibbon Day 2020 event, as representatives from 20 gibbon conservation organizations came together for the first time to discuss gibbon conservation.

About Hoolock Gibbon

- Gibbons, known as the smallest and fastest of all apes, inhabit the tropical and subtropical forests of Southeast Asia.

- They have high intelligence, distinctive personalities, and strong family bonds, similar to other apes.
- They represent one of 20 gibbon species found worldwide.

Population and Habitat:

- The current population of the Hoolock gibbon is estimated to be around 12,000 individuals.
- They are found in forested areas of northeastern India, Bangladesh, Myanmar and southern China.

Conservation status:

- Red List of the International Union for Conservation of Nature:
- Western Hoolock Gibbon: Endangered
- Eastern Hoolock Gibbon: Vulnerable.
- Also, both species are listed in Schedule 1 of the Indian (Wildlife) Protection Act 1972.

Ludwigia Peruviana

Why in News?

An invasive weed called *Ludwigia peruviana* is posing a significant threat to the habitat and grazing areas of elephants in Valparai, Tamil Nadu.

About Ludwigia Peruviana:

- *Ludwigia peruviana*, also known as primrose willow, is native to Central and South America.
- It is an aquatic plant that was probably introduced as an ornamental species because of its attractive pale yellow flowers.
- *Ludwigia peruviana* grows relatively tall, reaching a height of about 12 feet.
- As an aquatic plant, it thrives in wetlands and water bodies.
- The invasion of *Ludwigia peruviana* poses a significant threat to elephant habitats, disrupting the development of essential food sources.

Himalayan Vulture (Gyps Himalayensis)

Why in News?

Recently successfully breeding the elusive Himalayan vulture is happen in captivity for the first time in Assam zoo in India.

About Himalayan Vulture:

- The Himalayan vulture is one of the largest Old World vulture species, boasting an impressive wingspan and formidable presence.
- Its plumage is dominated by shades of black

and brown, which aid in its camouflage against the rugged mountain terrain.

- The vulture's powerful hooked beak and keen eyesight make it a proficient scavenger, playing a crucial role in the ecosystem by cleaning up carrion.
- They are found in India, Nepal, Bhutan, and China, where it thrives in challenging high-altitude environments.
- Conservation Status:
- IUCN Red List: Near Threatened.
- CITES: Appendix II.

Ecological Significance:

- As a top predator and scavenger, the Himalayan vulture plays a vital role in maintaining the health of its habitat by efficiently disposing of animal remains.
- Its scavenging behavior helps prevent the spread of diseases that could arise from decaying carcasses, thus contributing to the overall balance of the ecosystem.

75 Endemic Birds of India

Why in News?

The Zoological Survey of India released a publication titled '75 Endemic Birds of India', pointing out that about 5% of birds found in the country are endemic and are not reported in other parts of the world.

- According to the report, India is home to 1,353 bird species, which represents approximately 12.40% of global bird diversity. Of these 1,353 bird species, 78 (5%) are endemic to the country.

Contribution to Ecosystem Services by endemic birds:

- Endemic bird species play crucial roles in pollination, seed dispersal, insect control, and natural pest regulation.
- For example, the Malabar Grey Hornbill, found in the Western Ghats, contributes to forest regeneration through seed dispersal.
- The Nicobar Megapode, endemic to the Nicobar Islands, plays a unique role in nesting behavior, burying its eggs to hatch through natural heat.
- Ensuring their survival supports essential ecosystem services that benefit both wildlife and human populations.

Invasive Alien Species Report

Why in News?

The Intergovernmental Platform on Biodiversity and Ecosystem Services has released the "Invasive

Alien Species Report". The report was approved in Bonn, Germany by representatives of IPBES's 143 member states.

Findings of the Report:

- More than 37,000 alien species have been introduced by many human activities into regions and biomes around the world.
- Of these, more than 3,500 are harmful invasive alien species – which seriously threaten nature, nature's contribution to people and good quality of life.
- Invasive alien species are one of the five major direct drivers of biodiversity loss globally, along with land and sea use changes, direct exploitation of organisms, climate change and pollution.

INVASIVE ALIEN SPECIES

can have devastating impacts on biodiversity



for the native species



for assemblages on islands



for mainland assemblages



for assemblages in other settings with high proportions of endemic species

source: IPBES #GlobalAssessment



- About 6% exotic plants; 22% alien invertebrates; 14% alien vertebrates; And 11% of alien pathogens are considered invasive, posing a major threat to nature and people.
- Goal 6 of the recently adopted Kunming-Montreal global biodiversity framework is to "eliminate, reduce, mitigate and mitigate the impacts of invasive alien species on biodiversity and ecosystem services".

Red Sand Boa

Why in News?

Recently, a report by the Wildlife Conservation Society (WCS)-India titled 'Illegal Trade of Red Sand Boa in India 2016-2021' has exposed the trade of red sand boa.

- This alarming revelation underscores the pressing concern about the illegal trade of Red Sand Boas and the urgency for conservation efforts.

Highlights of the Report:

- The report documents a total of 172 incidents of seizures involving red sand boas between

2016 and 2021, revealing the alarming extent of illegal trade.

- Illegal trade spans 18 Indian states, 1 Union Territory, and 87 districts; Maharashtra and UP record the highest incidents.
- Maharashtra dominates with 59 cases, including urban areas like Pune, Thane, Mumbai Suburban.
- Uttar Pradesh closely follows 33 incidents, often near Nepal's border in districts like Bahraich, and Lakhimpur-Kheri.

About Red Sand Boa:

- Largest of the sand boas in the world
- Non-venomous
- Ovoviviparous
- Nocturnal and spends the majority of its time under the ground.
- Like other snake species, the Red Sand Boa also plays a significant role in the ecosystem by maintaining a healthy population between prey and predator. It feeds on rodents, lizards, and even other snakes.
- Legally protected
- Wildlife (Protection) Act, 1972: Schedule IV
- CITES: Appendix II

Two New Species of Antlion Discovered in Kerala

Why in News?

Recently, two new antlion species, namely Nemoleon ghoshi and Nemoleon madayiensis discovered in Kerala.

About the Antlion species:

- These two new antlion species are from Myrmeleontidae family of the order Neuroptera.
- Antlions are commonly known for their pit-building habit.
- Antlions can be easily distinguished by their long, distinct antennae.
- The genus Nemoleon is reported for the first time from the Oriental region.
- This is the 5th and 6th antlion species reported from Kerala and the 125th and 126th species from India.
- These are found throughout the world, primarily in dry, sandy regions.
- The research was conducted with financial assistance from the Council of Scientific and Industrial Research (CSIR).

Tiger Reserve & National Park



50 years of 'Project Tiger'

Why in News?

Prime Minister released the latest tiger census data to mark 50 years of 'Project Tiger'. PM also launched the International Big Cats Alliance (IBCA). IBCA will focus on the protection and conservation of the world's seven major big cats – tiger, lion, leopard, snow leopard, puma, jaguar and cheetah, with membership of this category of countries.



About Project Tiger:

- The project, initiated from Jim Corbett National Park, Uttarakhand, is an ongoing scheme of the Ministry of Environment, Forest and Climate Change (MoEFCC).
- The centrally sponsored scheme is applicable in nine reserves in different states, namely Assam, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh and West Bengal.

Status of Tigers: Co-predators & Prey in India, 2022

Why in News?

Recently, 'Status of Tigers: Co-predators & Prey in India, 2022' report was released.

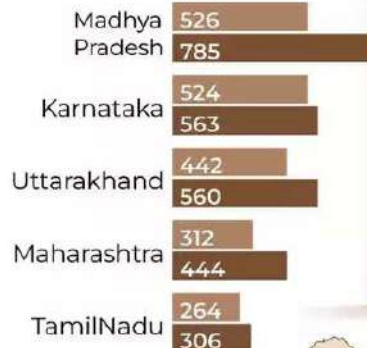
The Tiger Count

Tiger numbers in India:

2018: 2,967
2022: 3,682

States with highest tiger numbers

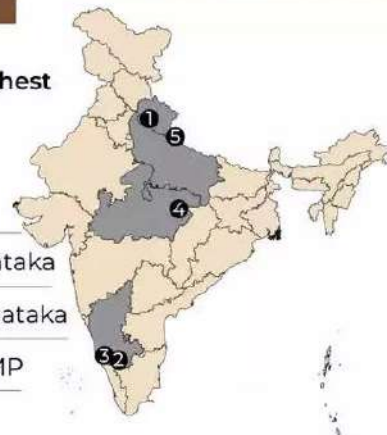
■ 2018 ■ 2022



Reserves with highest tiger population

- 1 Jim Corbett, Uttarakhand
- 2 Bandipur, Karnataka
- 3 Nagarhole, Karnataka
- 4 Bandhavgarh, MP
- 5 Dudhwa, UP

- India stands at 2,967 as compared to 1,400 in 2014.

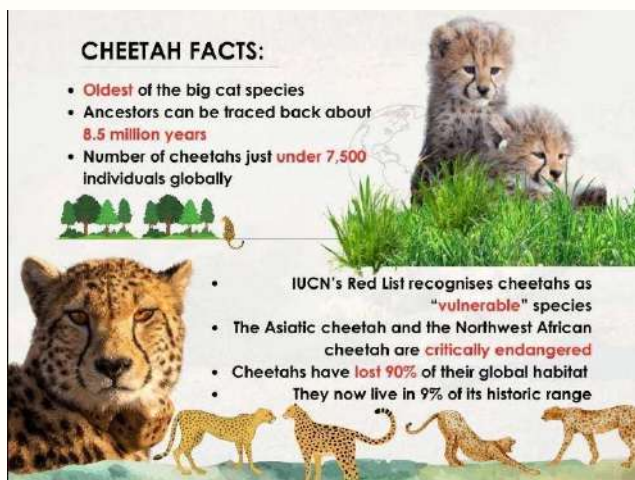


- India hosts 70% of the world's tigers.
- Nearly a third of India's tigers are living outside tiger reserve.
- Nearly 17 of the 50 reserves are approaching the peak of their capacity at sustaining their populations.
- Jim Corbett national park in Uttarakhand is the largest habitat of the big cats in India (231 tigers).
- Corbett is followed by Nagarhole (127) and Bandipur (126), both in Karnataka.

Project Cheetah

Why in News?

Recently, the use of radio collars in the cheetah reintroduction project in the Kuno Wildlife Sanctuary in Madhya Pradesh, India, has resulted in unexpected setbacks, with cheetahs experiencing neck wounds and septicemia, infection of the blood by bacteria. Radio collars are used to track and monitor wild animals.



About Cheetah Reintroduction Project in India:

- The cheetah reintroduction project in India formally began on September 17, 2022, with the aim of restoring the population of cheetahs, which were declared extinct in the country in 1952.
- The project involves the translocation of cheetahs from South Africa and Namibia to Kuno National Park in Madhya Pradesh.
- 20 radio-collared cheetahs were translocated to Kuno National Park from South Africa (12 cheetahs) and Namibia (8 cheetahs).
- The expert group has suggested that at least 50 more founding cheetahs will be needed from South Africa over the next decade before

the Indian population can stabilise. He also strongly recommended that Indian authorities should move quickly to identify alternative sites for revival.

Dholpur-Karauli: India's 54th Tiger Reserve

Why in News?

National Tiger Conservation Authority (NTCA) has given its approval for the establishment of the Dholpur-Karauli Tiger Reserve in the state of Rajasthan.

- It will be fifth tiger reserve in the state of Rajasthan following Mukundra Hills, Ramgarh Vishdhari, Ranthambore, and Sariska.

About Tiger Reserves:

- A protected area which designated for the conservation of tigers is referred to as Tiger Reserve. However, a tiger reserve may also be a national park or wildlife sanctuary.
- Tiger Reserves are notified by State Governments as per provisions of Section 38V of the Wildlife (Protection) Act, 1972 on advice of the National Tiger Conservation Authority.

About National Tiger Conservation Authority:

- The National Tiger Conservation Authority (NTCA) is constituted under Section 38 L (1) of the Wildlife (Protection) Act, 1972. It was established in 2006. It has been a pioneer in tiger conservation work in India. Its scope of work ranges from grassroots security initiatives to science-based monitoring of tigers and their habitat using latest technological tools, independent assessment of tiger reserves, financial and technical support to tiger reserves, international cooperation while ensuring community development for wildlife.
- The Authority derives its powers from Section 38O(1) of the WLP, 1972 and functions under the guidance of a Chairperson, Vice-Chairperson and Members.

Tiger Translocation Project in India

Why in News?

India first tiger translocation project failed miserably.

About the Tiger Translocation Project:

- Launched in 2018, the Tiger Relocation Project aimed to boost Odisha's Satkosia Tiger Reserve's tiger population. Two tigers, Mahavir

from Kanha and Sundari from Bandhavgarh in Madhya Pradesh, were moved to Satkosia.

- The project has two goals:
 - » To lessen territorial conflicts by reducing tiger numbers in overcrowded areas.
 - » To reintroduce tigers in regions where their populations had dwindled.

Why in News?

The Mhadei wildlife sanctuary in Goa will be officially designated as a tiger reserve, becoming the 55th tiger reserve in India. The Goa government had sought to overturn a court order requiring the declaration of the sanctuary as a tiger reserve, but the Supreme Court has refused to stay the order.



62 New Elephant Corridors

Why in News?

Recently, the Indian government has identified 62 new elephant corridors, marking a significant milestone in the nation's commitment to wildlife conservation.

About Elephant Corridors:

- Elephant corridors can be described as a strip of land that enables elephant movement between two or more friendly habitats.
- The corridors are reported by respective state governments and ground validation methods were used to verify them.
- According to the report, West Bengal leads with 26 corridors, constituting 17% of the total.
- East central India contributes 35% (52 corridors), while the North East region has 32% (48 corridors).
- Southern India has 21% (32 corridors), and northern India has the lowest with 12% (18

corridors).

Status of Corridor Use:

- Elephant corridor report released by the central government showed a 40% increase in elephant corridors across 15 elephant range states in India.

Elephants in India:

- Elephants are keystone species as well as the Natural Heritage Animal of India.
- India has the largest number of wild Asian Elephants. The elephant population in the country is estimated to be over 30,000.
- Karnataka has the highest elephant population in India.

Conservation Status:

- Convention of the Migratory Species (CMS): Appendix I.
- Wildlife (Protection) Act, 1972: Schedule I.
- IUCN Red List of threatened species: Endangered.
- African Forest Elephant: Critically Endangered.
- African Savanna Elephant: Endangered.

Supreme Court Modifies Order on ESZ

Why in News?

The Supreme Court modified its previous judgment regarding Eco-Sensitive Zones (ESZ) around protected forests, stating that ESZs cannot be uniform across the entire country, and instead need to be tailored to the specific protected area.

- The court had said that ESZs would act as a "shock absorber" for the protected areas and prevent encroachment, illegal mining, construction, and other activities that could harm the environment and wildlife.
- The court had also directed the Centre and the States to notify the ESZs within 6 months and file compliance reports.

About Eco-Sensitive Zones:

- The National Wildlife Action Plan of the MoEFCC stipulated that state governments should declare land falling within 10 km of the boundaries of national parks and wildlife sanctuaries as eco-fragile zones or Eco-Sensitive Zones (ESZs) under the Environmental (Protection) Act, 1986.
- While the 10-km rule is implemented as a general principle, the extent of its application can vary.
- Areas beyond 10 km can also be notified by the Union government as ESZs, if they hold larger ecologically important "sensitive corridors".

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North Delhi : A 12, 13, Ansal Building, Dr. Mukherjee Nagar, Delhi - 110009, Ph: 9205274741/42/44 | **Laxmi Nagar** : 1/53, 2nd floor, Lalita Park, Near Gurudwara, Opposite Pillar no.23, Laxmi Nagar, Delhi - 110092, Ph: 9205212500/9205962002 | **Greater Noida** : 4th Floor Veera Tower, Alpha 1 Commercial Belt,, Greater Noida, UP - 201310, Ph: 9205336037/38 | **Prayagraj** : II & III Floor, Shri Ram Tower, 17C, Sardar Patel Marg, Civil Lines, Prayagraj, UP - 211001, Ph: 0532-2260189/8853467068 | **Lucknow (Aliganj)** : A-12, Sector-J, Aliganj, Lucknow, UP- 226024, Ph: 0522-4025825/9506256789 | **Lucknow (Gomti Nagar)** : CP-1, Jeewan Plaza, Viram Khand-5, Near Husariya Chauraha, Gomti Nagar, Lucknow, UP - 226010, Ph: 7234000501/ 7234000502 | **Lucknow (Alambagh)** : 58/1 , Sector-B Opposite Phoenix Mall Gate No. 3, L.D.A Colony , Alambagh Lucknow,, Ph: 7518373333, 7518573333 | **Kanpur** : 113/154 Swaroop Nagar, Near HDFC Bank, Kanpur, UP - 208002, Ph: 7887003962/7897003962 | **Gorakhpur** : Narain Tower, 2nd floor, Gandhi Gali, Golghar, Gorakhpur, Uttar Pradesh 273001, Ph: 7080847474 | **Bhubaneswar** : OEU Tower, Third Floor, KIIT Road, Patia, Bhubaneswar, Odisha -751024, Ph: 9818244644/7656949029