

PERFECT

Complete Fortnightly for **UPSC** and **PCS** Exam



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Evaluation of Egypt's Role in India's
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Gender Equality in India: Need
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Higher Education System in India:
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Mains Special: Important Questions based on Governance, I.R. and Social Justice

Why Perfect-7 Current Affairs Magazine?

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

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Message



Vinay Kumar Singh
Founder
Dhyeya IAS

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

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

Best wishes.

PERFECT

Complete Fortnightly for UPSC and PCS Exam



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Credits: PIB, PRS, AIR, ORF, Prasar Bharati, Yojana, kurukshetra, The Hindu, Down to Earth, The Indian Express, India Today, WION, Deccan Herald, HT, ET, ToI, Dainik Jagran and Others

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Deepfake: An Emerging AI Threat in the Tech World

“In a world where “seeing is believing” is an accepted adage, the internet seeks to challenge even this notion. Disinformation and hoaxes have evolved so much so that they can create social discord, increase polarisation, and in some cases, even influence the election outcome. Nation-state actors with geopolitical aspirations, ideological believers, violent extremists, and economically motivated enterprises can manipulate social media narratives with easy and unprecedented reach and scale. The disinformation threat has a new tool in the form of deepfakes.”

- In January 2023, Election Commission of India hosted second International Conference on ‘Use of Technology & Elections Integrity’. The conference voiced concerns regarding threats from deepfake narratives to elections in India & worldwide. CEC Rajiv Kumar stressed on the impact of social media and technology on the electoral process. He added that a disturbing trend of deepfake narratives have become a common feature in elections worldwide, where disruptive elements attempt to alter public perception and mislead the user by repetitively presenting the deepfakes as “fact”.
- Recently, Microsoft President Brad Smith in a speech in Washington said that the biggest concern around artificial intelligence was deepfakes, which are realistic looking but false content. Smith called for steps to ensure that people should know when a photo or video is real and when it is generated by AI, potentially for nefarious purposes.

Recent cases of Deepfakes:

- During the Russia-Ukraine war, cybercriminals hacked a Ukrainian television channel and showed the Ukrainian President, Volodymyr Zelenskyy, surrendering. The fake video was created using deepfake hacking technology.
- During the 2020 Legislative Assembly elections in Delhi, former BJP State President Manoj Tiwari released deepfake videos of himself criticising the incumbent Delhi government of Arvind Kejriwal in both English and Hindi. While the goal was to create “positive campaigns” to reach different linguistic voter bases, it marked the debut of deepfakes in election campaigns in India.

What are Deepfakes?

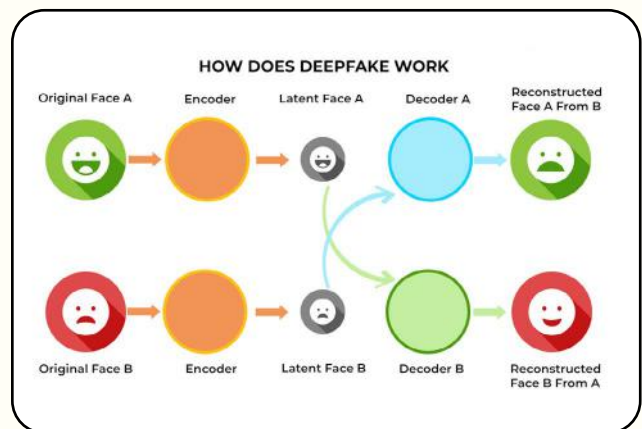
- Above mentioned examples are the instances of “deepfakes”, a concept that gained popularity in 2017. It is an amalgamation of the words “deep learning” and “fake” and it means fabricated videos generated from existing face-swapping techniques and technology.
- Deepfakes are digital media (video, audio, and images) which are edited and manipulated using

Artificial Intelligence. It is basically hyper-realistic digital falsification. Deepfakes are created to inflict harm on individuals and institutions.

- Access to commodity cloud computing, public research AI algorithms, and abundant data and availability of vast media have created a perfect situation for the creation and manipulation of media. This synthetic media content is referred to as deepfakes.
- Deepfakes are created using generative adversarial networks (GANs) that use artificial intelligence (AI) and two machine learning algorithms to manipulate or generate visual and audio content with a high potential to deceive.

How are Deepfake created?

- Tools such as artificial intelligence (AI), photoshop, machine learning (ML) and many others are used extensively to create deepfake videos, clips, and other content.
- These clips are created by manipulating a video and audio clip with the help of AI and already available images/videos of the person on social media and other platforms. The resultant fake video and audio looks very convincing and it's difficult to identify the difference between real and fake.



Dangers of Deepfakes

- Artificial Intelligence -Generated Synthetic media or deepfakes have clear benefits in certain areas, such as accessibility, education, film production, criminal forensics, and artistic expression.
- However, as access to synthetic media technology increases, so does the risk of exploitation. Deepfakes can be used to damage reputation, fabricate evidence, defraud the public, and undermine trust in democratic institutions.
- Deepfake can depict a person as indulging in antisocial behaviors and saying vile things that they never did. Deepfakes can also cause short-term and long-term social harm and accelerate

the already declining trust in traditional media.

- Deepfake could act as a powerful tool by a malicious nation-state to undermine public safety and create uncertainty and chaos in the target country by undermining the trust in institutions and diplomacy.
- Deepfakes can be used by non-state actors, such as insurgent groups and terrorist organisations, to show their adversaries as making inflammatory speeches or engaging in provocative actions to stir anti-state sentiments among people.
- Political Leaders may weaponise deepfakes and use fake news and alternative-facts narrative to dismiss an actual piece of media and truth.
- Deepfakes are used to purposefully spread false information or they may have a malicious intent behind their use. They can be designed to harass, intimidate, demean and undermine people. Deepfakes can also create misinformation and confusion about important issues and create communal tensions
- Cyber criminals use facial mapping technologies to create an accurate facial symmetry data set. They use AI to swap the face of a person on to the face of another person. Apart from this, voice matching technology is used to accurately copy the user's voice.

Best Practices to Prevent Deepfakes:

- Media literacy for consumers is the most effective tool to combat disinformation and deepfakes.
- There is a need for meaningful regulations with a collaborative discussion with the technology industry, civil society, and policymakers to develop legislative solutions to disincentivising the creation and distribution of malicious deepfakes.
- Social media platforms must take cognizance of the deepfake issue and deploy easy-to-use and accessible technology solutions to detect deepfakes, authenticate media, and amplify authoritative sources. Social Media Platforms ought to use their Algorithm power & AI to detect deepfakes proactively
- To counter the menace of deepfakes, we all must take the responsibility to be critical consumers of media on the Internet, think and pause before we share on social media, and be part of the solution to this 'infodemic'.
- Other existing legal frameworks that might be deployed to combat deepfakes include copyright and defamation.
- In the short term, the most effective solution may come from major tech platforms like Facebook, Google and Twitter voluntarily taking more rigorous action to limit the spread of harmful deepfakes.

Regulation of Deepfakes in India:

- At present, India does not have any law specifically for deep fake cybercrime, but various other laws can be combined to deal with it.
- Section 66 D of the Information Technology Act, 2000 has a provision for when a communication device or computer resource is used with mala fide intention for cheating to personate, the person can be imprisoned for up to three years and/or fined up to Rs 1 lakh.
- Another part of the IT Act is Section 66 E. Deepfake crimes also violate this Section as the person's privacy is breached for capturing, publishing or transmitting their images in mass media. This offence is punishable with imprisonment of up to three years or a fine of up to Rs 2 lakh.
- Under Section 51 of the Copyright Act, 1957, using any property that belongs to another person on which the latter person has an exclusive right is in violation of the Act.
- Data Protection Bill 2021 also contains provisions to penalise for breach of personal and non-personal data of any nature.
- Another way to report such a crime is to directly call up the National Cyber Crime Helpline at 1930.

Way Forward:

- Deepfakes, as compared to other synthetic media and fake news, have a more pernicious effect by fostering a zero-trust culture where individuals are unable or unwilling to discern fact from fiction. This can lead to an irrevocable breakdown of social fabric.
- The creation and use of deepfakes will continue to grow as machine-learning algorithms become more sophisticated. There is a need for AI and market-driven solutions for deepfake regulation. Facebook's Deepfake Detection Challenge aimed towards encouraging and incentivising innovation in this regard, is a positive step forward. Operation Minerva uses technology to compare and detect deepfakes by cross-referencing with the help of digitally fingerprinted videos, alerting users if a potentially doctored version of the existing media is detected.
- It has become apparent that collaborative effort is indispensable. Technologists, domain-specific experts, policy officials and lawmakers must all come together to combat this misuse of deepfakes.
- An essential first step is simply to increase public awareness of the possibilities and dangers of deepfakes. An informed citizenry is a crucial defense against widespread misinformation.

Building a Globally Competitive Higher Education System in India: Opportunities & Challenges

Introduction:

- IIT-Bombay has achieved its highest-ever rank of 147 in the QS World University Rankings 2023, placing it among the top 150 universities globally. This year, India is proud to have two more universities in the top 500, with the University of Delhi (407) and Anna University (427) making their debut on the prestigious list. At the global level, the top three universities remain Massachusetts Institute of Technology (MIT), University of Cambridge, and University of Oxford.
- The QS rankings for this year introduced three new metrics:
 - » Sustainability
 - » Employment outcomes
 - » International research network.
- They also recalibrated the weightage of three existing indicators: academic reputation, employer reputation, and faculty-student ratio. Unfortunately, these changes have harmed Indian institutions, with 13 universities experiencing a decline in their rankings. Notably, IISc Bangalore dropped from 155 to 225, and IIT-Madras fell by 35 ranks to 285. Additionally, India now has one less university in the top 200 compared to the previous rankings.
- QS World University Rankings is a globally recognized ranking system that evaluates and compares universities based on various performance indicators. It provides valuable insights into the quality and reputation of higher education institutions worldwide. The QS World University Rankings are compiled by Quacquarelli Symonds (QS), an independent organization that specializes in higher education and career information. QS Gathers data from universities and conducts surveys among academics and employers, and analyzes research publications to assess the academic standing and global reputation of each institution.
- The revised methodology affected IISc's ranking, mainly due to the reduced weightage assigned to its faculty-to-student ratio, which was previously considered one of its strengths. The new methodology now assigns 50% less weight to this indicator. Furthermore, the introduction of the three new indicators highlighted areas where IISc and other Indian institutions need to focus, including the international student ratio, where India falls behind countries like Malaysia, Indonesia, Taiwan, Thailand, and Vietnam. QS CEO Jessica Turner commended India's National Education Policy (NEP) for its commitment to modernizing the education system and preparing students for the future. She emphasized the importance of sustainability, global engagement,

and employability in India's higher education landscape.

- Despite the challenges, India showcased remarkable progress. With a score of 38.6, India surpasses the global average of 17, securing the second-highest position in Asia among higher education systems with more than 10 ranked universities, second only to China.

National Rank	2024 Rank	2023 Rank	Institution Name
1	149	172	IIT, Bombay (IITB)
2	197	174	IIT, Delhi (IITD)
3	225	155	Indian Institute of Science
4	271	270	IIT, Kharagpur (IIT-KGP)
5	278	264	IIT, Kanpur (IITK)
6	285	250	IIT, Madras (IITM)
7	364	384	IIT, Guwahati (IITG)
8	369	369	IIT, Roorkee (IITR)
9	407	521-530	University of Delhi
10	427	551-560	Anna University

The Need for an Entrepreneur University in India:

- India's entrepreneurial landscape has witnessed remarkable growth, with entrepreneurs playing a pivotal role in driving innovation, generating employment opportunities, and propelling economic development. However, the absence of a dedicated entrepreneurial education ecosystem has hindered the full realization of India's entrepreneurial potential. To overcome this challenge, it is crucial to establish an entrepreneur university in India. Such an institution would provide aspiring entrepreneurs with the knowledge, skills, and support necessary impetus to thrive in the dynamic business landscape.
- Skilled education often referred to as vocational or technical education focuses on equipping individuals with industry-specific skills and knowledge. It emphasizes practical training and hands-on experience in various trades, ranging from technology and engineering to healthcare and hospitality. By providing specialized training, skilled education prepares individuals to enter the workforce with the expertise required by industries. One of the key economic benefits of skilled education is its potential to bridge the gap between the demand and supply of skilled labor. India, with its expanding economy and a growing number of industries, faces a significant skills gap. Many industries struggle to find adequately trained and skilled professionals to meet their requirements. By promoting skilled education, India can produce a workforce that aligns with the needs of these industries, leading to increased employment opportunities and productivity. Skilled education also fosters entrepreneurship

and innovation. By imparting practical skills and knowledge, it empowers individuals to start their own businesses or contribute to existing enterprises. This entrepreneurial mindset, combined with technical expertise, can fuel the growth of small and medium-sized enterprises (SMEs) and contribute to the overall economic development of the country. Skilled entrepreneurs can create job opportunities, drive innovation, and contribute to the country's GDP.

- Moreover, skilled education enhances the overall competitiveness of the economy. Industries with access to a skilled workforce can operate efficiently, adopt advanced technologies, and improve productivity. Skilled professionals contribute to higher output, quality, and innovation, enabling industries to compete effectively in the global market. As a result, skilled education plays a crucial role in attracting foreign investment, stimulating economic growth, and positioning India as a competitive player on the international stage. Investments in skilled education can also lead to social upliftment and inclusive growth. By providing individuals with the necessary skills, it empowers them to break the cycle of poverty and contribute to the socioeconomic development of their communities. Skilled professionals often enjoy higher wages and better employment prospects, leading to improved living standards and quality of life. To maximize the economic benefits of skilled education, it is essential for India to strengthen its vocational training infrastructure, foster collaborations between educational institutions and industries, and promote awareness and acceptance of skilled careers among students and parents. Government initiatives, such as the Skill India Mission, have been launched to address these challenges and promote skill development on a large scale.

Enhancing Entrepreneurial Education:

- An entrepreneur university would offer a specialized curriculum designed to nurture the entrepreneurial mindset, skills, and knowledge required for success. By covering essential subjects such as business planning, financial management, marketing strategies, risk management, and leadership development, the university would equip students with both practical tools and theoretical understanding. This holistic approach ensures that future entrepreneurs are well-prepared to launch and manage successful ventures.

Supporting Entrepreneurial Ventures:

- The entrepreneur university would go beyond education by providing incubation centers that offer infrastructure, mentorship, and resources to nurture start-ups. Collaborations

with financial institutions, venture capitalists, and angel investors would facilitate access to funding, allowing aspiring entrepreneurs to transform their ideas into viable business ventures. Additionally, the university would foster networking opportunities through events, conferences, and forums, connecting students with successful entrepreneurs, investors, and industry professionals.

Research and Innovation:

- In addition to education and support, an entrepreneur university would foster a culture of research and innovation. By encouraging students and faculty to pursue groundbreaking ideas, the university would contribute to the development of cutting-edge technologies, products, and services. This research-driven approach would not only benefit individual entrepreneurs but also enhance India's competitiveness on the global stage.

Challenges in Building a Globally Competitive Higher Education System:

- India faces many obstacles in the higher education system to be globally competitive. The representation of international faculty members in Indian universities falls short of the global average, underscoring the importance of promoting diversity. India's faculty-student ratio score is lower than the global average, suggesting the need for a strategic focus on faculty recruitment and retention. The country's employment outcomes score also falls below the global average, indicating the necessity to bridge the gap between job requirements and graduates' skills, and to create more opportunities for learners.
- India's sustainability score is below the global average, emphasizing the need to prioritize and strengthen sustainability initiatives within the higher education system. Regarding reputation indicators, India's average scores closely align with the global average, reflecting a positive perception of educational quality and graduates' capabilities from the country's leading universities.

Conclusion:

India has taken significant steps to improve the QS University Rankings including international teacher-student ratio, need for international research collaboration, promoting diversity and global organization. It will help in improving the student-teacher ratio, making education employable and creating a productive environment. India should therefore focus on attracting a diverse international student community, encouraging a diversity of international faculty and strengthening collaboration between universities.

Evaluation of Egypt's Role in India's Long Term Interests in the Middle East & Africa

The visit of an Indian Prime Minister to Egypt for the first time in 26 years is an important step for bilateral relations between India and Egypt. At present, with the rapid pace at which the politics of the Middle East and Africa are changing, it was necessary to redefine relations with Egypt, which has an influential place in the politics of the Middle East and Africa, to protect Indian interests.

Therefore, during Prime Minister Narendra Modi's visit to Egypt, India and Egypt announced to take their bilateral relations to the level of Strategic Partnership. Now the two countries will cooperate as strategic partners. The two nations had earlier this year decided to increase the bilateral trade from the current USD 7 billion to USD 12 billion in the next five years. Under the strategic partnership, the two nations work to enhance defence, space, civil nuclear energy and high technology trade cooperation and related partnerships. Talking about defence partnership, Egypt has started showing interest in buying Tejas fighter aircraft, radars, military helicopters and Akash missile systems from India. India, which had bought weapons from others for decades, is now making equipment and weapons related to the defence sector. It is selling arms to 42 countries and wants to see Egypt as a buyer in this case. Talking about high technology partnerships, Egypt's Al Sisi has also discussed cooperation with Indian PM Modi in the same context on issues like telecommunication, IT, pharma, vaccine, higher education and green hydrogen.

Background of India-Egypt Relations:

- India's deepening ties with Egypt are considered to be very important for West Asia and North Africa. The two countries signed the Friendship Treaty in 1955 and India supported Egypt in the Suez Canal crisis in 1956. When the Non-Aligned Movement was launched in 1961, it was also led by Egypt and India and both Egypt and India were the founding members of the Non-Aligned Movement. India knows that Egypt gives direction to global trade in Asia, Africa and Europe through many trade channels.

Importance of 'India Unit' in the Egyptian Cabinet:

- Indian Prime Minister Narendra Modi held a meeting with the "India Unit" of the Egyptian Cabinet soon after he arrived in Cairo on a state visit to Egypt on 24 June 2023. This "India Unit" was established earlier this year following the State Visit of the President of Egypt, His Excellency Mr. Abdel Fattah El-Sisi to India as the Chief Guest of the Republic Day 2023. This "India Unit" is headed by The Prime Minister of Egypt, His Excellency Mustafa Madbouli and consists of several ministers and senior officials. Prime Minister Madbaoli and his cabinet colleagues

outlined the various activities of the "India Unit" and proposed new areas of cooperation.

- This meeting discussed ways to strengthen cooperation in areas such as trade and investment, renewable energy, green hydrogen, IT, digital payment platforms, pharmaceuticals and people-to-people contacts.



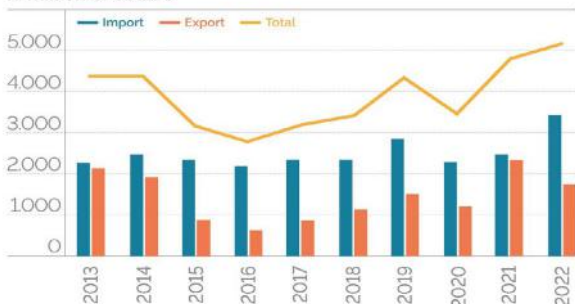
Cooperation Against Terrorism:

- India and Egypt have agreed to enhance their bilateral cooperation to deal with the spread of terrorism across the world. Both countries believe that terrorism is the most serious security threat to humanity. The two countries also agreed that concrete action is necessary to end cross-border terrorism and for this, both countries will continue to work together to alert the international community. There is also immense potential for enhancing security and defence cooperation between India and Egypt. In the last few years, there has been a significant increase in joint exercises, testing and capacity building between the armies of the two countries. The two countries have also decided to further strengthen cooperation between their defence industries, and enhance the exchange of counter-terrorism information and intelligence. Both countries have recognized the misuse of cyberspace to spread extremist ideologies and extremism and radicalization as a growing threat. India and Egypt have decided to cooperate in this direction.
- "Cyclone-I Exercise" between the armies of India and Egypt is underway at Jaisalmer in Rajasthan from January 14, 2023. This exercise is the first-ever joint exercise between the armies of the two countries. Its goal is to promote defence cooperation between the two countries.

The exercise “Cyclone-I” is the first of its kind in which the special forces of the two countries have jointly gathered on one platform. The exercise will last for 14 days and is being conducted in the deserts of Rajasthan. The advanced special forces of the two countries will share skills such as sniping, combat-free fall, reconnaissance, surveillance, and target setting, as well as exchange information on weapons, equipment, innovations, techniques, strategies and procedures. The participating army personnel will also practice joint planning, battlefield combat, surgical strikes on terror targets/camps and sniper shooting on large targets.

India: A Robust Economic Partner for Egypt

Egypt's trade exchange of goods with India (2013-2022)
in million of dollars



Aspects Related to the Strengthening of India-Egypt Bilateral Relations:

- Covid and food cooperation have strengthened India's ties with Egypt. During the COVID-19 wave in 2021, Egypt sent oxygen cylinders, concentrators and Remdesivir medicines to India. Similarly, India sent 61,500 tonnes of wheat to Egypt in May 2022 when needed. The ongoing war in Ukraine had led to a food crisis in Egypt, which is the world's largest wheat importer and it received cooperation from India.
- Recently, when Russia attacked Ukraine, the attitude of India and Egypt was almost same. Both countries rejected criticism of Russia and insisted on a diplomatic solution. Since both countries are also members of the Non-Aligned Movement, there is a similar approach. Egypt has consistently supported India's non-permanent membership in the UNSC and has now started supporting permanent membership.
- Renewable energy is very important for India. Green energy is also India's focus and this is an area where there is good potential for cooperation with Egypt. Egypt is a member of India's International Solar Alliance. India wants

Egypt to become a member of the Coalition on Disaster Resilient Infrastructure, an Indian-led disaster management organization. The two countries also welcomed the launch of the Global Renewable Hydrogen Forum.

- The level of India's friendship with Egypt can be gauged from the fact that after Nupur Sharma's remarks about Muhammad Prophet in 2022, when India had to face the wrath of many Islamic countries, many Arab countries expressed dissatisfaction on the matter, but Egypt did not make any comment during this time. Pakistan brought a resolution in the OIC regarding this issue but the proposal could not be passed due to al-Sisi not supporting it.
- Both countries are working to promote green ammonia and green hydrogen projects on a large scale in the Suez Canal Economic Zone. For this, a memorandum of understanding has also been signed between the companies and authorities of the two countries. While Egypt is eyeing to increase Indian investment, India wants to strengthen its hold in this area. Trade between China and Egypt currently stands at \$15 billion. This is almost double the \$7 billion as it is with India. India wants to increase its business in this area. Talking about investment, at present, India's investment in Egypt is \$ 3.15 billion, which has been agreed to increase.
- There are limitations to getting things from the Gulf Cooperation Council, an organization of Gulf countries. In such a situation, the Indian leadership is turning to Egypt. At the same time, Egyptian President Al-Sisi wants to join the BRICS group in some way and take advantage of it. Egypt has also become a member of the BRICS New Development Bank. India wants to balance China in the BRICS group and also stop China's plans to include Pakistan in the grouping. China's support and role in Pakistan's full membership of the Shanghai Cooperation Organisation is well known.
- Prime Minister Narendra Modi wants to send a message to the country that the most important Arab country, Egypt, is supporting India and is surrounding India without attacking the government's policies on minorities, and Kashmir issues. Overall, it can be said that India is increasing its alliance with Egypt to achieve its diverse national interests. India is moving forward in relations with Egypt keeping in mind many issues such as climate change and global warming management, UN reform, counter-terrorism cooperation, Egypt's benefits from alliances with Gulf countries, and Africa, and protecting it from the impact of China's Belt Road Initiative.

Gender Equality in India: Need of More Reforms At Economic & Political Level

Reference:

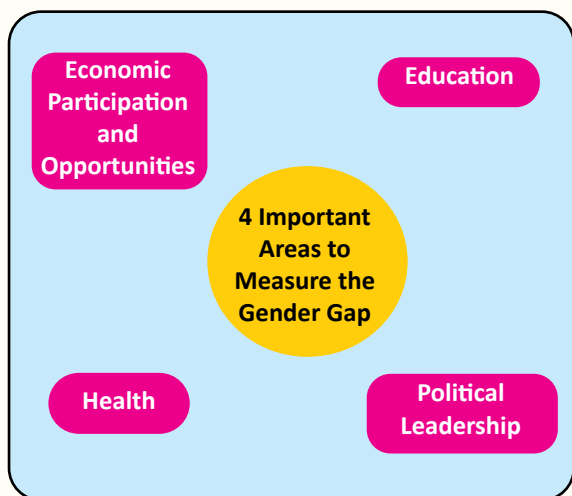
Recently the Global Gender Gap Report 2023 has been released by the World Economic Forum. In this, India was placed in 127th position out of a total of 146 countries.

Introduction:

The Global Gender Gap Report is released annually by the World Economic Forum. This report reviews progress on gender equality. This report has been surveyed in 146 countries. The global gender gap has improved this year as compared to last year.

About the Report:

- This report is issued by the World Economic Forum. This report is based on the following 4 dimensions:
 - » Economic Participation and Opportunities
 - » Education Opportunity
 - » Health and Survival
 - » Political Empowerment
- This report displays a rating between 0 and 1, where 0 means complete gender inequality and 1 means complete gender equality.
- The objective of this report is to measure the progress of women's development based on economic participation, education, health, and political empowerment.



Key points of the Global Gender Gap Index 2023:

- The global gender gap stood at 68.4 points this year, showing a marginal improvement of 0.3 points from 68.1 points last year.
- Iceland is also the most gender-equal country this year with a score of 91.4. It is noteworthy that for the last 14 years, Iceland is getting the top position in this index. Iceland is followed by three Nordic countries – Norway (87.9%), Finland (86.3%), and Sweden (81.5%).

- Globally, the gender gap in economic participation and opportunity is 60.1 percent. On the other hand, it is 95.2 percent in educational opportunity, 22.1 percent in political opportunity, and 96 percent in health and survival.
- The report refers that it will take 16 years to achieve gender equality in educational achievement, 169 years to achieve gender equality in economic participation and opportunity, and 162 years to achieve gender equality in political participation.
- At this rate, it will take an average of 131 years to achieve gender equality. This situation reflects the slow growth rate of gender equality.

Global Gender Gap Report 2023 and India:

- India has been ranked 127 out of 146 countries this year, which is 8 places up from 135 in the Global Gender Gap Report 2022. It depicts gender reform in India.
- India's position has improved by 1.4 percentage points and eight places as compared to the previous edition.
- The overall gender equality in India is 64.3 percent which is lower than the global average.
- India's gender equality in economic opportunities and participation is only 36.7 percent. Although there has been an increase in the income of women in India, there has been a decrease in the representation of women in technical and managerial positions.
- There has been a reduction in India's gender gap of 1.9% in health and survival, which means that India has registered an improvement in achieving gender equality in this area.
- In terms of political empowerment, the gender equality of women in India is around 25.3 percent which is better than the global level. At present, the participation of women in the Parliament of India is 15.1 percent and the participation of women in local government is 44.4 percent. These figures promote political empowerment in India.
- India has achieved gender parity in enrollment at all levels of education, which shows a positive development in the country's education system.
- India's neighboring countries are Pakistan at 142, Bangladesh at 59, China at 107, Nepal at 116, Sri Lanka at 115, and Bhutan at 103.
- India has made excellent progress in terms of health and survival and educational opportunity, although India still needs to make progress in terms of political empowerment and

economic participation and opportunity.

Need for More Reforms at the Economic and Political Level for Gender Equality in India:

Economic Condition:

- The female labor force participation rate for the productive age group (15-59 years) declined by 7.8 percentage points between 2011-12 and 2017-18, from 33.1 percent to 25.3 percent.
- However, the female labor force participation rate is higher in rural areas than in urban areas. The decline in this rate has been more rapid and high in rural areas, from 37.8 percent in 2011-12 to 26.6 percent in 2017-18, and in urban areas, it has increased from 22.2 to 22.3 percent during the same period.
- Along with this, the participation of women in the field of science, technology, engineering, and management is very less.

Status of women in Politics:

- At present, the participation of women in the Parliament of India is 15.1 percent and the participation of women in local government is 44.4 percent. These figures promote political empowerment in India. Although these figures are not real.

Factors Responsible for the Status of Women in the Economic and Political Field:

- India is a patriarchal country. In a hypothetical situation, if a family has only enough resources to educate one of its sons or daughters, then the priority of that family will be the son. Due to a lack of priority, women are left behind in the labor force.
- In modern society, most women are getting higher education due to which their entry into the labor market is getting delayed.
- According to the World Economic Forum, women are not able to enter the labor force because of their high responsibility in the care economy.
- Private employers do not give priority to women in the labor force.
- In addition, the structural transformation in the country's economy has also had a profound effect on women's labor force participation, which has been largely ignored. Their participation in the labor force has decreased due to increasing distance from agricultural jobs and higher mechanization of agriculture.
- Along with this, sexual harassment at the workplace, and increasing cases of sexual exploitation in cities discourage women from participating in the labor force.
- Political representation of women is only to

avail the facility of reservation. In many places, women are represented by name only, but in their name, the husband or son of women behave as real representatives.

- Concepts like the head husband in local self-government reduce the political representation of women.
- The weakness in the economic status of women, and the malevolent mentality of not accepting women's leadership is the main factor in reducing the political representation of women.

Efforts made to Improve the Status of Women:

- Articles 15 and 16 of the Indian Constitution protect against discrimination based on sex.
- Article 39 provides for equal pay for equal work for men and women.
- Appropriate protective provisions have been included in the labor laws to provide a congenial environment for women at the workplace, such as childcare centers, required time off for feeding babies, 12 weeks of paid maternity leave to 26 weeks, compulsory crèche facilities in establishments employing 50 or more workers, adequate security arrangements for women working at night, etc.
- The Equal Remuneration Act, of 1948 also applies equally to men and women without any discrimination.
- To increase employment opportunities for women workers in the country, necessary training has been provided by the government in Industrial Training Institutes, National Vocational Training Institutes, and Regional Vocational Training Institutes.
- Under Mahila Shakti Kendra Yojana, work is done to empower rural women through community participation.
- Mudra Yojana, Stand Up Yojana, and Mahila E Haat measures have been taken to encourage women's entrepreneurship.

Conclusion:

Through the 73rd and 74th constitutional amendments, there is a provision of 33 percent reservation for women in local government elections. The 108th Constitutional Amendment Bill (by which provision of 33% reservation for women in the overall seats of assembly and MP) should be implemented. Capacity-building work should be done for women public representatives so that they can be empowered. Apart from this, work should be done to promote women's organizations.

Chandrayan 3: Making India the Space Superpower

"When we had met A.P.J Abdul Kalam during a seminar in Udaipur in 2004 to discuss a lunar mission aimed at orbiting Moon (much before Chandrayaan-1 launch), Kalam had suggested, why not land on Moon!" - Dr M Annadurai, Project Director Chandrayaan-1

- In 2009, the former President Kalam, while addressing a gathering of NASA and ISRO scientists in California, suggested that two space organisations must deploy a robotic arm to bring back rock samples from Moon to Earth as this would help expand the probe about the presence of water on Moon. Kalam was talking about the Chandrayaan-3 programme, much before it was conceptualised.

Reference:

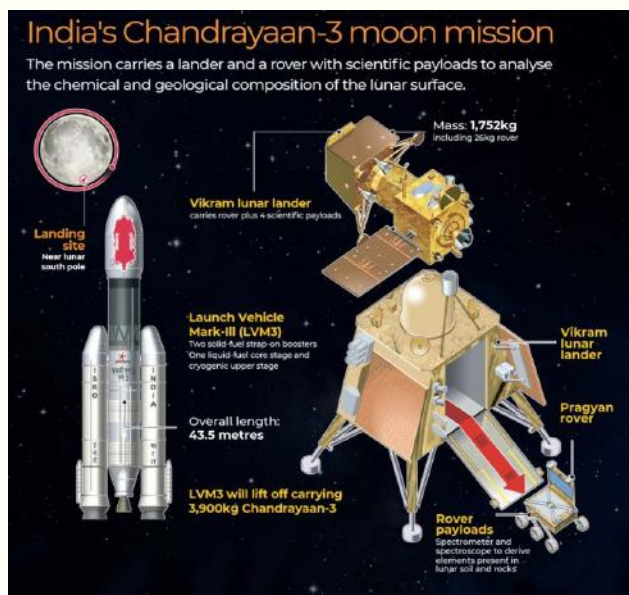
- India's third moon mission, Chandrayaan-3 has been successfully launched as the Launch Vehicle Mark-3 (LVM-3) with the satellite onboard took off from the second launch pad of the Satish Dhawan Space Centre in Sriharikota at 2.35 pm on July 14.
- This is India's attempt to do a soft landing on the lunar surface for the second time having failed in 2019 with the Chandrayaan-2 mission.
- Chandrayaan-3 will reach the lunar orbit almost a month after its launch, and its lander, Vikram, and rover, Pragyaan, are likely to land on the Moon on August 23. Notably, the landing site of the latest mission is more or less the same as the Chandrayaan-2: near the south pole of the moon at 70 degrees latitude.
- If everything goes well, the Chandrayaan-3 will become the world's first mission to soft-land near the lunar south pole. Successful landing of Chandrayaan-3 will also make India the fourth nation to successfully land a spacecraft on the moon, joining the Soviet Union, the United States and China.

Chandrayan-3:

- Chandrayaan-3 is India's third lunar mission and second attempt to make a soft landing on the Moon. The Chandrayaan-3's launch has come almost four years after the partial failure of the Chandrayaan-2.
- Chandrayaan-3 will comprise a propulsion module, lander, and rover. Once the module enters lunar orbit, it will navigate a circular path 60 miles above the moon's surface before the lander separates for a soft touchdown. The rover will then explore the lunar terrain for 14 Earth days, collecting invaluable data for scientific research.
- The rover is equipped with hazard detection and avoidance systems, ensuring a safe traversal of the moon's surface. Additionally, the lander incorporates enhanced features, such as two

hazard detection and avoidance cameras, to ensure a successful landing by overcoming obstacles. These upgrades were developed based on lessons learned from Chandrayaan-2, India's previous lunar mission.

- The lander houses Chandra's Surface Thermophysical Experiment (ChaSTE), which will provide vital information on the moon's thermal conductivity and temperature. The Instrument for Lunar Seismic Activity (ILSA) aims to detect moonquakes, further enhancing our understanding of lunar geology. The Langmuir Probe will estimate the density and variation of plasma in the moon's environment, while the Laser Retroreflector Array from NASA will enable precise distance measurements using laser technology.



Evolution of India's Moon Mission

- The Prime Minister of India Atal Bihari Vajpayee announced the Chandrayaan-1 project on course in his Independence Day speech on 15 August 2003. The mission was a major boost to India's space program.
- Chandrayaan-1 was the first Indian lunar probe under the Chandrayan programme. It was launched by the Indian Space Research Organisation (ISRO) in October 2008, and operated until August 2009. The mission included a lunar orbiter and an impactor. India launched the spacecraft using a PSLV-XL rocket on 22 October 2008 at 00:52 UTC from Satish Dhawan Space Centre, at Sriharikota, Andhra Pradesh. The mission was a major boost to India's space program, as India researched and developed indigenous technology to explore the Moon. The vehicle was inserted into lunar orbit

on 8 November 2008.

- Chandrayaan-2 was the second lunar exploration mission developed by the Indian Space Research Organisation (ISRO). The spacecraft was launched on its mission to the Moon from the launch pad at the Satish Dhawan Space Centre in Andhra Pradesh on 22 July 2019 at 09:13:12 UTC by a LVM3-M1 rocket. It consist of lander, Vikram, and rover, Pragyaan. The main scientific objective was to map and study the variations in lunar surface composition, as well as the location and abundance of lunar water.
- The craft reached the Moon's orbit on 20 August 2019 and began orbital positioning manoeuvres for the landing of the Vikram lander. The lander and the rover were scheduled to land on the near side of the Moon, in the south polar region. However, the lander crashed when it deviated from its intended trajectory while attempting to land on 6 September 2019. According to a failure analysis report submitted to ISRO, the crash was caused by a software glitch.

Achievements:

- On November 14, 2008, a payload named MIP (Moon Impact Probe) carried by the Chandrayan-1 spacecraft was separated and it struck the lunar South Pole in a controlled manner. India was then able to make discoveries related to the detection of water (H₂O) and hydroxyl (OH) on the lunar surface. The data also revealed their enhanced abundance towards the polar region. It further found ice in the North polar region of the Moon.

Significance of Moon Missions:

- The primary scientific objective of the mission is to prepare a three-dimensional atlas of both the near and far sides of the Moon and to conduct chemical and mineralogical mapping of the entire lunar surface with high spatial resolution. The main aim of Chandrayaan-3 mission is to demonstrate India's growing technical capabilities in the field and conduct a successful soft landing on the moon.

Reason for ISRO's Moon Mission:

- The Moon is the closest cosmic body to earth, where space discovery can be attempted. It was also described as a promising test bed to demonstrate technologies required for future deep-space missions. It would further help stimulate the advancement of technology, promote global alliances and inspire a future generation of explorers and scientists.

Why ISRO wants to explore the Moon's south pole:

- As NASA says, "Extreme, contrasting conditions make it a challenging location to land, live, and work, but the region's unique characteristics hold promise for unprecedented deep space scientific discoveries."

- It also noted the importance of Lunar polar volatiles. Volatiles are chemical elements or compounds in a solid state that melt or evaporate at moderately warm temperatures and can be found on the moon. Space missions could help understand their distribution on the moon. If they contain elements like Hydrogen and Oxygen, this could have a profound impact on the future of deep space exploration and commerce, . It would reduce the amount of supplies that would have to be sent from Earth to support humans in deep space.

International Collaboration:

- Recently, India has signed the Artemis Accords, a US-led effort to send humans to the moon again by 2025. The program aims to build a permanent presence in lunar orbit and on the surface, over half a century after the Apollo missions ended.
- A set of 13 principles, the Artemis Accords is closely linked to the Artemis Program, which aims to return astronauts to the lunar surface, build a space camp there, and carry out deep space exploration
- The Artemis program's first phase will comprise space missions that will not only carry out scientific experiments but also involve landing humans on the Moon and explore the potential of commercial mining of planetary resource

Way Forward:

- A successful Chandrayan-3 mission will add to India's global stature and bring indirect benefits on the commercial aspect of the industry. Since 2020, when India opened to private launches, the number of space startups has more than doubled. Late last year, Skyroot Aerospace, whose investors include Singapore's sovereign wealth fund GIC, launched India's first privately built rocket.
- Chandrayaan-3's major goal is to land safely on the lunar surface, undertake rover operations, and conduct critical scientific investigations. This project has enormous promise for the future of space travel, with data from it likely to benefit NASA's Artemis program, which intends to establish a long-term human presence on the moon.
- The timing couldn't be better, since India only recently signed on to the NASA-led Artemis Accords, indicating a commitment to peaceful lunar exploration. The accord opens doors for collaboration between the two countries, paving the way for shared knowledge and expertise in space missions.
- Today we can hear the reverberance of Neil Armstrong's words he spoke when he became the first person to set foot on the Moon: "That's one small step for man, one giant leap for mankind."

India Breaking The Shackles Of Poverty: UN MPI Report

Context:

Nearly 415 million Indians moved out of poverty between 2005–06 and 2019–21, according to the latest Multidimensional Poverty Index (MPI), published annually by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative. As per the report, Multidimensional poverty fell from 55.1 percent to 16.4 percent.



United Nations Development Programme

- It provides expert advice, training, and grants aid to developing countries, with a greater emphasis on aid to the least developed countries.
- Its overall goal is to contribute to sustainable human development.
- UNDP's mandate has four focus areas: Poverty Reduction, Democratic Governance, Environment & Energy and Crisis Prevention & Recovery.
- Its headquarters is located in New York City.
- It provides experts to help build legal and political institutions and expand the private sector.
- UNDP is governed by a 36-member Executive Board that is overseen by an Administrator, the third highest-ranking unofficial post after the Secretary-General and Deputy Secretary-General.
- UNDP operates in 170 countries and is funded entirely by voluntary contributions from UN member states.

Multidimensional Poverty Index:

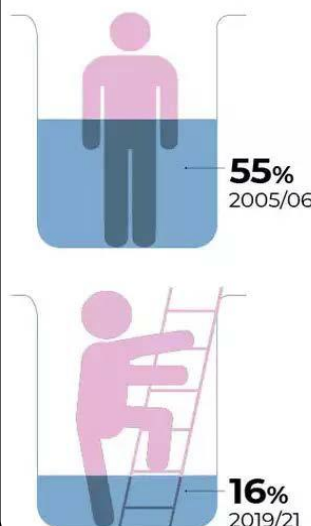
- The report measures the interrelated deprivations in health, education, and living standards that directly affect an individual's life and well-being.
- According to the report, India has not only reduced poverty at an impressive rate but has declined across all indicators in India, and "the poorest states and groups, including children and people from disadvantaged caste groups, have shown the fastest progress". This means that India has made significant progress in all three deprivation indicators – health, education, and standard of living. The decline in poverty has also been similar across regions and socio-economic groups.
- 25 countries, including India, have successfully halved their global MPI values within 15 years, showing that rapid progress is possible. These countries include Cambodia, China, Congo, Honduras, India, Indonesia, Morocco, Serbia,

and Vietnam.

- There are still more than 230 million poor people in India. According to the report, one must take "vulnerable" populations seriously to account for multidimensional poverty. The UNDP defines vulnerability as "the share of people who are not poor but are deprived—at 20–33.3 percent of all weighted indicators—could be much higher." India has about 18.7 percent of its population in this category.
- India has overtaken China to become the world's most populous country in June 2023 with 142.86 crore people, according to UN data. The report states that "Notably, India witnessed a significant reduction in poverty, lifting 415 million people out of poverty within just a span of 15 years from 2005–6 to 2019–21."

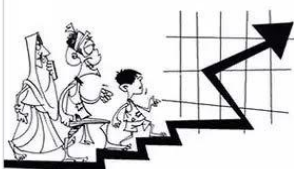
415 million people exited poverty in India in last 15 years

In India, the incidence of multidimensional poverty fell from **55%** (645 mn) in 2005/2006 to **16%** (230 mn) in 2019/2021



People in India who are multi-dimensionally poor and deprived of

	2005/06	2019/21
Nutrition	44%	12%
Cooking fuel	53%	14%
Sanitation	50%	11%
Drinking water	16%	3%
Housing	44%	14%



Source: UNDP Global Multidimensional Poverty Index report

- Nevertheless, the lack of comprehensive data during the period of the COVID-19 pandemic poses challenges in assessing the immediate prospects. In India, however, 415 million poor people moved out of poverty from 2005–2006 to 2019–2021, falling from 55.1% in 2005–2006 to 16.4% in 2019–2021.
- In 2005–2006, about 645 million people in India were in multidimensional poverty, while this number has come down to about 370 million in 2015–2016 and 230 million in 2019–2021.
- Under nutrition indicator, multidimensionally

poor and deprived people in India decreased from 44.3% in 2005–2006 to 11.8% in 2019–2021, and the child mortality rate fell from 4.5% to 1.5%.

- “The poor and those without cooking fuel fell from 52.9% to 13.9%, and those without sanitation fell from 50.4% in 2005–2006 to 11.3% in 2019–2021.”
- In the drinking water indicator, the percentage of multidimensionally poor and deprived people fell from 16.4 to 2.7, electricity from 29% to 2.1%, and housing from 44.9% to 13.6% during this period.
- The report also pointed out that countries with different incidences of poverty have also halved their global MPI values. While the 17 countries that did so had less than 25% in the first period, India and Congo had initial levels above 50%.
- India was among 19 countries that halved their global Multidimensional Poverty Index (MPI) value over a period.
- According to the 2023 report, out of 6.1 billion people in 110 countries, 1.1 billion (just over 18%) live in acute multidimensional poverty. Nearly five out of every six poor people live in sub-Saharan Africa (534 million) and South Asia (389 million).

Global Multidimensional Poverty Index

Components



- Nearly two-thirds (730 million people) of all poor people live in middle-income countries, making action in these countries critical to reducing global poverty. Although low-income countries account for only 10% of the population included in the MPI, they are home to 35% of all poor people.
- Half of the poor (566 million) are children under the age of 18. The poverty rate among children is 27.7%, while it is 13.4% among adults. Poverty mainly affects rural areas. 84% of all poor people live in rural areas. In all regions of the world, rural areas are poorer than urban areas.
- However, the negative effects of the pandemic in dimensions such as education are significant and may have long-term consequences. It is imperative that we intensify efforts to understand

the most negatively affected dimensions, thereby building a strong foundation for poverty reduction. Data collection and policy efforts may be required in this regard.

- The report also said that given the few countries where data were fully collected in 2021 or 2022, including Mexico, Madagascar, Cambodia, Peru, and Nigeria, the pace of poverty reduction could be sustained during the pandemic.
- Cambodia, Peru, and Nigeria have shown significant reductions in recent times, raising hopes that progress is still possible. In Cambodia, the most encouraging of these, the incidence of poverty fell from 36.7% to 16.6%, and the number of poor people halved from 5.6 million to 2.8 million, all within 7.5 years, including the year of the epidemic (2014).



Global Multidimensional Poverty Index

- It is a report produced by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI).
- The global MPI constructs a deprivation profile for each household and individual through 10 indicators of health, education, and living standards. Equal importance is given to all indicators in each dimension.
- MPI is calculated by multiplying the incidence of poverty by the average intensity of poverty.
- The MPI ranges from 0 to 1, and higher values indicate higher poverty.
- India ranks 66th out of 109 countries in the Global MPI 2021 ranking.

Conclusion:

The world is battling a data flood and is gearing up for the next era of digital evolution. Yet we do not have a post-pandemic vision for the 1 billion out of 1.1 billion poor people. As per the global MPI's monitoring and policy, people experience poverty in various aspects of their daily lives. From access to education and health to standards of living such as housing, drinking water, sanitation, and electricity. In more than half of the countries covered, there was either no statistical significant reduction in child poverty or MPI values for children fell more slowly than for adults during at least one period. This suggests that Child poverty will continue to be a serious issue, especially in relation to school attendance and undernourishment. As a poverty index, the MPI aims to address these deprivations by portraying a standing tower of interconnected deprivations experienced by poor individuals.

High Seas Treaty: A Ray of Hope for Marine Biodiversity

The world's first international treaty, to protect the high seas, was recently adopted at the United Nations on 19 June 2023. It is a landmark environmental agreement to protect deep sea ecosystems vital to humanity. UN Secretary-General Antonio Guterres believes that this historic treaty will establish a legal framework for the expansion of environmental protection of international waters and watersheds. It covers more than 60 percent of the world's oceans. The United Nations has signed the world's first 'High Seas Treaty' to protect marine bodies that lie outside national boundaries and makeup about two-thirds of the world's oceans. The treaty aims to protect the high seas from the potential effects of activities such as deep-sea mining. This treaty is necessary to take care of the damage caused to the oceans during the process of collecting minerals from the seabed.

Among other things, the treaty would place restrictions on how much fish could be caught on the high seas. This will go a long way towards solving the problem of IUU fishing i.e. illegal, unreported and unregulated fishing. Many countries start over-exploiting marine resources after getting approval from the International Seabed Authority for the extraction of Polymetallic Sulphide, Nickel, Cobalt, and Copper at the bottom of the sea. Due to this, there is a negative impact on the holding capacity of the oceans as the oxygen-depleting zones start forming in the oceans and ocean biodiversity is irreparably damaged. Therefore, regulation of the high seas has been deemed necessary. For a long time, consensus could not be reached among the nations on this issue related to the high seas, but given the challenges of the present time and the sustainable development goals, now it has been considered a non-neglectable subject and need of the hour.

About High Seas:

- The high seas are defined by international law as all parts of the ocean that are not included in the exclusive economic zone, territorial sea, or internal waters of a country or an island group or, a country's archipelago. A series of conventions were launched in 2018 to draft international law under the 1982 United Nations Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity in the high seas. The UN High Seas Treaty now covers 30 percent of the world's oceans as a protected area, injects more money into marine protection and sets new rules for at-sea mining. Previously these bodies of water were open to fishing, shipping and research,

and only about 1 per cent of these waters, also known as the high seas, were protected. Due to this, the marine life living in these regions were faced with a high risk of exploitation due to threats including vulnerability to climate change, and overfishing. Shipping and traffic also affected the marine ecosystem.

- The need for this treaty can be seen in the context of International Union for Conservation of Nature (IUCN) Red Data Book which states that about 10 percent of marine species are facing the threat of extinction. In addition, the IUCN estimates that 41 percent of threatened species are also affected by climate change. The International Seabed Authority, which oversees the licensing of any future activity in the deep sea, says it will subject approvals related to ocean exploration to strict environmental regulations and monitoring after the High Seas Treaty comes into force. This will be done to ensure that the work of economic exploitation of high sea areas is done responsibly.

Significance of the new High Seas Treaty:

Binding Nature of the High Seas Treaty:

- The new High Seas Treaty is inspired by the goals of sustainable development and inclusive growth. It has been brought for action towards making marine environment protection a global mission or movement. The importance of this treaty lies in the fact that the 193 countries, that have ratified it, will see it as a legally binding marine biodiversity convention and will not try to back out of their environmental obligations. Legally binding treaties or agreements on environmental matters have been difficult to come by.
- Nations have not been able to agree on a common plan due to their different interests and concerns, but the consensus made in the High Seas Treaty is evidence that today nations are taking the issue of ocean conservation seriously. The most important thing is also that every nation has its national boundaries as well as coastal boundaries. However, there should be some responsibility for the nations to secure the oceans even outside those coastal boundaries. If maritime trade routes provide economic prosperity to nations and marine fishery resources ensure food security, then nations also must focus not only on protecting their territorial waters but also on international waters.

Emphasis on Environmental Protection outside National Jurisdiction:

- The new High Seas Treaty has been adopted in the Intergovernmental Convention on “Marine Biodiversity of Areas Beyond National Jurisdiction” and it clearly states that nations should not only consider their exclusive economic zones and related encroachments or challenges. They should not only focus on strengthening their coastline but also go beyond the jurisdiction of their national borders in the interest of humanity and take action to ensure sustainable development for present and future generations.

India Focusing on Sustainable Fisheries Management

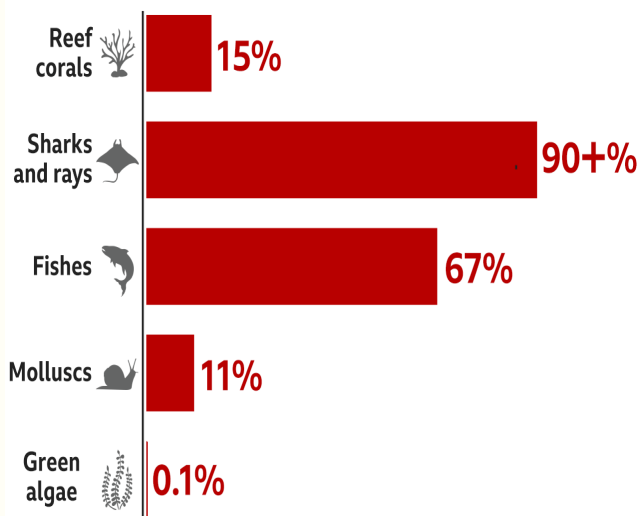
- A symposium on Illegal, Unreported and Unregulated (IUU) fishing was conducted by the Indian Navy on 2 November 2022 at Goa under the aegis of the Indian Ocean Rim Association (IORA). As the third largest ocean, the Indian Ocean Region (IOR) is a lifeline for about 35 per cent of the global population. Fish and fisheries comprise important components of the food security chain. They also contribute significantly to the national socio-economic development. IUU fishing activities have a significant adverse impact on sustainable fisheries practices, which is a major cause of concern for the coastal areas of the IOR. Accordingly, it was identified as an area of greater cooperation by the IORA Working Group on Maritime Safety and Security (WGMSS) was set up in September 2018. The WGMSS is currently chaired by Sri Lanka which is taking forward the IORA Action Plan 2017-21 and which is being followed by the IORA member countries.
- The High Seas Treaty is also important for protecting the oceans from the effects of global warming and climate change. The speed at which the temperature of the oceans is increasing today has increased the possibility of many natural disasters. Arctic and Antarctic glaciers are melting, for conservation of these glaciers and positive intervention is also necessary.

Promoting the Protection of Marine Environmental Values:

- The meeting that adopted the High Seas Treaty states that responsible use of the marine environment, maintaining the integrity of marine ecosystems, and preserving the values of marine biodiversity are not only a necessity

but also have an environmental value. That is why this new law has been made, in which 75 articles have been kept, which appeal to protect different parts of the oceans.

Global species assessed for extinction threat



High Sea Treaty Necessary for the Cleanliness of the Seas:

- The High Seas Treaty is also inspired by the goal of cleaning the oceans. Today toxic chemicals and millions of tons of plastic waste are destroying coastal ecosystems, killing fishes, sea turtles, sea birds, marine mammals and invertebrates. Looking at the Sustainable Development Goals report, it has been said that in the year 2021, 17 million metric tons of plastic have entered the world's oceans, of which 85 percent are marine litter. By 2040 this litter is expected to double or triple every year. The UN figures as well as WWF's Living Blue Planet report also say that by 2050 there will be more plastic in the ocean than fish. It was necessary to take action to deal with plastic pollution in the sea and hence the High Seas Treaty has been brought. The United Nations states that the importance of the High Seas Treaty also lies in the fact that it promotes sustainable fishing. The United Nations has already said that more than a third of global fish stocks are overexploited. Fish used today as tuna, sardines, and seafood are largely overexploited and the rationale for such treaties as a response to these challenges is self-evident.



National Issue

1. “Report Fish Disease” App

Why in News:

The Union Minister of Animal Husbandry, Fisheries, and Dairying, Parshottam Rupala, launched an android-based mobile app ‘Report Fish Disease’. It will help farmers to connect directly to district fisheries officers and scientists. The app will help farmers, who face the issue of fish diseases, to reach out to the experts in an efficient manner within a short period of time.

About the ‘Report Fish Disease’ App:

- The app was created by ICAR-NBFGR as part of the National Surveillance Programme for Aquatic Animal Diseases (NSPAAD), which is supported by the Department of Fisheries, Ministry of Fisheries, Animal Husbandry, and Dairying, Government of India.
- It will boost the farmer-based illness reporting system and improve the country’s reporting of aquatic animal diseases.

Benefits:

- It would assist farmers in reporting disease outbreaks in finfish, prawns, and molluscs on their farms to field-level officials and fish health specialists.
- This will aid farmers in receiving scientific guidance for effective disease control.
- The illness data will be retained on temporal and geographical scales and can be utilized to map disease cases.
- It would help farmers improve farmer-based reporting, obtain scientific advice, and reduce disease losses, enhancing farmers’ revenue.

About Pradhan Mantri Matsya Sampada Yojna:

- It is the country’s flagship program for concentrated and sustainable development of the fisheries industry, with an anticipated investment of Rs. 20,050 crores for execution over a 5-year period from FY 2020-21 to FY 2024-25 across all States/Union Territories.
- PMMSY is designed to address critical gaps in the fisheries value chain from fish production, productivity, and quality to technology, post-harvest infrastructure, and marketing.
- It aims to modernize and strengthen the value chain, enhance traceability, and establish a robust fisheries management framework while simultaneously ensuring the socio-economic welfare of fishers and fish farmers.

Aims of PMMSY:

- It plans to increase fish production by 70 lakh tonnes by 2024-25.
- Raising fisheries export profits to Rs.1,000 crore by 2024-25.

- Increased income for fishermen and fish producers, with post-harvest losses reduced by 20-25%.

ICAR-NBFGR:

- ICAR-National Bureau of Fish Genetic Resources (ICAR-NBFGR) was established in December 1983 under the aegis of the Indian Council of Agricultural Research to undertake research related to the conservation of fish germplasm resources in the country.
- The Institute’s vision is the assessment and conservation of fish genetic resources for intellectual property protection, sustainable utilization, and posterity.

Way Forward:

This app will act as a bridge between Farmers and other stakeholders. The farmers may self-report illnesses of shrimps and molluscs on their farms using this app, while the scientists and specialists may give scientific technical help to the farmers using the same app.

2. National Research Foundation Bill 2023

Why in News:

The Union Cabinet has adopted the National Research Foundation (NRF) Bill 2023, which would create the NRF as the country’s top entity to give high-level strategic direction to scientific research.

Key Highlights:

Establishment of NRF:

- The National Research Foundation will be established after the passage of NRF Bill by the Parliament. This apex organisation will give high-level strategic direction for scientific research in the country, in accordance with the National Education Policy (NEP) directives. The expected cost of NRF’s establishment and operation over the next five years (2023-2028) is Rs. 50,000 crore.

Administrative Department and Governing Board:

- The Department of Science and Technology (DST) will be the administrative Department of NRF which will be governed by a Governing Board consisting of eminent researchers and professionals across disciplines.
- Since the scope of the NRF is wide-ranging, impacting all ministries - the Prime Minister will be the ex-officio President of the Board and the Union Minister of Science & Technology & Union Minister of Education will be the ex-officio Vice-Presidents.
- NRF’s functioning will be governed by an Executive Council chaired by the Principal

Scientific Adviser to the Government of India.

Collaboration and Participation:

- NRF will forge collaborations with the industry, academia, and government departments and research institutions, and create an interface mechanism for participation and contribution of industries and State governments in addition to the scientific and related ministries.
- It will focus on creating a policy framework and putting in place regulatory processes that can encourage collaboration and enhanced spending by the industry on R&D.

Repeal of Science and Engineering Research Board (SERB):

- The NRF Bill would also abolish the Science and Engineering Research Board (SERB), which was formed by an act of Parliament in 2008. SERB will be absorbed into NRF, which will have a broader mandate that includes operations other than those of SERB.

Importance of NRF:

The democratisation of funding for science projects:

- NRF will emphasize the funding of projects in peripheral, rural and semi-urban areas, which are neglected and never receive funding for science projects.

Funding for other streams:

- The NRF would promote research not just in the natural sciences and engineering, but also in social sciences, arts and humanities.

Providing an efficient and integrated management system:

- For the implementation of the missions such as the supercomputer mission or the quantum mission.

Way Forward:

NRF will advocate for the democratisation of research financing and finding solution of the major problems faced by Indian society. However, its efficient working should be checked from time to time, to avoid any lacunas while utilizing its potential to the maximum.

3. Critical Minerals for India

Why in News:

Recently, the Union Ministry of Coal and Mines unveiled the first-ever report of the country on "Critical Minerals for India". It is for the first time India has identified a comprehensive list of 30 critical minerals.

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, semiconductors, 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.

Strategic Importance for India

- Demand for critical minerals in India is expected to grow due to the increased thrust of Govt. of India towards the "Make in India", "Smart City" programme, and Atmanirbhar Bharat. 100 GW target for Renewable Energy, PLI schemes for the Consumer electronics industry, accelerated growth for electric vehicles etc. are some of the factors which will drive the demand for critical minerals in the country.

International Collaboration:

- During Prime Minister Narendra Modi's recent visit to the United States, 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 investing in critical minerals projects to develop supply chains between the two countries.

Way Forward:

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 such as high-tech electronics, telecommunications, transport and defence. 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 'the Net Zero' target for India through the Government's commitment to creating a robust and resilient mineral sector.

4. New Scheme for Pregnant Minor Victims from Nirbhaya Fund

Why in News:

Recently, a scheme has been announced by the

Ministry of Women and Child Development for multidimensional support to minor victims who have become pregnant due to sexual assault.

Major provisions of the scheme:

- The scheme will be financed through Nirbhaya Fund. The Nirbhaya Fund will be used to provide legal aid, financial, medical and basic facilities to the victims, as well as provide shelter and food.
- Allocated funds - 74.10 crores.
- Insurance coverage will also be provided to provide justice to the minor victim and newborn child and to establish access to rehabilitation.
- **Eligibility-** Victims below 18 years of age who become pregnant due to rape or such assault as per the provisions of the POCSO Act 2012 will be covered under this scheme.
- **Reason for starting the scheme-** According to NCRB data, 51853 cases were registered under POCSO Act in 2021, out of which 99% cases were related to girls, 64% cases were related to serious sexual harassment.
- **Implementation of the Scheme:** Cooperation of State Government and Child Care Institute will be taken in this, as well as the administrative structure if Mission Vatsalya will be used.
- **NCRB:** National database of criminals is created by NCRB.
- **Nirbhaya Fund:** Established in 2013 after the 2012 Delhi gang rape and murder case.
- **Objective:** To help rape victims and ensure their rehabilitation.
- The following schemes have been launched under the Nirbhaya Fund:-
 - » One stop scheme.
 - » Central Victim Compensation Fund.
 - » Women Police Volunteers.

Mission Vatsalya:

- It is a centrally sponsored scheme for development and protection of children.
- Child care institutions have been created under the Juvenile Justice Act 2015.

Efforts made to prevent crime:

- **One Stop Centre:** Provides integrated services like medical aid, police assistance, legal aid or counseling to women affected by violence in any situation.
- **Section 376:** Rape is registered Under Section 376 and if found guilty, there is imprisonment of at least 7 years.
- **Vishaka Guidelines:** Guidelines of the Supreme Court (Sexual Harassment of women at workplace).
- Presently 415 POCSO fast track courts are

functioning to provide justice to the minor victims.

Way Forward:

Through this scheme, the minor victims will get immediate help, but to eliminate sexual crimes, the entire ecosystem will have to be improved, only then we will be successful in fulfilling the “goal of sustainable development”, “leaving no one behind”.

5. Performance Grading Index 2.0

Why In News:

The Ministry of Education released a report on Performance Grading Index 2.0(PGI 2.0) for States/UTs for the year 2021-22.

Categories and Domains:

- PGI 2.0 for 2021-22 classified the States/UTs into ten grades viz., the highest achievable Grade is Daksh, which is for State/UT scoring more than 940 points out of a total of 1000 points.
- The lowest grade is Akanshi-3 which is for a score up to 460.
- The PGI 2.0 structure comprises 1000 points across 73 indicators grouped into two categories, Outcomes and Governance Management (GM).
- These categories are further divided into 6 domains, viz.,
 1. Learning Outcomes (LO),
 2. Access (A),
 3. Infrastructure & Facilities (IF),
 4. Equity (E),
 5. Governance Process (GP) &
 6. Teachers Education and Training (TE&T).

Change in 2021-22 PGI Structure

- Over the period, many of the indicators in PGI – States/UTs have been outdated and become redundant. Also, the structure of PGI–States/UTs has been heavily tilted towards the indicators related to Governance Processes rather than the quality indicators. Therefore, the PGI–State structure for 2021-22 has been revised and renamed as PGI 2.0.
- In PGI 2.0, the data source for many of the indicators has been the data from UDISE+ and the grades have been aligned with the PGI - District to have uniformity and better comparability.

Reasons behind launching PGI 2.0:

- To have a more updated base with quality indicators.
- To align with new initiatives of the National Education Policy (NEP) 2020.
- To monitor indicators relating to Goal 4 of

Sustainable Development Goals (SDGs).

- To replace existing indicators which have achieved optimal targets.

Highlights of PGI 2.0:

- None of the states/UTs has attained the highest grade, Daksh.
- For learning outcomes, one of the key indicators of good performance, the top performers were Punjab, Chandigarh and Rajasthan while no states/UTs could achieve the top grade for teacher education and training.
- In 2019-20, Punjab, Chandigarh, Tamil Nadu, Andaman and Nicobar Islands and Kerala topped the index, while the index during the Covid period (2020-21) recorded Kerala, Maharashtra and Punjab as the best-performing states.
- Punjab and Chandigarh find a place in the sixth grade (Prachesta- 2) while six states could make it to the seventh grade (Prachesta-3).
- The three poorest performing states/UTs were Arunachal Pradesh, Meghalaya and Mizoram.
- Highlighting the inter-state disparity, the maximum and minimum scores obtained by states/UTs in 2021-22 are 659.01 and 420.64 respectively.
- The deviation of 23.8% indicates that states like Arunachal Pradesh, Meghalaya and Mizoram have to put more effort to reach the top slot.
- This disparity was 51% in 2017-18 indicating that PGI also helped bridge the performance gap among states/UTs over the years.

Conclusion:

The PGI-2.0 report is expected to assist state education departments in identifying gaps at the district level and improving performance in a decentralized manner. By prioritizing areas for intervention, districts can work towards reaching the highest grade and enhancing overall education quality.

6. Forest(Conservation)Amendment Bill, 2023

Why in News:

Recently, the parliamentary committee appointed to examine the Forest (Conservation) Amendment Bill, 2023, gave its full assent to the amendment bill.

Background:

- After independence, vast tracts of forest land were designated as reserved and protected forests.
- The Indian Forest Act, 1927, was enacted to manage timber and other forest resources.
- In 1976, forests were included in List III (the

concurrent list) under the Seventh Schedule of the Constitution.

- The Forest (Conservation) Act, 1980, was enacted to prevent large-scale deforestation.
- In 1996, the Supreme Court suspended the felling of trees across the country and ruled that the FC Act would apply to all land parcels that were either registered or resembling forest.

About the Forest (Conservation) Act, 1980:

- The Forest (Conservation) Act was passed on October 25, 1980. It contains rules relating to forest conservation and matters connected therewith.
- **Ban on Reservation of Forests:** No State Government or other authority shall convert forest land for non-forest purposes without the prior permission of the Central Government. Non-forest purposes include the use of land for the cultivation of horticultural crops or any purpose other than reforestation.
- **Appeal:** Any person aggrieved by an order or decision of the State Government or other authority may file an appeal to the National Green Tribunal established under the NGT Act, 2010.
- **Advisory Committee:** The Central Government may constitute a committee consisting of such a number of persons as it thinks fit to advise the Government.
- **Power to make rules:** The Central Government may make rules for carrying out the provisions of this Act. The Act has been amended only once before, in 1988.

About the Forest (Conservation) Amendment Bill, 2023:

- **Land within the ambit of the Act:** The Bill amends the Forest (Conservation) Act, 1980, to make it applicable to certain types of land.
- These include land notified as forest under the Indian Forest Act, 1927, or in government records after the 1980 Act came into force.
- This Act will not apply to land converted to non-forest use before December 12, 1996.
- **Exempted categories of land:** These include land within 100 km of India's border required for national security projects, small roadside amenities, and public roads leading to populations.
- **Allotment/lease of forest land:** The state government needs the prior approval of the central government to allot any forest land to a private entity. In the Bill, this condition has been made applicable to all entities, including those owned and controlled by the government.

- It also requires that the prior approval be subject to such terms and conditions as may be prescribed by the Central Government.

Activities permitted on forest land:

- The Act specifies certain activities that can be carried out in forests, such as setting up check posts, fencing, and bridges. The Bill also allows the operation of zoos, safaris, and eco-tourism facilities.
- This act restricts the use of forest land for non-reservation or non-forest purposes.
- Such restrictions may be removed with the prior approval of the Central Government.

Way Forward:

Forests are more than just plants and trees. Unlike man-made plantations, natural forests provide a range of ecosystem services that are critical to the survival and well-being of millions of species. Other amendments specifically encourage plantation cultivation on non-forest land, which, over time, can increase tree cover, act as a carbon sink, and achieve 'net zero' emissions by 2070. This can aid India's ambition of being a net zero emitter.

7. 2nd Win for Farmers Against PepsiCo

Why In News:

The Delhi High Court on July 5 upheld the order of the Protection of Plant Varieties and Farmers' Rights (PPVFR) Authority, against PepsiCo India Holdings (PIH). The authority had revoked intellectual protection granted to PepsiCo's FC5 potato variety, saying that India's rules do not allow a patent on seed varieties.

The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001:

- The legislation recognizes the contributions of both commercial plant breeders and farmers in plant breeding activity. It also provides to implement TRIPs in a way that supports the specific socio-economic interests of all the stakeholders including private, public sectors and research institutions, as well as resource-constrained farmers.

Objectives of the PPV & FR Act, 2001:

- To establish an effective system for the protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants.
- To recognize and protect the rights of farmers in respect of their contributions made at any time in conserving, improving and making available plant genetic resources for the development of

new plant varieties.

- To accelerate agricultural development in the country, protect plant breeders' rights; stimulate investment for research and development both in public & private sector for the development new of plant varieties.
- Facilitate the growth of seed industry in the country which will ensure the availability of high-quality seeds and planting materials to the farmers.

Rights under the Act:

- **Breeders' Rights:** Breeders will have exclusive rights to produce, sell, market, distribute, import or export the protected variety. The breeder can appoint an agent/ licensee and may exercise civil remedy in case of infringement of rights.
- **Researchers' Rights:** Researchers can use any of the registered varieties under the Act for conducting experiments or research. This includes the use of a variety as an initial source for the purpose of developing another variety but repeated use needs prior permission of the registered breeder.

Farmers' Rights:

- A farmer who has evolved or developed a new variety is entitled to registration and protection in like manner as a breeder of a variety;
- Farmers' variety can also be registered as an extant variety;
- A farmer can save, use, sow, re-sow, exchange, share or sell his farm produce including seed of a variety protected under the PPV&FR Act, 2001, provided that the farmer shall not be entitled to sell branded seed of a variety protected under the PPV&FR Act, 2001;
- Farmers are eligible for recognition and rewards for the conservation of Plant Genetic Resources of landraces and wild relatives of economic plants;
- There is also a provision for compensation to the farmers for non-performance of variety under Section 39 (2) of the Act, 2001.
- The farmer shall not be liable to pay any fee in any proceeding before the Authority or Registrar or the Tribunal or the High Court under the Act.

Conclusion:

PepsiCo is the second large U.S. company to face patent infringement issues in India. After a long-standing intellectual property dispute, seed maker Monsanto, now owned by German drugmaker Bayer AG, withdrew from some businesses in India.



International Issue

1. SCO calls for multipolar world order as Iran joins the grouping

Why in News:

Recently India presided over the virtual summit of the 23rd Shanghai Cooperation Organisation. Iran officially joined the SCO as the 9th member country. During this, the member countries in one voice called for reform of global organizations and the formation of multipolar world order.



Major Highlights of the 23rd Summit:

- Iran has been elected as the SCO's ninth member.

New Delhi Declaration:

- The New Delhi Declaration was one of the primary outcomes of the SCO summit.
- The declaration suggests five unified statements: counter-terrorism, de-radicalization, a sustainable lifestyle to combat climate change, millet production, and digital transformation.
- The proclamation also mentioned a variety of global issues, including new and developing conflicts, market volatility, supply chain insecurity, climate change, and the COVID-19 pandemic.

India on China's Belt and Road Initiative:

- India has once again declined to support China's grandiose Belt and Road Initiative (BRI), which aims to restore the historic Silk Road to connect China with Asia, Europe and beyond, through massive infrastructure investments.
- India was the only country in the Shanghai Cooperation Organization (SCO) not to support the project.

India on cross-border terrorism:

- According to the Prime Minister, certain governments exploit cross-border terrorism as a policy tool.
- The PM stated that the SCO should not be afraid to criticize such countries since there is no room for double standards in such crucial situations.
- India has consistently stated that Islamabad

employs terrorist organizations as tools of state policy.

- China has been obstructing the UN Security Council (UNSC) from naming Pakistan-based terrorists.

About SCO:

- The SCO is an international organization created on June 15, 2001, in Shanghai.
- The SCO presently has 9 Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan, Iran and Uzbekistan) and four Observer States (Afghanistan, Belarus and Mongolia) interested in gaining full membership.
- In 2021, the decision was made to start the accession process of Iran to the SCO as a full member.

Significance of Iran's Membership:

- The SCO's focus has shifted towards regional connectivity, aligning with India's connectivity plans through Iran's Chabahar port and the International North-South Transport Corridor.
- Iran's presence in the SCO ensures support for India's efforts to bypass Pakistan and strengthens trade links with Central Asian states.
- Additionally, Iran's induction enables India to engage with the region without getting entangled in China's Belt and Road Initiative.
- Furthermore, Iran's historical ties with India and its shared concerns about terrorism from Pakistan and Afghanistan will enhance India's call for action against terror safe havens.

Way Forward:

Iran's inclusion in the SCO brings both opportunities and challenges. It supports India's connectivity plans and strengthens cooperation against terrorism and supports the reform of world organizations.

2. 11.7 million People to be displaced in East Africa and Great Lakes region by 2023: UN report

Why in News:

A recent report published by the United Nations High Commissioner for Refugees (UNHCR) found the East and Horn of Africa and the Great Lakes (EHAGL) region to be home to a large number of internally displaced people (IDPs). As of 31 March 2023, there were approximately 11.71 million internally displaced people living in the region. Responsible factors of displacement include flood, drought, conflict, violence and other natural disasters.

Key points related to the report:

- The number of IDPs in Burundi, Ethiopia,

Somalia, South Sudan and Sudan was estimated to be over 75,300, 2.73 million, 3 million, 2.23 million and 3.7 million respectively.

- Most of the displacements in Burundi in East Africa were caused by climatic events such as violent winds, torrential rains and floods. The rapid rise of Lake Tanganyika led to more than 84% of internal migration in the country. Burundi is one of the 20 most climate-sensitive countries globally.
- Internal Displacement in Somalia was linked to conflict/insecurity (52%), drought (31%) and flood (16%). An estimated 190,000 people have been internally displaced from Somalia's Sool region following armed conflict centred in Laas Caanood District. Most of the people have been displaced by the floods in the Gedo region.
- About 150,000 people in South Sudan were forcibly displaced between January and March 2023 due to conflict and inter-communal violence. The arrival of the dry season (December-May) in South Sudan has led to increased forced displacement in the country due to various conflicts as well as increased mobility of agents engaged in cattle grazing and raiding.
- Internal displacement in Sudan is mainly due to the long-term conflict in Darfur since 2004. Globally Sudan is one of the 20 countries most vulnerable to damage from high flood frequency.

UNHCR response:

- In the year 2023, 135,000 people are projected to need rehabilitation in the EHAGL area.
- UNHCR has budgeted US\$2.021 billion for the region in 2023, with a special focus on 4 of the region's 11 countries (Burundi, Ethiopia, Somalia and Sudan).
- To reduce the refugee problem in these areas, UNHCR is running initiatives like 'Pockets of Hope' and 'Status-Blind' to meet their needs.

United Nations High Commissioner for Refugees (UNHCR):

- It is a global organization dedicated to saving lives, protecting rights and building a better future for people forced to flee their homes due to conflict and persecution.
- It was established in 1950 by the General Assembly of the United Nations to help millions after World War II.
- At present, it works around 135 countries and provides life-saving assistance, including shelter, food, water and medical care, to those who are forced to flee from conflict and persecution.

Way Forward:

The humanitarian work being carried out by UNHCR in remote and backward areas of Africa is commendable. It is well known that various types of

assistance are necessary for such works; therefore world community should cooperate with UNHCR in every possible way so that no one has to struggle for basic human needs.

3. Construction Activity Ramps up near Pangong Tso Lake

Why in News:

Over the past few years, India and China have accelerated the development of infrastructure along the northern bank of Pangong Tso Lake in eastern Ladakh and western Tibet. China is building a bridge to connect the northern and southern banks of the lake, while India is building a black-top road along the northern bank.

Line of Actual Control:

- The disputed border between India and China, also known as the Line of Actual Control (LAC), is divided into three sectors: western, central and eastern. The countries disagree on the exact position of the LAC in different areas, with India claiming the LAC to be 3,488 km long while China believes it to be around 2,000 km.

Disputes around Pangong Tso Lake:

- The northern side of the lake is divided into 8 fingers. India has been in possession till Finger 4, while India claims its territory till Finger 8. As India considers the Line of Actual Control (LAC) till Finger 8, while China claims till Finger 4. There has been a regular face-off between both the armies of two countries for the area between Finger 4 and Finger 8, an eight km stretch on the northern bank of the lake.

Chinese infrastructure development:

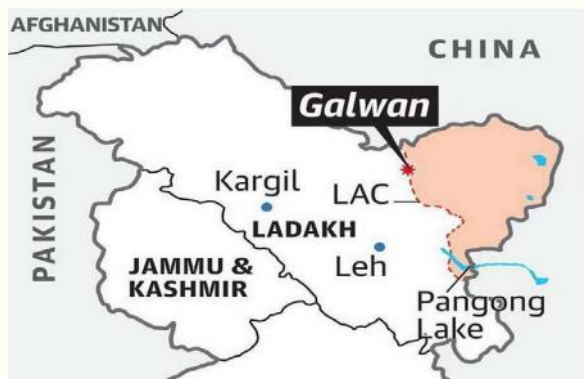
- China is rapidly building a bridge to connect the north and south banks of the Pangong Tso River, while its auxiliary bridge has already been constructed. A 22 km long tunnel is being built near Yuli in Tibet, connecting the important G-216 highway with the G-0177 motorway. Notably, a Chinese air defence establishment is located to the east of Khurnak Fort.

Infrastructure Development in Eastern Ladakh by India:

- As part of infrastructure development in eastern Ladakh, India is building a black-top road on the northern bank of Pangong Tso, which is targeted to be completed by 2025. The main goal of the road construction is to reach Finger 4 on the Indian border.
- A lot of priority is given to the development of infrastructure, especially the creation of modern landing grounds and transport networks. India

has increased the budgetary allocation for infrastructure development along the LAC.

- In addition, work on a separate route via Saser La is being expedited as compared to Darbuk-Skyoke-Daulat Beg Oldie Road.



About Pangong Tso Lake:

- It is one of the most famous lakes of Leh Ladakh. Its name is derived from the Tibetan word 'Pangong Tso' which means 'high Grassland Lake'.
- It is a long narrow endorheic lake, situated at an altitude of more than 4,350 metres in the Ladakh Himalayas. It is the highest saltwater lake in the world.
- One-third of the 135-km-long boomerang-shaped Pangong Lake is controlled by India, while the remaining two-third is under China's control.
- This lake is also known for change in colour as it appears blue, green and red at different times.
- Pangong Tso consists of five sub-lakes which include Pangong Tso, Tso Nyak, Rum Tso (twin lakes) and Nyak Tso. Each of these sub-lakes has its unique qualities and characteristics.

Way Forward:

India and China are two emerging superpowers of the world as well as neighbours. If any face-off like situation arises between both countries regarding the border dispute, then the path of development and prosperity is the one that will suffer the most. Therefore, both countries should work together to diplomatically reach to a conclusion while simultaneously working towards prosperity of rising Asia.

4. Senegal Signs Just Energy Transition Partnership Deal

Why in News:

In a bid to accelerate the energy transition and

phasing out of fossil fuels, Senegal has become the fourth nation to sign the Just Energy Transition Partnership (JET-P) deal. Before it, the deal had been signed by South Africa, Indonesia and Vietnam.

About the deal:

- JET-P is a multilateral financing mechanism by the first world countries to support the shift from fossil fuel-based energy to clean and renewable energy in developing countries. Besides environmental aspects, it also focuses on social aspects which include skill development and job creation.
- It has been signed with the International Partners Group (IPG) and the Glasgow Financial Alliance for Net Zero (GFANZ). The IPG includes countries like France, Germany, Japan, the USA, Canada, Denmark, the UK, etc. whereas GFANZ mostly comprises multilateral development banks and finance agencies.
- It is expected to mobilize 2.5 billion Euros for Senegal's just energy transition over a period of 3-5 years. Also it will increase the share of renewable energy to 40% of installed capacity of Senegal's electricity mix by 2030.
- Currently, the share of renewable energy is around 31% of the nation's installed capacity. As a result, it has to rely on imported fossil fuels to meet its energy demands. Fossil fuels used to contribute around 85% of the energy mix back in 2010. However, this share has been reduced substantially in recent years.

Challenges ahead:

- With around 30% of its population still lacking access to electricity, the main challenge is to provide energy access to its 16.8 million population (according to the World Bank).
- Also, there is a wide gap between what is needed and what has been provided. It often increases the debt burden of these countries.

Prospects for India:

- The negotiations over India joining JET-P couldn't be concluded because of the diverse and complex structure of the Indian power sector. Thus, it will be difficult to bring everyone on the same platform.
- Secondly, any sort of international compromise in the guise of climate finance will undermine India's energy security.

Way forward:

Financing the needs of the developing world for clean energy transition is necessary to achieve the targets of the Paris Agreement. However, it should be in the form of grants and concessional loans to ensure climate justice.

5. Global Shipping Industry Aims for Net Zero Emissions by 2050

Why in News:

Recently, the United Nations International Maritime Organization summit set a target for the global shipping industry to achieve net zero emissions by 2050. Member countries have agreed to strive to reduce greenhouse emissions by at least 20% to 30% by 2030 compared to 2008 levels, and by at least 70% and 80% by 2040.

Status of Green House Emissions in Global Shipping Industry:

- Shipping is one of the most polluting industry responsible for around 3% of global emissions and produces around one billion tonnes of greenhouse gases every year

Concern:

- Experts have said that the level agreed upon is not suitable for keeping global warming below 1.5°C.

Measures:

- Other alternative energy sources such as hydrogen and methanol should be used to improve energy efficiency.
- Good maintenance of lighting and power generation machinery reduces fuel consumption
- Nuclear energy should be used to increase the operational capacity and efficiency of the shipping industry. Many studies have found that nuclear energy can prove to be effective for the shipping industry.

International Maritime Organisation:

- It is a specialized body of the UN which was established in 1948 during the Geneva Conference. It is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. IMO's work supports the UN sustainable development goals.

Carbon Neutrality:

- Carbon neutrality refers to a situation in which a country's total emissions are equal to the amount of CO₂ absorbed from the atmosphere, including the removal of CO₂ from the atmosphere by trees or forests or through state-of-the-art technologies

Way Forward:

Decarbonization of shipping industry is essential as carbon-intensive shipping industry will increase the rate of climate change which will negatively affect sustainable development goals. For this, the Governments and NGOs have to play an active role.

6. China's Amended Anti-Espionage Law Puts Businesses At Risk: USA

Why In News :

Recently, China's legislature approved sweeping amendments to China's anti-espionage law, broadening the scope of what may be defined as activities related to spying and national security.

China's anti-espionage law:

- The recent amendments are to China's 2014 anti-espionage law.
- Article 1 of the law says the idea behind the legislation is "to prevent, stop and punish espionage conduct and maintain national security."
- China has broadened the law's scope, with one of the changes declaring that "all documents, data, materials, and items related to national security and interests" will be protected on par with what is deemed state secrets.
- The transfer of any information deemed by authorities to be in the interest of what they define to be "national security" will now be considered an act of espionage.
- The latest change "improves the regulations on cyber espionage" and "clearly defines cyberattacks, intrusions, interference, control and destruction" as espionage.
- Other changes would include "clarifying the responsibility of national security organs in guiding and arranging publicity as well as provisions to strengthen the protection of personal information in counter-espionage work."

Reasons for Businesses being Affected by this Amendment:

- Even as China-US relations have deteriorated in recent years, there are notable business links between the world's two largest economies.
- Citing security concerns, the US said earlier this year that it plans to "de-risk" its economy from China or reduce its dependence on it for specific materials like semiconductors.
- American businesses in China have of late witnessed questioning from the authorities. In April, consultancy firm Bain & Co.'s Shanghai office was raided. A month prior, the Mintz Group, a due diligence firm, said officials detained five of its Chinese staff.
- Espionage has been used as grounds to arrest a Japanese employee of the pharmaceutical company Astellas Pharma Inc. this year. Japan has asked for release and the case has been used to allege that China uses its law for coercive purposes.

Conclusion:

Indian companies with a presence in China, particularly in sectors deemed to be sensitive such as pharma and IT, will likely need to review their exposure to risks under the expanded law and broadened definitions of “national security”, particularly amid deteriorating relations between the neighbors.

7. Foreign Minister S. Jaishankar's Visit to Tanzania

Why in News:

Recently, Foreign Minister S. Jaishankar went on a 4-day official foreign visit to the African country of Tanzania where he met the top leadership of Tanzania. EAM visited a Government of India funded water supply project and also attended a reception on-board Indian Navy Ship Trishul.

Key points related to the visit of the External Affairs Minister:

- During this visit, the External Affairs Minister co-chaired the 10th India-Tanzania Joint Commission Meeting with his counterpart in the Tanzanian city of Dar-es-Salaam.
- External Affairs Minister inaugurated the bust of Swami Vivekananda in Dar-es-Salaam and also addressed the Indian diaspora.
- It was agreed during the visit that an IIT campus would be set up in Zanzibar-Tanzania which would be a world-class higher education and research institute. It will become an example to the world of the aspirational quality of Indian higher education and innovation.
- External Affairs Minister said that India will extend Line of Credit to Tanzania for education, health, technology, space, defence and infrastructural development.

India-Tanzania relations important for both the countries:

- Tanzania's strategic location along the Indian Ocean strengthens maritime connectivity and security. Dar-es-Salaam, the largest port in East Africa, plays a major role in facilitating trade and commerce for landlocked countries in the region.
- It has substantial energy resources including natural gas and renewable energy potential. Collaborative efforts in the energy sector can pave the way for sustainable development that will increase access to reliable and affordable energy sources.
- India's expertise in weather forecasting and climate studies can reduce the impact of extreme weather events and climate change in Tanzania.
- Tanzania's economy is one of the fastest growing

African economy and it provides significant opportunities for India-Africa relations.

- India exports petroleum products, pharmaceuticals and chemicals, motor vehicles, electrical goods, sugar, machinery, etc. to Tanzania, while imports gold ore, cashew, pulses, timber, cloves, metal scrap, gems, etc. from Tanzania.



About Tanzania:

- After the independence of Tanganyika and Zanzibar, these states together formed an independent and sovereign country called Tanzania in 1964. The official capital of Tanzania is Dodoma, while most of the government administrative offices are located in Dar-es-Salaam.
- Africa's highest mountain Mount Kilimanjaro (5,895 m) is located in Tanzania. The three largest lakes of the continent of Africa are Lake Victoria, Lake Tanganyika (after Lake Baikal, the second deepest lake in the world) and Lake Nyasa are found in Tanzania.
- Tanzania is located in East Africa just south of the equator, bordered by Uganda, Kenya, Mozambique, Malawi, Zambia, Burundi and Rwanda.

Way Forward:

Tanzania and India have traditionally enjoyed close, friendly and cooperative relations. The High Commission of India in Dar-es-Salaam was established in November 1961 while the Consulate General of India was established in Zanzibar in October 1974. Regular high-level visits between the two countries have created good environment to accelerate trade and defence ties for the betterment of the region.



Environmental Issue



1. Green Credit Programme

Why in News:

The Central Government recently proposed Draft Green Credit Programme Implementation Rules 2023. This program aims to offer incentives in the form of Green Credits to various entities, including individuals, farmer producer organisations, cooperatives, forestry enterprises, sustainable agriculture enterprises, urban and rural local bodies, private sectors, industries, and organisations to encourage and reward environmentally beneficial actions.

About the Green Credit Program:

- Under the Green Credit program, 'Green Credits' will be made available to individuals and institutions engaged in selected activities that cause environmental interference, Green Credits will be made available for trading on the domestic market platform.
- Through this program, thresholds and benchmarks will be developed for each green credit activity.

Elements involved in Green Credit activities:

- Emphasis is given on increasing the green cover across the country through the plantation and related activities under the Green Credit program.
- It should promote water conservation, water harvesting, and water use efficiency, including treatment and re-use of wastewater.
- It also includes promoting natural and regenerative farming practices and land restoration to improve productivity, soil health, and nutritional value of food produced.
- Under this, sustainable and better practices will be promoted for waste management including collection, segregation, and treatment.
- Promotion of measures to reduce air pollution and other pollution abatement activities.
- Promotion of measures for conservation and restoration of mangroves.
- In this, manufacturers will be encouraged to obtain an 'Ecomark' label for their goods and services.
- Under this, construction of buildings and other infrastructure using sustainable technologies and materials will also be encouraged.

Controller of Green Credit Programs:

- Indian Council of Forestry Research and Education will be the main controller of the program. The institute will develop guidelines, procedures, methodology, registration process,

related measurement, reporting, and verification mechanisms for the implementation of the program.

What are the advantages of GCP?

- The Green Credit Program will encourage private sector industries and companies as well as other entities to meet their existing obligations arising out of legal frameworks enabling them to engage with relevant activities.
- This program helps in realizing the "Mission LiFE" approach through individuals and organizations.

Way Forward:

Green credits will be made available to individuals and entities engaged in selected activities that cause environmental interference. These Green Credits would be made available for trading on the domestic market platform. The green credit system should be thoroughly reviewed before implementation, especially considering its importance in afforestation and tree plantation.

2. Diminishing Rainforests in DRC

Why in News:

The report published by the World Resource Institute (WRI) and the University of Maryland has revealed that the world's 2nd largest rainforest in the Democratic Republic of Congo (DRC) is continuously diminishing. It has also accounted that the exploitation of primary forest resources for growing demands is the major cause.

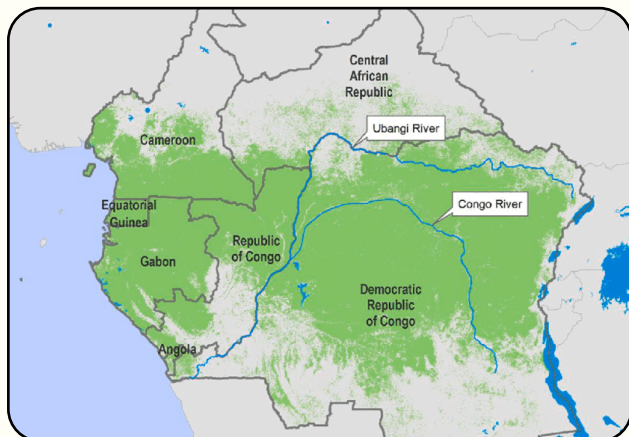
The Rainforest in Africa:

- The world's 2nd largest rainforest after Amazon, the Congo rainforest is spread across 6 African nations- Cameroon, Central African Republic, Republic of Congo, DRC, Equatorial Guinea, and Gabon. The major 60% of this part lies in DRC.
- The WRI report accounted that DRC has lost approx. 5 lakh hectares alone in 2022.

Key factors for this unprecedented loss:

- This is observed that DRC has one of the highest population growth rates in the world- 3.19% and its economy is mainly based on primary forest resources for food and energy demands. Due to this rising population, the slash and burn technique (shifting cultivation) is used at a higher pace to meet livelihood.
- Also, 96% of the DRC population uses polluting cooking fuel and 79% has no access to electricity. Therefore the dependence on the rising population over forest resources has grown manifolds.

- The uncontrolled charcoal production, illegal logging and bushfires are also major driving factors for this situation.



Other Concerns:

- This report also reported that the approx. 4 mha of primary tropical forest were lost worldwide last year, and Brazil accounted for 43% loss and followed by DRC and Bolivia.

Significance of Rainforests:

- Rainforest known as the lungs of the planet, has a significant role in CO₂ absorption. They also provide a wide range of habitats with biological diversity and rich natural resources.
- They stabilize the world's climate (balance GHG) and maintain the geo-chemical cycles and water cycle. They support the tribal population and also serve as the Center for Ecotourism.
- Along with this they also provides a wide variety of ecosystem services.

Suggestions:

- The remedial measures include the provision of alternative safe and clean food and energy options to DRC's population like sustainable and organic farming and solar energy plants etc.
- International agencies like FAO and World Bank can provide assistance to these African nations to develop their potential capital sustainably. A collaborative approach and political will are needed in this course because it is a long-term goal.

Way Forward:

The Rainforests are just indeed Lungs of the Planet, which cannot be artificially developed. Therefore, their conservation is not only necessary for the present generation but also crucial for the future in this global warming era. A legal and sustainable future course of action is the need of the hour because if this treasure is lost, then it will not only create a resource crisis on Earth but also pose

serious life threats.

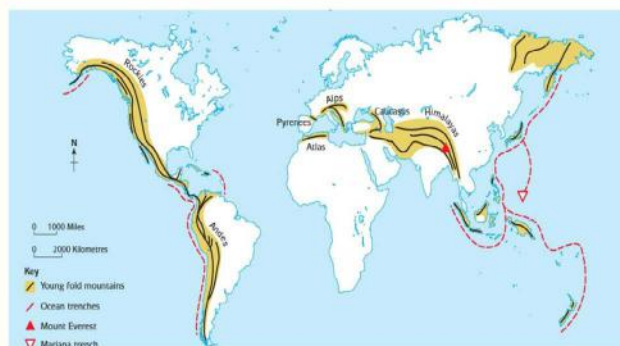
3. More Rain, less Snowfall due to Rising Temperatures: Report

Why in News:

According to a recent study, due to climate change, the Himalayas and other mountains in the Northern Hemisphere are projected to receive 15 percent more rain for every 1 degree Celsius rise in temperature.

Findings of the study:

- According to a study by the journal Nature, climate change could cause a shift from snow to rain in mountainous regions of the Northern Hemisphere, increasing the length of precipitation extremes from a few hours to a day.
- Due to less snowfall and more rain, the risk of disasters like floods, landslides, and soil erosion can increase.
- It stresses the importance of developing climate adaptation plans to protect the environment, where 26% of the global population lives in or directly below mountainous regions.
- While temperatures will continue to rise at a rate of 15% for every 1 degree Celsius rise, the study pointed out, for a 2-degree and 3-degree rise, the world would see an increase of 30 percent and 45 percent in rainfall, respectively.
- Research has found a large portion of snowfall in the North American Pacific mountain range to be below zero degrees Celsius. Where the change in the climate temperature will convert this snowfall into rain.



Impact on mountainous areas:

- A report by the International Center for Integrated Mountain Development (ICIMOD) found that glaciers in the Hindu Kush Himalayas are melting at a rate of 65% faster.
- The Himalayas and the North American Pacific mountain ranges studied, including the Cascades, the Sierra Nevada, and the Coastal

Ranges from Canada to Southern California, are at greater risk than the Rockies or the Alps.

- The Himalayas are one of the hotspot regions where we have been forecasted to be at risk of extreme rainfall.
- The report estimates that the average snowfall between 2070 and 2100 will decline by 30-50 percent in the Indus basin, 50-60 percent in the Ganges, and 50-70 percent in the Brahmaputra between 2070 and 2100, compared to 1971 and 2000.

About the Rockies, Alps, and Himalayas:

- The Rocky Mountains, is a vast mountain range that extends for about 4,800 km in western North America.
- The Himalayan mountain range is located in the Indian subcontinent, with a total length of 2,400 km and a width of up to 400 km in Kashmir and 150 km in Arunachal Pradesh.
- Alps is a mountain range in Europe that extends from Italy to France, Switzerland, Liechtenstein, Germany, Austria, and Slovenia.

Way forward:

Rising global temperatures will cause mountains in the Northern Hemisphere to become hotspots for excessive rainfall, potentially increasing floods and landslides that could affect a quarter of the world's population.

4. Jowar: An Ideal Alternative to Wheat in Times of Increasing Temperatures

Why in News:

A recent study has revealed that jowar (sorghum) can emerge as a sustainable and climate-smart alternative to wheat. The research paper titled, "Climate Resilience of Dry season cereals in India", published in Nature's Scientific Reports, examined the sensitivity of wheat and jowar yields under increased temperature and compared water requirements under different scenarios.

What is the need for an alternative to wheat?

- India is the world's second-largest wheat producer with a 40 per cent surge in production in the last two decades. However, climate change and frequent heatwaves have raised concerns about the crop's sensitivity to heat in its multiple stages of growth.
- The yields are likely to decrease by 5 per cent, coupled with a significant increase in water footprint by 2040.
- By promoting alternatives to wheat, India can build a more resilient and sustainable

agricultural system that addresses climate challenges, water scarcity, nutrition, income stability, and environmental sustainability.

Why is Jowar an ideal sustainable alternative?

- The traditionally grown jowar is a promising alternative to wheat offering several advantages in adapting to changing climate conditions and ensuring food security, such as:
- **Climate Resilience:** Jowar is more tolerant to drought and heat stress. It has a deep root system, allowing it to access water from lower soil layers, making it more drought-resistant.
- **Efficient Water Utilization:** Wheat requires 1.4 times more water than jowar, owing to the extension of its growth cycle into summer. Jowar further has a higher water-use efficiency, enabling it to produce a greater yield per unit of water consumed.
- **Nutritional Benefits:** Jowar is a nutritionally rich grain, high in dietary fibre, essential minerals (such as calcium, phosphorus, and iron), and antioxidants.
- **Economic Viability:** In addition to its agronomic uses, the crop is versatile and can be used to produce a wide range of products, including flour, malt, snacks, and animal feed.

Way Forward

As the world grapples with the effects of climate change and increasing temperatures, embracing jowar as an alternative to wheat offers numerous benefits. Its resilience, efficient water utilization, nutritional value, and economic viability makes it an ideal crop for a changing climate. A renewed focus on jowar also aligns with the government's focus on millets for nutrition and climate resilience, besides the much-needed emphasis on protection for marginal farmers in the Indian context.

5. The Downfall of Amazon Deforestation

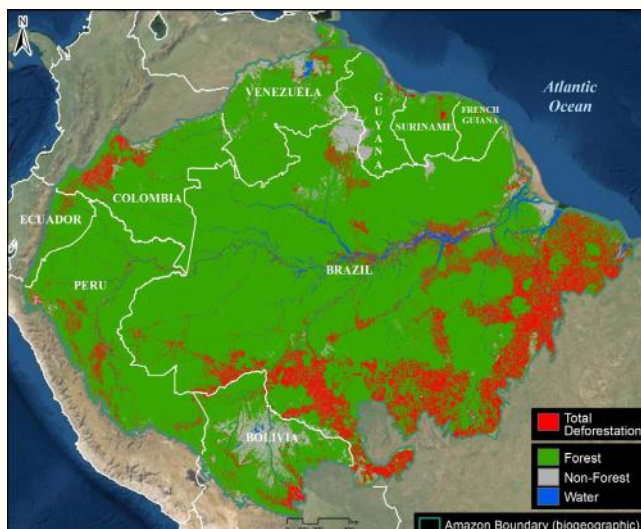
Why in News:

The Brazilian authorities have reported a decline in the deforestation of the Amazon Rainforest at the rate of 33%. This has resulted due to the change in political regime and environmental administration after the election of President Luiz Inacio Lula da Silva.

The Amazon Rainforest and Govt Strategies:

- The Amazon Rainforest comprises 40% of Brazil's total area. It is bounded by the Guinea highlands to the north, the Andes mountains to the west, the Brazilian central plateau to the south, and the Atlantic Ocean to the east.

- The Amazon Rainforest, also known as the lungs of the earth, are shrinking at the rate of 43% according to the World Resources Institute 2023 report. Therefore, the new president has pledged to end deforestation or forest clearance by 2030.
- The new government administration has opted for the following strategies to achieve this milestone-
 - » The 6 new indigenous reserves have been decreed. The mining practice has been banned and commercial farming has been restricted in those regions.
 - » The allocation of an additional budget for fighting wildfires and also increased the scope of its fire squads to tackle the surge in forest fire in the critical period of July to October.



Causes for deforestation:

- The deforestation in the Amazon rainforest is dominated by illegal logging and clearing of forests for the expansion of farmland. Commercial farming in the Amazon region is increasing due to a surge in population and its demands.
- Forest fires are another major cause of deforestation in the Amazon Forest. The trend of manmade forest fires after the coupling of temperature extreme events with uncontrolled forest clearance is increasing.
- Overgrazing and expansion of cattle ranching are other leading causes.

Impact on World Climate:

- The Amazon forest is the largest rainforest in the world. It accounts for the absorption of 25% of atmospheric carbon dioxide and produces

6% of total oxygen in Earth's atmosphere. The declination in this zone would ultimately result in an increment of Global Warming and changing rain patterns.

- Earlier, a study showed that the Amazon forest has started emitting CO₂ instead of absorbing it. This would ultimately affect the region's forests, water availability, biodiversity, agriculture and human health.

Way Forward:

Brazil was among the nations that promised to end and reverse deforestation by 2030 during COP26 Climate Summit. The new political regime has been taking positive steps in this regard but the additional support of developed countries is required in this direction. International agencies can assist in afforestation programs and other initiatives. The participation of tribal communities is also crucial.

6. HEAL Report on NO₂

Why in News:

A recent report released by HEAL suggests that exposure to nitrogen dioxide (NO₂) can lead to respiratory and circulatory disease and premature death.

About Nitrogen Dioxide (NO₂):

- Nitrogen dioxide (NO₂) is a reddish-brown gas with a highly reactive, pungent odour.
- Other nitrogen oxides include nitrous acid and nitric acid.
- It is a major air pollutant that mainly comes from combustion processes, such as vehicle emissions and power plants.
- NO₂ plays an important role in the formation of smog and contributes to respiratory problems.
- It also contributes to the formation of acid rain and the depletion of the ozone layer.

Uses of Nitrogen Dioxide:

- In the production of nitric acid.
- In making oxidised cellulose molecules.
- In the production of sulfuric acid.
- As rocket fuel.
- Making explosives.

Effects of Nitrogen Dioxide (NO₂) on Health:

- It can aggravate asthma, by reducing the capacity of the lungs.
- It increases the allergic reaction which increases the chances of having respiratory problems.
- It may cause eye and skin irritation.

Environmental Effect:

- NO₂ and other NO_x react with water, oxygen, and other chemicals in the atmosphere to form acid rain, which damages ecosystems such as lakes

and forests.

- **Air pollution:** Nitrate particles produced from NO_x make the air cloudy and difficult to see.
- **Water Pollution:** NO_x in the atmosphere contributes to nutrient pollution in water bodies.

WHO Recommendations:

- The World Health Organisation (WHO) has now recommended reducing the maximum annual average concentration of NO₂ in air from 40µg/m³ to 10µg/m³ based on increasing evidence.

About HEAL:

- The Health and Environment Alliance (HEAL) is the leading non-profit organization addressing how the environment affects human health in the European Union (EU) and beyond.

Way Forward:

Given the urgency to act on the large health burden from air pollution, HEAL recommended changing the legally binding limit of NO₂ to an annual average of 10 micrograms per cubic metre (µg/m³) for maximum concentrations by 2030. In 2021, the WHO redefined the NO₂ limit and made it more stringent. Incorporating regular reviews of the evidence on the health effects of NO₂ and other air pollutants could help address the issue.

7. 'Red Alert' Against Poachers, Hunters in all Tiger Reserves

Why in News:

The Wildlife Crime Control Bureau (WCCB) of the Ministry of Environment, Forest and Climate Change has issued a 'red alert' directing the authorities to visit all tiger reserves. The red alert has been issued for six tiger reserves across India, few days after a beheaded carcass of an adult tiger was found in Madhya Pradesh's Satpura Tiger Reserve. According to the red alert, poachers are active around various tiger reserves especially in Satpura, Tadoba, Pench, Corbett, Rajaji, Amangarh, Pilghit, and Valmiki, as well as tiger-bearing areas such as Balaghat, Gadchiroli, and Chandrapur.

Wildlife Crime Control Bureau:

- Wildlife Crime Control Bureau (WCCB) is a statutory body established by the Government of India under the Ministry of Environment, Forest and Climate Change, to combat organized wildlife crime under the Wild Life (Protection) Amendment Act. It became operational in the year 2008.

Tiger Reserves:

- Tiger Reserves are notified by State Governments as per provisions of the Wildlife (Protection) Act, 1972 on advice of the National Tiger

Conservation Authority. There are a total of 54 Tiger reserves in India; the latest 54th Tiger reserve of India is the Ranipur Tiger Reserve in the Chitrakoot district of Uttar Pradesh, declared on 19th Oct 2022

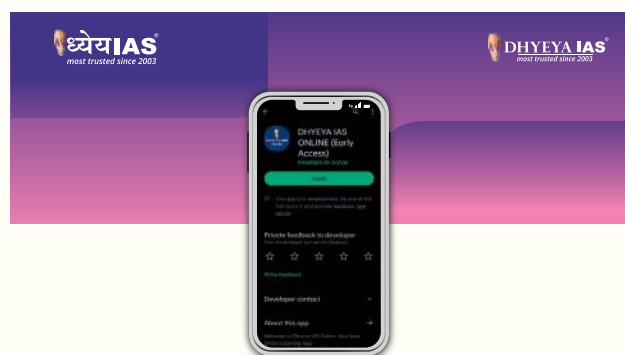
- Tiger Population in India has increased to 3,167, according to a recent census of 2022.
- The Government of India started Project Tiger in 1973 to address this issue.

Challenges

- A total of 100 tigers have been killed across India till date in 2023, out of which a maximum of 26 tigers died in Madhya Pradesh. Significantly, for the last several years, Madhya Pradesh is on the top in tiger deaths.
- The 'Status of Tiger' report warns that all of India's five main tiger zones face various threats that include tiger habitat encroachment, hunting, conflicts with humans, unregulated cattle grazing, excessive harvesting of non-timber forest products, fires, mining, and expanding infrastructure.

Way Forward:

Based on the official data and reports on seizures of tiger body parts and arrests of tiger poachers, tiger poaching is still a major problem and is the main cause for the direct loss of wild tigers. Tiger poaching is driven by the increased demand for tiger body parts by international wildlife traffickers in the world. Enforcement agencies like NTCA, Institutional mechanism like TRAFFIC must involve the local forest communities to tackle the issue of poaching.



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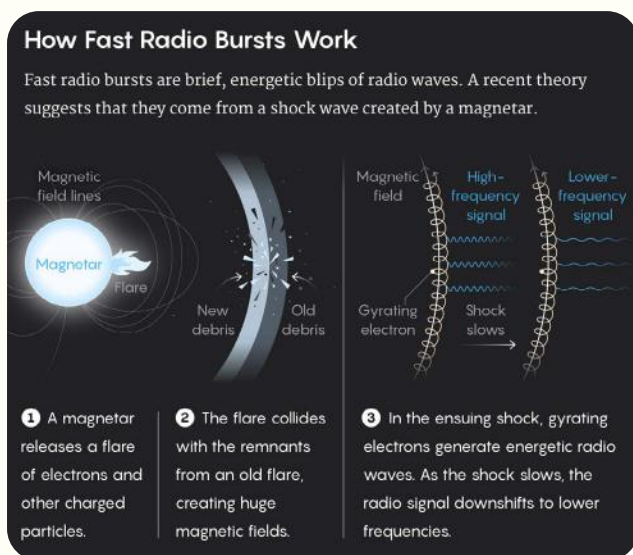
1. Fast Radio Bursts

Why in News:

An international team of researchers based at West Virginia University has found the first evidence of magnetic field reversal in any Fast Radio Burst (FRB). The findings of this team have made significant breakthroughs in FRB.

What is a Fast Radio Burst?

- Fast Radio Bursts are bright bursts of radio waves whose duration lies in the millisecond scale, because of which it is difficult to detect them and determine their position in the sky.
- FRBs have been spotted in various and distant parts of the universe, as well as in our own galaxy. Their origins are unknown and their appearance is highly unpredictable. They were first discovered in 2007.



Key Findings:

- The latest findings have been made by the Green Bank Telescope and it reveals a rare astronomical environment around its source, where magnetic field twists and undulates. It has been also able to observe the directional changes of waves.
- This is the first detection of a magnetic field reversal observed from an FRB and it is for the first time this behaviour has been observed in another galaxy.
- This discovery also gives weightage to the idea that at least a fraction of FRBs originate in a binary system, which is a system of two stars that orbit each other.

Significance of FRBs:

- The FRBs have a distinguished property of dispersion (scattering or separation), the bursts produce a spectrum of radio waves and as the waves travel through matter, they spread out or disperse with bursts at higher radio frequencies arriving at a telescope earlier than those at lower frequencies.
- The analysis of the measure of dispersion allows scientists to learn about the matter that radio bursts pass through toward moving Earth.
- They can also indirectly determine how far apart things are.
- The scientists also believe that the data about unique properties of radio bursts and their host galaxies in a combined manner can provide answers to the universe's related queries.
- It can also provide insights into the evolution of the Universe and the three-dimensional structure of the matter in the Universe.

India in FRB Research Study:

- In 2021, Pune-based Tata Institute for Fundamental Research (TIFR) and the National Centre for Radiophysics (NCRA) has assembled the largest collection of Fast Radio Bursts (FRBs) catalogues.

Way Forward:

It is one of the mysterious phenomena of the Universe, about which the current level of awareness is still at an infant stage. Thus, consistent efforts are required to gather more clues to understand their origin and properties. The collaborated efforts by the international space agencies and research academia are the most viable option in this regard.

2. Genome Sequencing of Newborn Babies

Why in News:

The trend of newborn genome sequencing is at pace in many developed countries like the U.S.A and the United Kingdom. Recently, some Indian states have also started Newborn Screening Programs.

What is Newborn Genome Sequencing ?

- Newborn genome sequencing refers to the process of analyzing the complete genetic information of a newborn baby.
- It involves sequencing the entire genome to identify any genetic disorders that are associated with specific diseases or conditions, e.g. Sickle cell anaemia, Down Syndrome, Fragile X Syndrome etc.
- Various countries like the U.S.A. and the United

Kingdom have already launched programs like BabySeq Project and Nationwide campaign, respectively, to sequence the genomes of newborns.

- These programs are based on the fact that early diagnosis could allow us for effective treatment and save an infant from disability or death.

Significance of Newborn's Genome Sequencing:

- Out of 6,000 known genetic diseases only 3,500 have been documented and most of the genetic disorders (like Down syndrome) start to show symptoms after a certain period of time. This makes their treatment more difficult to succeed.
- The Sequencing of newborn genomes can become a watershed measure in genetic disorder treatment in the following manner:
 - » It allows for early detection and diagnosis of genetic diseases, that enables timely interventions and treatments. It can also provide insights into potential medical risks.
 - » The benefits of sequencing may not just be limited to babies who are unwell but it can also provide future medical surveillance at a much faster pace than healthy ones.

Challenges:

- Newborn Sequencing provides a silver lining for children suffering from genetic disorders since birth but it also presents multiple ethical challenges.
- The issue of disclosing and managing incidental and secondary findings raises concerns about privacy and the psychological impact on families.
- The equitable distribution of benefits and burdens associated with accessing and utilizing technology also invokes issues of justice and fairness.
- The potential manipulation of results also holds a major concern.

Way Forward:

Newborn genome sequencing is a major threshold in the medical sector. Therefore, the ethical and privacy-related challenges need strong legal attention and the execution of strict and fair medical code of conduct is crucial in this regard.

3. Dark Patterns

Why in News:

Recently, Central Government decided to issue norms against 'dark patterns' in online ads. In addition, the Union Consumer Affairs Ministry has also urged consumers to flag such manipulative online practices on the National Consumer Helpline.

What are Dark Patterns?

- Dark patterns refer to tricks implemented by websites or apps to make users do things that they didn't intend to. They are designed to subvert user autonomy, decision-making or choice. Deceptive patterns in online advertising mislead consumers and ruin their online experience and erode trust in brands and advertising.
- The prevalence of dark patterns in the online space poses a significant threat to consumers and comes within the ambit of Unfair Trade Practices and Misleading Advertisements of the Consumer Protection Act, 2019

Types of Dark Patterns:

Dark patterns encompass a wide range of manipulative practices:

- **False Urgency:** This tactic creates a sense of urgency or scarcity to pressure consumers into making a purchase.
- **Basket Sneaking:** Websites or apps use dark patterns to add additional products or services to the shopping cart without user consent.
- **Subscription Traps:** This tactic makes it easy for consumers to sign up for a service but difficult for them to cancel it.
- **Bait and Switch:** This involves advertising one product or service but delivering another, often of lower quality.
- **Hidden Costs:** This tactic involves hiding additional costs from consumers until they are already committed to making a purchase.
- **Disguised Ads:** Disguised ads are advertisements that are designed to look like other types of content, such as news articles or user-generated content.

Measures to regulate the dark patterns:

- Online platforms can establish ethical design guidelines that discourage the use of dark patterns.
- Encouraging conducting independent audits can help identify and rectify dark pattern issues.
- Equipping users with tools and resources that allow them to make informed choices online is another potential solution.

Way Forward:

Digital space has become an integral part of the consumer's life, significantly influencing how they consume information, goods and services. However, when manipulated to the detriment of consumers, they become a cause of concern. Consumers must not be forced towards unintended consequences without their express consent. The Department of Consumer Affairs, Government of India has urged online platforms to refrain from incorporating any

design or pattern in the online interface of their platform that may deceive or manipulate consumer choice and fall in the category of dark patterns.

4. CMV and ToMV Attack on Tomato

Why in the News:

Tomato growers in regions like Maharashtra and Karnataka are facing significant challenges due to the impact of two viruses - Cucumber mosaic virus (CMV) and Tomato mosaic virus (ToMV). These viruses have been causing substantial losses in tomato yields, affecting farmers and the agricultural industry.

Unveiling the silent invaders: CMV and ToMV

- Similar in name and damage caused, CMV and ToMV are plant pathogens that belong to different viral families and spread differently.
- ToMV, related to Tobacco Mosaic Virus (TMV), affects tomatoes, tobacco, peppers, and ornamental plants. It spreads primarily through infected seeds, saplings, agricultural tools, and human touch.
- CMV has a broader host range, including cucumber, melon, eggplant, tomato, carrot, lettuce, celery, etc. CMV was identified in cucumbers in 1934. It spreads through sap-sucking insects called aphids, with minimal transmission through human touch.

Impacts of Plant Viruses on Crop Vitality:

- Both viruses can cause almost 100 per cent crop loss unless properly treated on time. The following symptoms are exhibited:
- ToMV: Yellowish and dark green areas on foliage, blister-like appearances on leaves, leaf distortion, twisting of younger leaves, necrotic spots on fruit, and affected fruit setting.
- CMV: Distortion of cucumber leaves, mosaic-like pattern with alternating yellow and green spots.
- CMV and ToMV can impact beyond yield loss, stunted growth and distorted fruits. They also affect farmers' livelihoods, the availability of tomatoes in the market and the overall regional economy.

How can the viruses be controlled?

- Adherence to biosafety standards in nurseries and compulsory seed treatment is necessary to halt the spread of ToMV. Carefully inspecting the saplings, monitoring the signs of infections, discarding infected materials and clearing fields of weeds and plant debris is crucial, as ToMV can remain dormant and resurface.
- With its wide host range, controlling the CMV poses challenges. Effective methods involve

spraying insecticides or mineral oils to deter aphids while being cautious about not spreading the virus. Monitoring aphid migration helps in implementing preventive measures during crop planting.

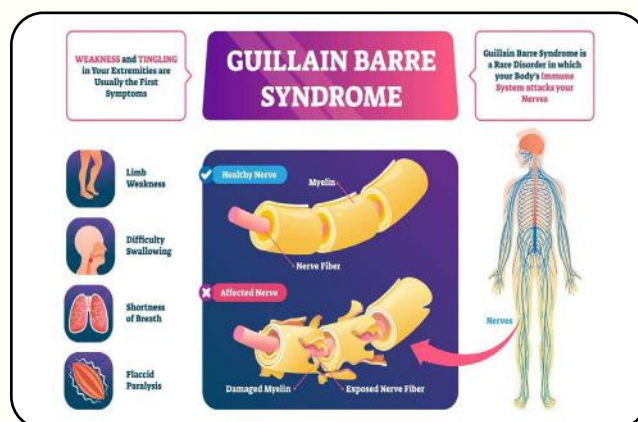
Way Forward:

To help farmers tackle the situation efficiently, emphasis should be placed on local varieties, botanicals, bio-pesticides, and proper insect vector management. Understanding the relationship between viruses, temperature, and rainfall is also crucial. Further, Government-monitored mapping, collaboration with seed companies, and maintaining farm records are essential, along with effective utilisation of CSR funds.

5. Guillain-Barre Syndrome

Why in News:

Recently, the Peruvian government declared a nationwide health emergency for 90 days after an unusual increase in cases of Guillain-Barre syndrome, a rare neurological disorder.



What is Guillain-Barré Syndrome?

- Guillain-Barré Syndrome is a rare neurological disorder in which the body's immune system attacks the nerves.
- It starts with tingling and weakness in the hands and feet and can spread rapidly and paralyze the body.
- Most people with this condition need to be admitted to the hospital for treatment.
- Although the exact cause of the disorder is not yet known, reports suggest that two-thirds of patients have symptoms of infection in the past six weeks, similar to COVID-19, gastrointestinal infection or Zika virus.

Symptoms :

- Its main symptoms are tingling sensation in the fingers, toes, ankles, wrists, or sometimes even

in the arms and face.

- Weakness in the legs that spreads to the upper part of the body. In some cases, there is also an inability to walk or climb stairs.
- Difficulty with facial movement, inability to speak, chew or swallow or move the eyes.
- This may feel like severe pain, shooting or cramping, difficulty with bladder control and bowel movement, fast heart rate, low or high blood pressure, and difficulty breathing and may lead to paralysis.

Remedies:

- No cure has yet been developed for Guillain-Barre syndrome. However, there are treatments that help treat the symptoms and reduce the severity and duration of the disease.

Types of Guillain-Barre syndrome:-

There are three types of Guillain-Barre syndrome –

1. Acute Inflammatory Demyelinating Polyradiculoneuropathy (AIDP).
 2. Miller-Fisher syndrome.
 3. Acute Motor Axonal Neuropathy.
- Acute inflammatory demyelinating polyradiculoneuropathy (AIDP) is the most common form found in North America and Europe. This type of syndrome is characterized by muscle weakness that starts from the lower body and spreads to the upper body.
 - In Miller-Fisher syndrome (MFS) the paralysis starts in the eyes. This syndrome is less common in America and more in Asia. Acute motor axonal neuropathy is more commonly found in China, Japan, and Mexico.

Way Forward:

In this disease, apart from treatment, it is important to provide care during the recovery period to ward off various complications associated with paralysis. This may include respiratory support, monitoring of the autonomic nervous system, assistance with the management of secretions in the mouth and throat, etc.

6. Sickle Cell Anaemia

Why in News:

Recently PM Modi launched National Sickle Cell Anaemia Elimination Mission from Shahdol, Madhya Pradesh. The aim of the mission is to eliminate Sickle Cell Anaemia by 2047. The National Sickle Cell Anaemia Elimination Program, introduced in the Union Budget 2023, focuses on addressing the significant health challenges posed by sickle cell disease, particularly among tribal populations of the country.

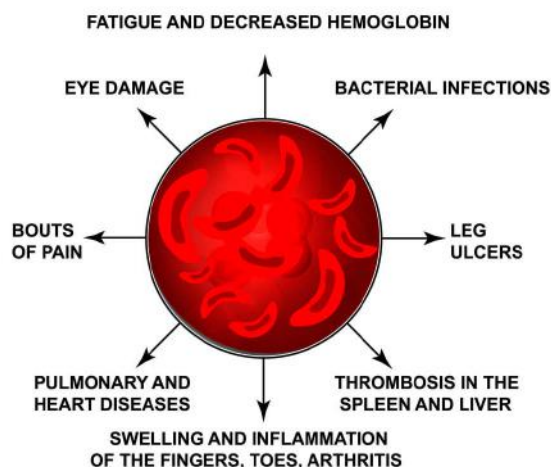
What is Sickle Cell Anaemia?

- Sickle cell disease (SCD) is an inherited group of blood disorders that is genetic in nature. It is usually transferred from the parents to the child during birth i.e. both parents can be carriers of SCDs.
- While healthy RBCs are round in shape, someone who has SCD, the RBC becomes sticky and hard and assumes a C-shape, similar to that of a farm tool 'sickle'.

What are the Symptoms:

- **Chronic Anaemia:** The sickle cells die prematurely, resulting in a chronic lack of red blood cells, leading to fatigue, weakness, and paleness.
- **Painful episodes (also known as Sickle Cell Crisis):** As sickle cell passes through small blood arteries, they become caught and obstruct the blood flow.
- This can result in discomfort like sudden and intense pain in the bones, chest, back, arms, and legs and other dangerous consequences (health issues) such as infection, acute chest syndrome, and stroke.
- Delayed growth and puberty.

SYMPTOMS OF SICKLE CELL ANEMIA



What are the Treatments?

- **Blood Transfusions:** To relieve anaemia and reduce the risk of pain crises.
- **Hydroxyurea:** This is a medication that can help reduce the frequency of painful episodes and prevent long-term complications of the disease.
- Bone marrow or stem cell transplantation.

Procedure for diagnosing sickle cell disease (SCD):

- A blood test.

- SCD can also be diagnosed before a baby is born by a sample of amniotic fluid or placental tissue.

Way Forward:

Need to screen all population for sickle cell trait, especially high-risk communities. Preventing Individuals with sickle cell trait from marrying each other. Screening foetus for sickle cell disease and terminating the pregnancy if parents wish. The elimination of Sickle cell disease is a “bold step” and it goes hand in hand with the budget’s focus on inclusive development.

7. Universe’s Background Hum

Why in News:

Recently the international collaborated team on the research of gravitational waves has found evidence that suggests the universe was humming with low-frequency gravitational waves. It is reported that the humming was a result of ripples created by the huge objects colliding and merging with each other in the fabric of space-time.

The Findings of the Research:

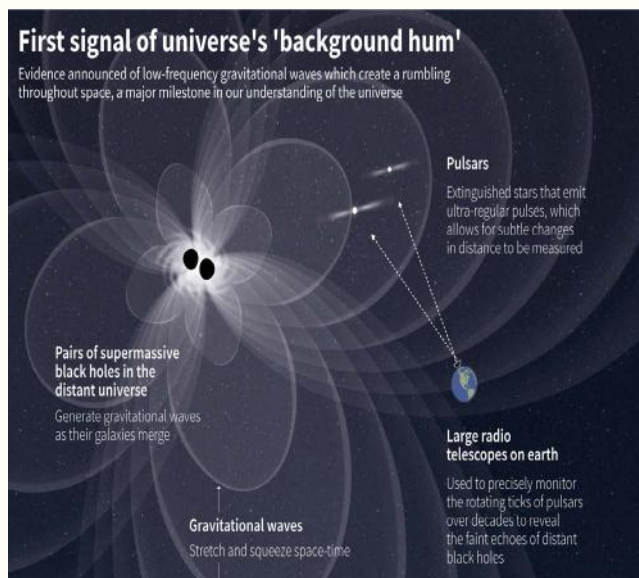
- The humming of the universe has been detected by radio astronomers from five different international teams, including Indian Pulsar Timing Array (InPTA). This has been done using six large radio telescopes across the world, including one in Pune.
- This discovery is based on the analysis of data collected by examining several Pulsars (Rapidly rotating neutron stars that emit pulses of radiation) over the years.
- The latest discovery has established that gravitational waves from several sources form a continuous background in the universe, named background Hum.
- It has been found that discrepancies (in arrival timing) found in the arrival of signals by these stars (pulsars) are due to deformities caused by gravitational waves in spacetime.
- These irregularities also showed the consistent presence of gravitational waves and large-scale motion of everything in the universe. Thereby it also establishes Albert Einstein’s General Theory of Relativity.
- This theory predicted that the universe may be filled with gravitational waves from different events and that spacetime could be experiencing their combined effects.

Gravitational Waves and their Significance:

- Gravitational waves are the invisible ‘ripples’ in spacetime (like a moving boat creates in water) caused by some of the most violent and

energetic processes in the Universe.

- They move at the speed of light and in the path they compress and stretch everything. They are very weak to detect.
- They are first detected in 2015, using Laser Interferometer Gravitational Observatory (LIGO) detectors. They were produced due to the merger of two black holes about 1.3 billion years ago.
- Gravitational Waves are significant because they assist scientists to gather information about Universe- mostly dark matter and dark energy (95% of the Universe), because these dark matter don’t emit any kind of light or electromagnetic waves.
- They also help us understand the evolution and expansion of the Universe.



LIGO-India Project:

- In April 2023 the Indian government approved the construction of the LIGO- India project (5th node of the international planned network). It will be built by the Department of Atomic Energy and Dept. of Science and Technology with U.S. National Science Foundation and other research institutions.
- It will be located in the Hingoli district of Maharashtra and is expected to begin scientific runs in 2030.

Way Forward:

The consistent efforts via expanding the LIGO networks across the world and the development of cutting-edge technologies would uncover the truth about dark matter and dark fields in the universe. The LIGO-India project will substantially assist in this direction.



Economic Issues



1. 17th Indian Cooperative Congress

Why in News:

On the occasion of the International Day of Cooperatives, PM Modi addressed the 17th Indian Cooperative Congress at Pragati Maidan in New Delhi. The Prime Minister also lauded the role of cooperatives in various sectors of the economy and society, such as agriculture, dairy, banking, housing, and health. The theme of the 17th Indian Cooperative Congress was Amrit Kaal: Prosperity through Cooperation for a Vibrant India. PM Modi launched an “e-commerce website” for cooperative marketing and an “e-portal” for cooperative extension and advisory services.

History of cooperatives in India:

- The cooperative movement in India has a long and rich history, dating back to the 19th century.
- The first cooperative society in India was founded in 1904 by Sir Frederick Nicholson, who was inspired by the success of the Rochdale Pioneers in England.
- The society was called the Cooperative Credit Society, and it provided loans to farmers at low-interest rates.
- The cooperative movement gained momentum after India's independence in 1947, as the government recognised the potential of cooperatives to address the problems of poverty, unemployment, inequality, and rural development.

About the Cooperatives:

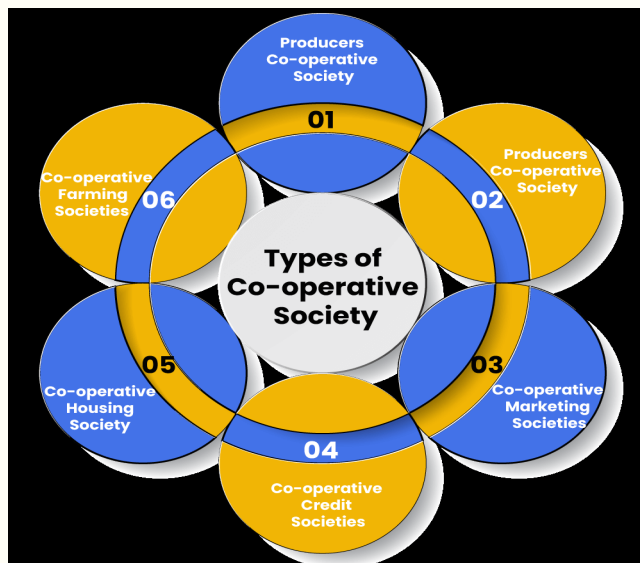
- Cooperatives are people-centred enterprises that are owned, controlled, and operated by their members to realise their common economic, social, and cultural needs and aspirations.
- The principles of cooperatives include voluntary and open membership, democratic member control, autonomy and independence, economic participation of members, etc.
- It serves as a platform to share best practices, innovations, and success stories of cooperatives across the country.

Regulation of Cooperative Societies:

- “Cooperative Societies” are a subject on the State List.
- However, multi-state cooperative societies are regulated by the Multi-State Cooperative Societies (MSCS) Act.
- No officer of the state government can exercise any control over multi-state cooperative societies.
- In 2002, the then government announced a

national policy on cooperatives to support the promotion and development of cooperatives.

- A new Ministry of Cooperation for Cooperatives was created in the country in July.
- It has been built with the vision of ‘Sahakar Se Samriddhi’ (Prosperity through Cooperation).



Constitutional provisions for cooperatives:

- The 97th Constitutional Amendment was passed by Parliament in December.
- It deals with issues related to the effective management of cooperatives in the country.
- Article 19 (1) (c) of the Constitution guarantees the right to form cooperative societies as a fundamental right and also incorporates Article 43B and Part IX (b) relating to them.
- Article 243 (zh) of the Constitution empowers Parliament and state legislatures to make laws for the incorporation, regulation, and winding up of cooperative societies.

Way Forward:

India has a long and glorious history of meeting the economic and social needs of millions of people through cooperatives. They have also contributed to the national development goals of poverty alleviation, rural development, employment generation, etc. However, they face many challenges that limit their growth and performance. The future of cooperatives in India is bright if they can leverage their strengths and opportunities while overcoming their weaknesses and threats.

2. Index of Eight Core Industries

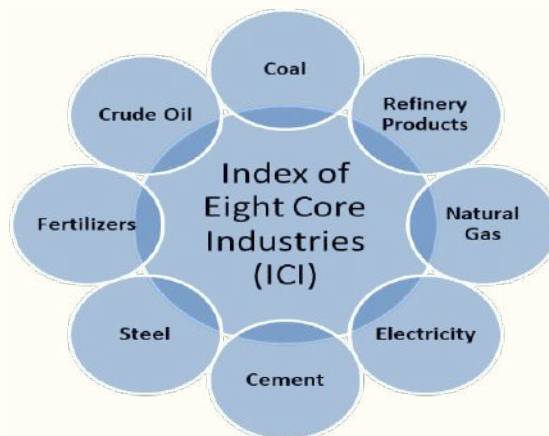
Why in News:

The combined Index of Eight Core Industries increased by 4.3 percent (provisional) in May 2023 as compared to the Index of May 2022. The production of Cement, Fertilizers, Steel, Coal, and Refinery Products increased in May 2023. The Eight Core Industries comprise 40.27 percent of the weight of items included in the Index of Industrial Production (IIP).

About Eight Core Industries:

- The Index of Eight Core Industries' final growth rate for February 2023 has been updated to 7.4 percent. In comparison to the same period in previous year, the cumulative growth rate of ICI for April-May 2023-24 was reported to be 4.3 percent (provisional).
- **Coal:** In May 2023, coal output (weight: 10.33 percent) grew by 7.2 percent over May 2022. Its cumulative index climbed by 8.2 percent from April to May 2023-24 compared to the previous year's equivalent period.
- **Crude Oil:** Crude oil output (weighted average: 8.98%) fell by 1.9 percent in May 2023 compared to May 2022. Its cumulative index fell by 2.7 percent from April to May 2023-24 compared to the same time in the previous year.
- **Natural Gas:** Natural gas output (weighted at 6.88 percent) fell 0.3 percent in May 2023 compared to May 2022. Its cumulative index fell by 1.5 percent from April to May 2023-24 compared to the same time in the previous year.
- **Petroleum Refinery Products:** Petroleum refinery output (weighted average: 28.04 percent) grew by 2.8 percent in May 2023 compared to May 2022. Its cumulative index improved by 0.7 percent from April to May 2023-24 compared to the previous year's equivalent period.
- **Fertilizers:** Fertilizer production (weight: 2.63 percent) increased by 9.7 percent in May 2023 over May 2022. Its cumulative index increased by 15.7 percent from April to May 2023-24 over the corresponding period of the previous year.
- **Steel:** May 2023 had a 9.2 percent rise in steel output (weight: 17.92%) compared to May 2022. From April through May 2023-24 compared to the same time the previous year, its cumulative index rose by 12.2%.
- **Cement:** Cement output (weighted average: 5.37%) grew by 15.5 percent in May 2023 compared to May 2022. Its cumulative index climbed by 13.7% from April to May 2023-24 compared to the same time the previous year.
- **Electricity:** Electricity generation (weight: 19.85 percent) declined by 0.3 percent in May 2023 over May 2022. Its cumulative index declined by 0.7 percent from April to May 2023-24 over the

corresponding period of the previous year.



What is the Index of Industrial Production (IIP)?

- The Central Statistical Organisation (CSO) is responsible for the compilation and publication of the Index of Industrial Production (IIP) since 1950.
- The scope of the IIP as recommended by the United Nations Statistical Office (UNSO) includes mining, manufacturing, construction, electricity, gas, and water supply.
- The Base Year for IIP is 2011-2012.

Way Forward:

The index of Industrial Production is a measure of the pace of growth in the economy's various industrial groupings over a certain time period. These industries although mark a significant step in the growth and development of a nation, they harm the possibility of a greener and more sustainable future. Thus, simultaneously their effectiveness needs to be enhanced both economically as well as environmentally.

3. India Is Best Performing Nation In South Asian Region In Terms Of Trade Facilitation: UNESCAP

Why in News:

India has achieved outstanding performance in the United Nations Economic and Social Commission for Asia Pacific's (UNESCAP) Global Survey on Digital and Sustainable Trade Facilitation.

Findings of the Survey:

- **Score:** The survey places India at the forefront of global trade facilitation efforts with an impressive score of about 93% in 2023, an improvement from 90% in 2021.
- **India's success in various sub-indicators:** Perfect scores of 100% in Transparency, Formalities,

Institutional Arrangement and Cooperation, and Paperless Trade.

- A substantial improvement in the “Women in Trade Facilitation” component, increasing from about 66% in 2021 to about 78% in 2023, highlighting its commitment to gender inclusivity and empowering women in the trade sector.



- **Notable Initiatives:** Faceless Customs, Paperless Customs, and Contactless Customs, Single Window Interface for Facilitation of Trade (SWIFT), Pre-Arrival data processing, and e-Sanchit
- India stands as the best-performing country in the South Asia region and also surpassed several developed nations including Canada, France, the UK, and Germany.
- The Global Survey on Digital and Sustainable Trade Facilitation conducted by UNESCAP covers the WTO Trade Facilitation Agreement (TFA) along with a set of nearly 60 trade facilitation measures categorized into eleven sub-groups, namely: Transparency; Formalities; Institutional arrangement and cooperation; Transit facilitation; Paperless trade; Cross-border paperless trade; Trade facilitation for SMEs; Agricultural trade facilitation; Women in trade facilitation; Trade finance for trade facilitation; and Trade facilitation in times of crisis.

Conclusion:

These remarkable scores are a testament to India's relentless efforts in streamlining trade processes, enhancing transparency and promoting cooperation among stakeholders through initiatives like Single Window Interface for Facilitation of Trade (SWIFT), Pre-Arrival data processing, and e-Sanchit. India's overall score has continued to improve year by year indicating a strong commitment to further enhancing the ease of doing business by undertaking next-generation trade facilitation measures.

4. One billion people in India will join the middle class by 2047

Why in News:

The recent survey of PRICE ICE told that by 2047, more than 1 billion population will join the middle class in India and it will be 60 percent of the total population.

Why the possibility:

- The Indian economy has seen steady growth except for the effect of Covid-19 and Russia Ukraine war. In the budget 2023-24 GDP is estimated to grow by 7%.
- Per capita income has doubled to Rs 1.97 lakh in the last 9 years, which is an indicator of improvement.
- Investment is being made on a large scale in education and health for making human resources skilled and for their all-round development. In the new education policy, it has been recommended to spend 6 percent of GDP on education.
- An increase in urbanization and industrialization are beneficial for the middle class.
- India has the opportunity to benefit from the demographic dividend.
- According to the report of UNCTAD, in the year 2022, FDI in India increase by 10%, which would help reduce India's unemployment problem.

Benefit:

- The development of the middle class will solve India's poverty and unemployment problems, as well as improve the level of health and education.
- The quality of life will also improve.
- There will be a development of political consciousness among citizens, due to which citizens will be aware of their rights.
- Socio-economic development will be certain, as well as a reduction in social problems will be seen.

Challenges:

- Ensuring maximum access to public services to the public.
- Increasing pressure on cities will be a challenge for governance
- The consumerist middle class might increase the environmental challenges, for these measures will have to be taken at the policy and practical levels.
- How neglected groups like women, rural areas, transgender, disabled, and elderly will ensure their role in the middle class will also be a matter of concern.

Way Forward:

The development of the middle class will help India

to get a prominent position in the world order as well as will help in solving the problem of relative poverty and unemployment. However, government and the public will also have to pay attention to the environmental challenges arising out of this. Only then this development will be sustainable and inclusive.

5. Open Market Sales Scheme

Why in News:

Department of Food and Public Distribution, Ministry of Consumer Affairs, had organized a 'National Conference of Food Ministers' on Wednesday, 5th July 2023 in New Delhi. The conference serves as a platform to reflect upon the challenges and opportunities for achieving the transformation of the food and nutrition security ecosystem in the country and lay down the roadmap for 2023-24.

Issues involved in the Conference:

- The Conference was aimed at developing an action plan for the procurement of coarse grains during Kharif Marketing Season 2023-24, under the Open Market Sales Scheme. The key highlight of the conference included the implementation of SMART-PDS, Supply Chain Optimization, grading of procurement centres, and transformation of Fair Price Shops (FPSs), among others.
- Karnataka Food and Civil Supplies Minister raised concerns over the restriction imposed on States to purchase foodgrains from the Food Corporation of India (FCI) through the Open Market Sales Scheme (OMSS). Apart from Karnataka, Tamil Nadu and Rajasthan too urged the Centre to restore the earlier provisions so that States could fill the deficit foodgrains needed for their schemes.

Open Market Sales Scheme (OMSS):

- Under OMSS, the Food Corporation of India (FCI) sells surplus stocks of wheat and rice at pre-determined prices through e-auction in the open market.
- The objective is to enhance the supply of food grains, especially wheat, during the lean season and thereby moderate the open market prices, specially in the deficit regions.
- The FCI conducts a weekly auction under this scheme in the open market using the platform of commodity exchange NCDEX(National Commodity and Derivatives Exchange Limited).
- The State Governments/ Union Territory Administrations are also allowed to participate in the e-auction, if they require wheat and rice outside the Targeted Public Distribution Scheme

(TPDS) and Other Welfare Schemes (OWS).

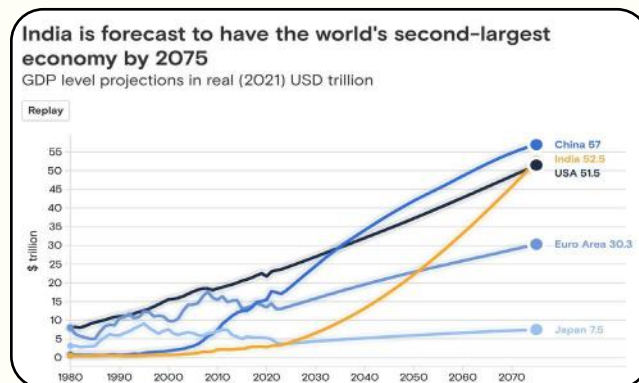
Way Forward:

States have been looking at alternative ways of procuring wheat and rice in the aftermath of the Food Corporation of India's (FCI) quantity restrictions, followed by the refusal to allow states to procure the two food grains through its Open Market Sale Scheme (OMSS). Due to the difficulty in procuring enough wheat and rice in the market at a reasonable cost, to meet the needs of a free-good grain distribution scheme for BPL families, states have decided to temporarily give cash to the beneficiaries in lieu of foodgrain.

6. By 2075, India will be the 2nd Largest Economy: Goldman Sachs

Why in News:

According to a recent report by investment bank Goldman Sachs Research, India is expected to overtake the US to become the world's second-largest economy by 2075. India is currently the fifth largest economy in the world after Germany, Japan, China, and the United States.



Key Points of the Report:

- India is poised to become the world's second-largest economy by 2075 leaving behind Japan, Germany, and the US. With a population of 1.4 billion people, India's GDP is projected to grow significantly, surpassing the US to reach \$52.5 trillion.
- According to Goldman Sachs apart from a growing population, India's progress in innovation and technology, high capital investment, and rising labor productivity will play a major role in boosting the economy.
- India is now the number one emerging market to invest in, according to 85 sovereign wealth funds and 57 central banks representing \$21 trillion in assets, the report said.

- The Invesco Global Sovereign Asset Management Study states that among emerging markets, India has attracted sovereign investors (who invest in safe assets), leaving behind China.
- It has been said that it is high time for India to increase capacity in manufacturing and services for the private sector so that more jobs can be created and a large labor force can be employed.

The main reason for the Growth:

- According to Indian economist Shantanu Sengupta, India has earned a great deal in terms of digitization of the economy through the wide reach of the Internet. India has the unique identification number Aadhaar, the world's largest biometric ID system, enabling the identity of its 1.4 billion population to be verified online and physically.
- Aadhaar makes public service delivery easy and targeted. This leads to the expansion of the credit net.

Challenges for India:

- The labor force participation rate in India has declined over the past 15 years and the labor force participation rate for women is much lower than that of men
- The current account balance is shrinking through inflation, targeting, and services exports, according to Goldman Sachs.

Way Forward:

Earlier, the World Bank expressed concern that India's growth rate would slow down in the financial year 2023-24. The International Monetary Fund also reduced India's GDP growth forecast by 20 basis points to 5.9% for the financial year 2023-24. India needs to take up more reforms so that it can provide a thriving environment to grow and sustain, for both its investors and people.

7. Internationalization of Indian Rupee: Challenges and Reforms

Why in News:

Recently, the Inter-Departmental Group of the Reserve Bank of India has given its report and recommendations to examine the possibility of internationalization of the rupee and prepare a roadmap. The currency of the rupee in international trade and the increased use of the Indian rupee in capital account transactions will lead to international acceptance of the local currency, with efforts underway to include the Indian currency in the IMF's Special Drawing Rights (SDR) basket. Internationalization of any currency is a means under which the use of local currency is promoted

in the process of international transactions.

Reforms for the Internationalization of Rupee:

The following reforms can be undertaken to promote the internationalization of the rupee:

- Target of full convertibility by 2060, which would enable free movement of financial investments between India and abroad.
- Establishment of additional currency swap agreements like Sri Lanka to settle trade and investment transactions in rupees.
- Providing tax incentives to foreign businesses to encourage the use of the rupee for operations within India.
- Currency Management Reforms in the exchange rate regime to ensure stability and instill confidence.
- To raise the acceptability and profile of the rupee, to make it an official currency in international organizations.
- Implementation of the Tarapore Committee's recommendations including reducing the fiscal deficit, inflation, and non-performing assets in the banking sector.

Limited International Demand:

- The rupee has a share of about 1.6% in the global currency market, while India's share in global commodity trade is about 2%, including encouraging rupee-based transactions.

Capital Account Convertibility:

- To be called a reserve currency, the rupee should be fully convertible, easily usable, and accessible in sufficient quantities. Achieving full capital account convertibility is important for the internationalization of the rupee.

Lessons from China's experience:

- China has gradually allowed the use of the Renminbi (RMB) for a variety of transactions, including trade finance and select investments. Currency swap agreements were signed with many countries, and the establishment of markets facilitated RMB transactions, giving the RMB international recognition and reserve currency status.

Way Forward:

The government's roadmap for rupee internationalization aims to benefit Indian businesses, increase liquidity and improve financial stability. It should also consider the interests of Indian citizens, enterprises and the government's ability to finance the deficit. It is necessary to strike a balance between rupee convertibility and exchange rate stability.

Miscellaneous Issues

1. Kharchi Puja 2023

Why in News:

The Prime Minister of India greeted people on the occasion of Kharchi Puja. According to the Hindu calendar, Kharchi Puja is celebrated in the northeastern state of Tripura in the Ashada month. Worshipping Goddess Earth on the Shukla Paksha Ashtami day of the Ashada is a very old ritual, which typically occurs in late June or early July according to the Christian calendar.

About Kharchi Puja:

- It is one of Tripura's most important celebrations.
- It is conducted on the eighth day of the new moon in the months of July and August.
- The meaning of Kharchi may be deduced by dividing the word into two Tripuri words: "Khar" or Kharta, which means sin, and "Chi" or si, which means cleanliness. Thus, it represents the atonement for our sins.
- It is celebrated on the day of 'Shukla Ashtami' in the month of Ashad.
- The Royal priest, 'Chantai,' worships the fourteen Gods.
- It is observed for seven days and is held at the precincts of the Fourteen Gods temple known as the 'Chaturdasha Devata' temple in old Agartala.
- The Kharchi Puja deities do not have a whole body; just their heads are worshipped.
- On the day of the puja, the fourteen Gods are transported from the temple to the river Saidra by Chantai members and bathed in the holy river water before being returned to the temple.
- The ceremonies of this celebration are inextricably linked to true Tripuri traditions.

Historical Background of Tripura:

- In 1760, Krishna Manikya Bahadur (1760-1761) moved the capital from Udaipur in southern Tripura to Puran Habeli, which remained the capital of the then-undivided Tripura until 1838.
- King Krishna Kishore Manikya Bahadur named Agartala the capital of Tripura in 1838.
- Tripura Maharani Kanchan Prabha Devi signed a merger agreement with the Indian Governor General in October 1949, and Tripura was taken over by the Indian government.

Rituals of Kharchi Puja:

- **Construction of Chaturdash Mandap:** It represents the royal palace of Tripuri kings and has been made by traditional artisans using bamboo and thatched roofs.

- **Fourteen Deities Procession:** The royal priest Chantai takes the idols of all the 14 deities from the ancient Ujjayanta palace on the main puja day to the temple grounds in Agartala to the holy Saidra River, where they are immersed in holy water before returning.



Way Forward:

Historical Kharchi Puja is not just a religious festival but it is a celebration of our identity and ancestors, it reminds us to actively participate and imbibe our cultural values in the glorious history and deep inherited traditions.

2. Penal Action Against obscene content

Why in News:

Recently, in its first order of such kind, the newly formed Digital Publishers Content Complaints Council (DPCGC) recommended penal action against the OTT platform ULLU over allegedly obscene content. The Council has ordered the removal of the material within 15 days.

Reason behind the Order:

- The order comes after a complaint was filed with the DPCGC against ULLU, stating that some of the web series on the platform only contained vulgarity and nudity. The complainant said that such content violates the law of the country.

and the IT (Intermediary Guidelines and Digital Media Code of Conduct) Rules, 2021.

About the OTT Platform:

- OTT platforms are digital services that allow users to create, upload, stream, or share content such as text, images, videos, audio, etc. without the intervention of a traditional intermediary such as a cable operator or broadcaster.
- Some examples of OTT platforms are Netflix, Amazon Prime Video, Disney+, Spotify, etc.
- They are becoming an increasingly popular source of entertainment, information, and communication for millions of people around the world. However, they also pose some serious challenges to the regulation of content uploaded, streamed, or shared on these platforms.

About the Digital Publisher Content Complaints Council (DPCGC):

- The DPCGC is an officially recognised, independent self-regulatory body for Online Curated Content Providers (OCCP).
- It was established in June 2021 under the aegis of the Internet and Mobile Association of India (IAMAI).
- The DPCGC aims to introduce a redressal mechanism that ensures a balance between addressing viewer complaints and displaying content in a free-speech environment without ad hoc interference.
- It complies with the IT Rules 2021 and other similar existing or new laws, rules/regulations, or guidelines made from time to time relating to the publication of curated content online.

Way Forward:

OTT platforms are changing the way we consume, create, and communicate content in the digital age. They offer many benefits, nevertheless, they present many challenges when it comes to regulating their content. A balanced approach that includes self-regulation, co-regulation, and user-regulation can help ensure that these platforms are used responsibly and ethically and that the rights and interests of all stakeholders involved are respected.

3. Hul Diwas

Why in News:

Prime Minister Narendra Modi tweeted on June 30th to pay tribute to the brave tribal leaders Sidho, Kanho, Chand, and Bhairav, who led the Santhal (Hul) rebellion of 1855 at Bhognadih in Sahebganj District.

About Santhal Rebellion:

- Santhal rebellion aka Hul Kranti started on

30th June 1855 in present-day Jharkhand.

- It was a rebellion against the British East India Company and their Zamindari system.
- The prominent leaders who helped to start the revolt were the brothers Sidho, Kanho, Chand, and Bhairav, and their sisters Phulo and Jhano.
- In a very short period, it saw the participation of about 60,000 people from 32 communities (both tribal and non-tribal).
- Santhal rebellion is known as the 'organized war against rebellions' because of the organized movements, proper use of weapons and tactics, and trained leadership.

Reasons and Effect of the Santhal Rebellion:

- In 1832, the Santhals were given the Damin-i-koh region of Jharkhand by the East India Company. This allocation was made with the commitment of non-interference in their land for settlement purposes. However, as time passed and the Britishers' demands increased, the rent charged to the Santhals escalated unreasonably high.
- This move by the East India Company was intended to bring an ever-increasing area into its control under settled agriculture.
- The Santhals adhered to a barter system, causing difficulties when settling payments with the zamindars in cash. Consequently, they resorted to borrowing money from moneylenders at exorbitant rates, which led them to get trapped in a vicious cycle.
- All these factors accumulated for the Santhals to rebel against the British.
- After the initiation of the rebellion, the East India Company declared martial law, which remained in effect until January 3, 1856. Subsequently, the imposition of martial law was lifted, and the Presidency armies succeeded in quelling the rebellion.
- The Santhal rebellion served as a catalyst for upcoming revolts, notably the Santhal participation in the 1857 mutiny.
- It epitomized the resistance against British colonial rule and established the groundwork for future movements in Jharkhand.

Conclusion:

After the end of the war, an act to provide some protection from British oppression was enacted. Thus, the Santhal rebellion holds historical significance as it serves as the primary reason for the struggle over tribal land rights, that remains relevant in the present context. It also emphasizes the continuous nature of history and the need to study past issues to address the current problems faced by Tribes in India.

4. The Increasing Prevalence of Divorce in Birds

Why in News:

Birds are generally known to be monogamous and have a single mate during a breeding season. However, there has been a significant increase in divorces among bird species, prompting inquiries into the reasons behind this surge. Recent research has highlighted the factors contributing to avian divorce, patterns in divorce rates, and the potential impact of climate change, deepening our understanding of bird behaviours and social dynamics.

Factors influencing avian divorce:

To investigate the factors associated with divorce in birds, the researchers analysed divorce rates, mortality data, and migration distances for 232 bird species. The following causes were listed:

- **Male promiscuity:** Higher male promiscuity correlated with higher divorce rates, while female promiscuity did not have the same effect. Plovers, swallows, martins, orioles, and blackbirds were among the species that displayed this combination.
- **Migration distances:** Birds with longer migration distances tended to have higher divorce rates. The prolonged separation during migration likely creates additional challenges, leading to increased relationship instability. Asynchronous arrival at breeding destinations could lead to a situation where early-arriving bird mates with a different partner, resulting in divorce.
- **Altered Breeding Seasons:** Climate change can cause shifts in the timing of seasons, including breeding seasons, leading to conflicts and reduced reproductive success, potentially increasing the likelihood of divorce.

What are the ecological impacts of increased avian divorces?

- Avian Divorces can have ripple effects on the social dynamics of bird populations and cause significant ecological implications:
- Altered gene flow within populations affecting genetic diversity and environmental adaptation.
- Disruption in the stability of breeding partnerships within bird populations.
- Shifts in social dynamics can influence patterns of cooperation, communication, and resource sharing within bird communities.
- Divorces can lead to changes in reproductive output potentially leading to lower survival rates or impaired development of offspring.

Conclusion:

The increasing prevalence of divorces in birds can be attributed to climate change induced factors like increased migration distances as well as social factors such as male promiscuity. These studies provide valuable insights into the dynamics of avian populations and the impacts of environmental changes on their behaviour and reproductive strategies.

5. Lambani Embroidery Patch

Why in News:

At the recently held G20 Culture Working Group meeting in Hampi, around 450 Lambani artisans came together to create a collection of over 1,755 unique patches of Sandur embroidery, creating a Guinness World Record for the largest display of Lambani items.

About Lambani Embroidery:

- Lambani embroidery is an intricate form of textile ornamentation characterised by coloured threads, mirror work, and stitch patterns.
- The Lambani craft tradition involves stitching together small pieces of discarded cloth to make a beautiful cloth.
- It is a living testimony to the cultural heritage of India, prevalent mainly in many villages of Karnataka like Sandur, Keri Tanda, Mariammanahalli, Kadirampur, etc.
- The interweaving of Lambani crafts with textile traditions in Eastern Europe, West Asia, and Central Asia underlines the shared artistic culture and historical migrations of the nomadic communities.

About the Lambani People:

- Lambani people are also known as Banjaras.
- Most are found in the states of Telangana, Andhra Pradesh, and Karnataka in South India.
- This community has permanently abandoned their nomadic lifestyle and settled in their own settlements called Tandas.
- They speak the Gor dialect, also known as Lambadi, which belongs to the Indo-Aryan language group. There is no script for Lambadi.
- They celebrate Teej festival during Shravanam (August month).
- **Dance:** Agni Nritya and Chari Banjara

About Sandur Kushal Kala Kendra (SKKK):

- It is a society registered in 1988.
- Sandur Kushal Kala Kendra aims to revive traditional crafts, promote the livelihood, skills, and products of artisans, and ensure a steady income.

- It has earned the prestigious UNESCO Seal of Excellence award for Handicrafts in South Asia in 2004 and 2012.
- SKKK obtained a GI (Geographical Indication) tag in the year 2008 for the craft 'Sandur Lambani Hand Embroidery'.

Way Forward:

This achievement not only highlights the diversity of Indian art but also highlights the talent and craftsmanship of the Lambani artisans. The Guinness World Record achievement is associated with Mission 'LiFe' and the Culture Working Group's initiative 'Culture for LiFe'. The presence of the G20 delegates provided a platform for Lambani artisans to share their achievements with other communities and individuals to appreciate and preserve their cultural heritage through initiatives that will inspire and empower marginalised communities.

6. National e-Governance Service Delivery Assessment (NeSDA) Framework 2023

Why in News:

In a bid to enhance the e-governance landscape in India, the third edition of the "National e-Governance Service Delivery Assessment (NeSDA) Framework" was launched by The Department of Administrative Reforms and Public Grievances (DARPG). The study, which is undertaken by DARPG every two years, has indicated a rising trend of e-service delivery shifting from single silo departmental portals to integrated and centralised portals.

About NeSDA:

- The NeSDA framework, launched in August 2018, was conceptualized with the overall objective to measure the depth and effectiveness of existing e-Governance service delivery mechanisms.
- This framework is based on the Online Service Index (OSI) of the UNDESA eGovernment Survey and has been customized for the Indian federal structure and the e-Governance system of the States and UTs.

How does the framework assess e-services?

- The framework covers six sectors, viz. Finance, Labour & Employment, Education, Local Government & Utilities, Social Welfare (including Agriculture & Health) and Environment (including Fire) sectors.
- It assesses all the service portals (State/ UT and Central Ministry service portals) on 7 key parameters, viz. Accessibility, Content

Availability, Ease of Use, Information Security & Privacy, End-service Delivery, Integrated Service Delivery and Status & Request Tracking.

NeSDA 2019 and 2021:

- Two editions of the NeSDA study, namely, NeSDA 2019 and NeSDA 2021 have revealed a remarkable increase in e-services across all States/UTs.
- The key takeaways from the studies depict an increase in e-service delivery, rise in use of integrated and centralised portals and improvement across assessment parameter scores.
- In the 2021 survey, it was noted that e-services of the finances, local governance and utility were most widely used by the citizens, where 74% of the respondents claimed to be satisfied with the e-services.

Conclusion:

The NeSDA framework was launched to address the key challenges faced in e-governance and to bridge the existing gaps. DARPG's launch of the NeSDA Framework 2023 demonstrates government's commitment to leveraging technology for the benefit of citizens. By streamlining and improving the e-governance landscape, this initiative will empower citizens, enhance service delivery, and pave the way for a digitally inclusive India.

7. Child Trafficking Menace

Why in News:

According to a report by International Organisation for Migration (IOM), most child trafficking incidents occur within the country of origin with involvement of family or friends playing a crucial role in almost half of the cases. The groundbreaking report also reveals that child victims trafficked for sexual exploitation were more likely to be trafficked internationally, while child victims trafficked for forced labour were more likely to be trafficked domestically.

Important Points from the Report:

- Global child trafficking spares no nationality or gender, spanning 186 countries and about 156 nationalities. Females accounted for 57.4%, males 42.6%, and the most affected age group was 13-17 years, as per the report.
- Poverty-stricken areas witness family and friends recruiting children. Analysis reveals false promises as the primary means of control in child trafficking, followed by psychological or physical abuse. Threats and excessive working hours were also commonly reported control methods.

- Almost half of child trafficking victims (43.4%) suffer forced labor, mostly boys, in various industries like domestic work, begging, and agriculture. Sexual exploitation affects 20% of trafficked children, predominantly girls, with 30.3% of females reporting it compared to 7.3% of males.
- Children from disaster-prone and vulnerable nations face 1.12 times higher odds of trafficking. During disasters, child victims are more likely to be trafficked domestically than internationally.

Laws against Child Trafficking:

- Immoral Traffic (Prevention) Act, 1956 (ITPA) is India's key law against child trafficking, forbidding exploitation through recruitment, transportation, harbouring, or coercion for any form of exploitation.
- Additionally, the POCSO Act 2012 and the Juvenile Justice (Care and Protection of Children) Act, 2015 provides for the care, protection, and rehabilitation of children in need of care and protection, including victims

of trafficking.

- Furthermore, the Indian Penal Code (IPC) contains provisions that can be used to address child trafficking cases, such as kidnapping, abduction, and slavery-related offenses.
- Apart from these specific laws, India is also a signatory to the United Nations Convention on the Rights of the Child (UNCRC) and the Optional Protocol to the UNCRC on the sale of children, child prostitution, and child pornography.

Way Forward:

The report urges joint action to fight trafficking and climate change. Key recommendations include integrating counter-trafficking into disaster initiatives, empowering communities, and implementing targeted programs to safeguard vulnerable children. The sustainability of the future India can only be ensured when every citizen and child in the country is skilled, healthy and most importantly safe. India's government, NGOs, and organizations actively strive to combat trafficking and protect children's rights.







IAS

GENERAL STUDIES

(PREMIUM BATCH)

English Medium

7th AUGUST

11:30 AM

📍 SP MARG, CIVIL LINES, PRAYAGRAJ

☎ 8853467068, 7459911157

Practice Questions for Mains Exam

1. What are Critical Minerals? Discuss the significance of the recent Union Ministry of Coal and Mines' first report on Critical Minerals for India.
2. The Use of deepfakes during the Russia-Ukraine war has raised concerns in the world. Explaining the concept of deepfake, mention its potential danger and measures to deal with it.
3. Describe the challenges and prospects of India as a knowledge-based economy.
4. In view of the rapid pace at which the politics of the Middle East and Africa is changing at present, evaluate the possible implications of the recent visit of the Indian Prime Minister.
5. Examine the significance of Iran's membership from the Indian perspective by mentioning the main points of the 23rd Shanghai Cooperation Organization Conference (SCO) chaired by India.
6. What is Multidimensional Poverty? Critically examine the status of poverty in India in light of the recently published report on poverty in India by the UN.
7. According to a recently published report (Price Ice degree survey), one billion people in India will join the middle class by 2047 . Discuss the potential benefits and challenges of this situation.
8. OTT Platforms are changing the way content is consumed, created, and communicated in the digital era. Discuss the role and challenges of DPCGC, the body involved in regulating it in India.
9. What is Sickle Cell Anemia? Throw light on the objectives of the National Sickle Cell Anemia Eradication Mission recently launched by PM Modi.
10. What do you understand by dark patterns in online advertising? Describe the efforts made by the government in the recent past to stop it.
11. What is India's Chandrayaan-3 mission? Critically evaluate the potential advantages and challenges of Chandrayaan mission.
12. Critically evaluate the current measures to combat child trafficking in India by mentioning the main points of the International Organization for Migration report.
13. Examine India's progress towards gender equality in the light of the Global Gender Gap Report 2023 published by the World Economic Forum.
14. What is the Green Credit program of the Government of India? Mention the benefits and challenges related to greenwashing.
15. "Jowar is an ideal substitute for wheat in times of rising temperature." Comment.

News Of National and International Importance

1. India's First 'Police Drone Unit'

- The Greater Chennai City Police (GCP) on Thursday, June 29, 2023 launched 'Police Drone Unit' for aerial surveillance over vast areas and quick detection of criminal activities.

Key Points:

- In this Drone Police Unit, a total of nine drones under three categories namely Quick response surveillance drones; heavy lift multirotor Drone and long range survey wing plane are available and are equipped with built-in artificial intelligence (AI) capabilities and can be operated up to a distance of 5-10 kilometres from the ground station.

2. Country's first Elevated Urban Expressway

Union Road Transport and Highways Minister Nitin Gadkari inspected the construction works of the country's first elevated Delhi- Dwarka Urban Expressway which will be ready in the next 3-4 months. Its total length is 29 km, of which 18.9 km falls in Haryana, while 10.1 km falls in Delhi.

Elevated Expressway:

- Elevated road or expressway is often built at a place where transportation is high and land is less. It is also called elevated flyover. Due to its construction, not only high traffic is released from the congested area, but heavy vehicles also get a way to pass without stopping, due to which the problem of traffic jam in the busy area is solved. The road network of the Dwarka Expressway project will consist of four levels, which will include tunnels, underpasses, graded roads, elevated flyovers and flyovers over flyovers.

3. Indian Navy's Multidimensional Outreach Program

- The Indian Navy has launched 'Julley Ladakh', a multidimensional outreach program dedicated to strengthening the connect with the Union Territory of Ladakh.
- The objective of the program is to enhance greater participation of the youth of Ladakh in the Defense Services, strengthen nation-building and promote maritime consciousness in the region.
- Outreach activities planned include a Motor Cycle Expedition, passing through a large part of Ladakh, a band concert at City Centre with the famous Navy Band, Medical Camp and a Football Match between the Navy and the Ladakh Football Club.

4. Japan-India Maritime Exercise 2023

The 7th edition of Japan India Maritime Exercise 2023 (JIMEX 23) hosted by the Indian Navy concluded in the Bay of Bengal.

Salient feature:

- Indian Naval ships Delhi, Kamorta and Shakti, under the command of RAdm Gurcharan Singh, Flag Officer Commanding Eastern Fleet and Japan Maritime Self Defence Force (JMSDF) ship Samidare under the command of RAdm Nishiyama Takahiro, Commander Escort Flotilla One, participated in the six day long exercise.
- Both sides engaged in advanced level exercises in all three domains of maritime warfare - surface, sub surface and air. Besides ships and their integral helicopters, the exercise also witnessed the participation of fighter aircraft, maritime patrol aircraft and a submarine.

5. Ph.D. not compulsory for teaching in colleges, universities: UGC

- The University Grants Commission (UGC) has changed the Ph.D. requirement rule and has done away with the Ph.D. requirement for the appointment of teachers in colleges and universities.
- The UGC announced that the University Grants Commission (Minimum Qualifications for Appointment of Teachers and Other Academic Staff in Universities and Colleges and other Measures for the Maintenance of Standards in Higher Education) Regulations, 2018, have been amended and Ph.D qualification would now be optional for a teacher post. The National Eligibility Test (NET), State Eligibility Test (SET) and State Level Eligibility Test (SLET) shall be the minimum criteria for the direct recruitment to the post of assistant professor for all Higher Education Institutions.

6. ESA's (European Space Agency) Euclid space telescope launch

European Space Agency (ESA) has successfully launched the Euclid Space Telescope. It was launched with the help of the SpaceX Falcon 9 rocket from Cape Canaveral Space Force Station in Florida.

What is Euclid?

- Euclid is a 1.2-metre-diameter telescope that will travel to L2, approximately 1 million miles away from Earth.
- The main goal of Euclid's mission is to investigate the 'dark side' of the universe with a focus on dark matter and dark energy.
- Dark matter comprises 85 percent of the universe's matter, however, it has never been directly observed. Dark energy is the mysterious force responsible for the rapid expansion of the universe.

7. Natural arch discovered by GSI in Odisha

The Geological Survey of India (GSI) has proposed to declare the 'Natural Arch' in Kanika range of Sundargarh forest division, believed to be dating back to the Jurassic period a Geo Heritage Site.

Key Points:

- According to geologists, the length of the oval-shaped arch at the base is 30 meters and the height is 12 meters.
- Apart from the arch at Sundergarh, India has two other arches:- the first at Tirumala hills in Tirupati and the other at Andaman and Nicobar.
- Scientists said the natural arch present in ferruginous sandstone of Upper Kamthi formation, dates back to about 184 to 160 million years in lower to middle Jurassic age.

8. Aarti Holla-Maini appointed Director, UNOOSA

Indian-origin British satellite industry expert Aarti Holla-Maini has been appointed as the Director of the United Nations Office for Outer Space Affairs (UNOOSA) in Vienna by the UN Secretary-General.

About UNOOSA:

- UNOOSA is an office of the United Nations Secretariat promoting peaceful international cooperation in outer space.
- It works to strengthen the legal and regulatory framework for space activities and assist developing nations in harnessing space science and technology for sustainable socio-economic development.

9. Champions 2.0 Portal

On the occasion of International MSME Day, The Ministry of Micro, Small & Medium Enterprises, MSME celebrated 'Udyami Bharat-MSME Day'. Various initiatives, dedicated towards growth and development of MSMEs such as 'CHAMPIONS 2.0 Portal' and 'Mobile App for Geo-tagging of Cluster Projects and Technology Centers' were launched. Results for 'MSME Idea Hackathon 2.0' were declared and 'MSME Idea Hackathon 3.0' for women entrepreneurs was launched.

10. Methanol export from Assam to Bangladesh

Assam Chief Minister Himanta Biswa Sarma officially flagged off the first methanol shipment to Bangladesh from the Assam Petrochemicals Plant in Namrup, which is seen as an important step towards establishing Assam as a major petrochemical exporter.

Key Points:

- The CM also laid the foundation stone for the construction of the Joypur Chariali and Namrup Sonari Tiniali roads.
- It will enable a flow of industrial production from Brahmaputra Valley Fertilizers Corporation Ltd., Assam Petrochemicals Ltd., and Namrup Thermal Plant.

11. Bahubali Cattle Fence

The Union Ministry of Road Transport and Highways is planning to implement multi-bar cattle fences on the highways in India, to prevent cattle from crossing the road and causing dangerous accidents.

Main Objective:

- This fence will be 1.20 meters high and will be set up on section 23 of NH-30.
- The cattle fence, constructed using bamboo, offers a fully effective and environmentally friendly solution. The bamboo is treated with creosote oil and coated with HDPE, making it a stronger alternative to steel.

12. Urban 20 (U20) Mayors Summit

The two-day Urban 20 Mayoral Summit, hosted by the chair city Ahmedabad, in Gandhinagar from 7-8 July, concluded with the handover of the Communiqué from the Mayors to G20 leaders.

Highlights of the conference:

Minister for Housing & Urban Affairs, Shri Hardeep Singh Puri spoke about nine areas that cities should focus on, to work towards a sustainable future: Strengthen local governance, Plan beyond traditional boundaries, Push for financially self-reliant cities, Foster a culture of innovation, Harness the power of data and technology, Shift from regulation to facilitation, Focus on impacts not outcome, Put citizens at the heart of urban policy, Leverage local culture and economy.

13. NLU Delhi launched 'Eklavya'

National Law University (NLU), Delhi has launched a 'Research Affiliate' program Eklavya as part of its new academic initiatives.

Main Objective:

- Through this, the university aims to emphasise its commitment to actively seek partnerships outside the varsity and draw from their experiences and perspectives to develop quality legal scholarship.
- The programme is open for any individual with at least three years of demonstrable experience working on issues that have significant interface with the law.

14. UPI 123PAY by PNB for Offline Transaction

Punjab National Bank (PNB) announced the launch of the IVR-based UPI solution, UPI 123Pay. The offer is in line with Digital Payments Vision 2025, which will drive the country towards a cashless and cardless society. Unified Payments Interface (UPI) has revolutionized the way transactions are done in India, enabling customers to make seamless, secure, and real-time payments. However, until now, UPI services were primarily accessible via smartphones or Unstructured Supplementary Service Data (USSD), which depended on strong internet connectivity.

15. Operation Broader Sword

India and the US have launched a multi-agency Operation Broader Sword to stop illicit pharmaceuticals, devices, or precursor chemicals from being sent to the US using the International Mail System (IMS).

About the Operation:

- The operation has been carried out by India's Directorate of Revenue Intelligence (DRI), US Food and Drug Administration (FDA), Customs and Border Protection (CBP), Homeland Security Investigations (HSI), Drug Enforcement Administration (DEA), and US Postal Inspection Service.

16. China launched its first open-source Computer Operating System

China has launched its first home-grown open-source desktop operating system, codenamed OpenKylin1.0. China wants to reduce its dependence on US technology. Because of which China has developed its independent operating system.

About openkyline 1.0:

- It is an open-source desktop software developed by a group of Chinese companies primarily led by China Electronic Corp.
- It is a Linux operating system created by a community of approximately 4,000 developers.
- Its development is considered to be the latest attempt in the development of home software.

17. International Biology Olympiad

- Team India achieved a major feat in the 34th International Biology Olympiad held in 'AlAin', UAE. For the first time in the competition's history, all four students representing Team India won gold medals.
- India and Singapore topped the table with four gold medals each, while China and the Chinese Taipei Olympic delegation came second with three gold medals.
- The participants had to undergo a total of six tests, in which questions were asked focused on topics related to Anatomy, Animal, and Plant Physiology, Cell Science, Microbiology, and Molecular Biology.

18. PM Modi gets the highest civilian award in France

Prime Minister Narendra Modi has been honored by France with the highest French award 'The Legion of Honor'. PM Modi is the first Indian Prime Minister to get this honor.

Key Points:

- Former President of South Africa, Nelson Mandela, the then Prince of Wales, King Charles, former Chancellor of Germany, Angela Merkel, former Secretary-General of the United Nations, Boutros Boutros-Ghali, etc. have been honored.
- Earlier, PM Modi was awarded the Order of the Nile by Egypt in June 2023, 'Companion of the Order of Logohu' by Papua New Guinea in May 2023, 'Companion of the Order of Fiji' by the Republic of Palau, and Abakal Award.

19. Export Preparedness Index 2022 by NITI Aayog

NITI Aayog has released the 3rd edition of the Export Preparedness Index (EPI) for the year 2022 for the States and Union Territories. The report discusses India's export performance in FY2022 amid the prevailing global trade context.

Key Points of the Report:

- EPI is a comprehensive tool that measures the export preparedness of States and Union Territories in India. Export Preparedness Index is based on four pillars Policy, Business Ecosystem, Export Ecosystem, and Export Performance.
- The Index will undertake a comprehensive analysis of export-related parameters by identifying the strengths and weaknesses of States and Union Territories.

Current Affairs at a Glance

1. The Uttar Pradesh government has launched the 'One-Tap-One-Tree' campaign with the objective of expanding the green cover of the state along with provision of potable tap water in rural areas.
2. National Anti-Doping Agency (NADA India) signed MoU with South Asia Regional Anti-Doping Organization (SARADO).
3. PM Modi inaugurated the Sai Hira Global Convention Center in Puttaparthi, Andhra Pradesh through video conferencing.
4. Kameswara Rao Kodavanti has been appointed as the Chief Financial Officer (CFO) of SBI.
5. Indian Coast Guard and Indian Navy signed an MoU with Indian Port Rail and Ropeway Corporation Limited in Gandhinagar.
6. The board of directors of IDFC First Bank approved the scheme of amalgamation of its parent company IDFC Limited with IDFC First Bank.
7. Rajinder Singh Dhatt was honored with Points of Light honour by British PM Rishi Sunak.
8. India 6G Alliance launched to promote innovation and collaboration in next-generation wireless technology.
9. Lallianzuala Chhangte was named the AIFF Men's Footballer of the Year.
10. MoU signed for setting up IIT Madras campus in Zanzibar-Tanzania. This is the first IIT campus to be set up outside India.
11. The 67th Travel Agents Association of India (TAAI) conference began in Colombo with the aim of strengthening the ties between India and Sri Lanka.
12. The Indian pair of Priyansh and Avneet Kaur won the gold medal at the World Youth Archery Championships in Ireland.
13. An MoU was signed between the Bureau of Water Use Efficiency (BWUE), the National Water Mission (NWM) of the Ministry of Jal Shakti, and the Indian Pipeline Association (IPA).
14. CM Naveen Patnaik launched the 'Ama Pokhari' scheme. The initiative has been launched to revive around 2,000 large water bodies across all 115 urban local bodies in the state.
15. Foundation stone of India's first cooperative-run Sainik School was laid in Gujarat. It will be set up by leading cooperative milk Sagar Dairy at a cost of Rs 75 crore.
16. The UAE established a new investment ministry with the main objective of developing the UAE's investment vision and boosting its competitiveness in the global market.
17. Brain-eating amoeba caused the death of a boy in Kerala. It enters the body through the nasal cavity and causes a fatal brain infection.
18. The GST Council has exempted anti-cancer drugs, rare disease drugs, and food products for special medical purposes from GST.
19. IFSCA and Climate Policy Initiative signed an agreement on sustainable finance.
20. Government has launched the 'Sagar Sampark' Differential Global Navigation Satellite System which will make the movement of ships more efficient and safe. DGNSS is an important step toward the fulfillment of international obligations.
21. Elon Musk has launched his new artificial intelligence company xAI, and it has been found to compete with companies like OpenAI, Google, and Anthropic.
22. HAL's regional office inaugurated in Kuala Lumpur. The office will serve as the hub of HAL's partnership with the South-East Asian region.
23. J&K Rural Livelihood Mission has been awarded Skoch Award in the Gold category. This will not only provide an opportunity for the SHGs to showcase their products but will also provide many marketing opportunities.
24. The Defense Acquisition Council approved the proposal to buy 26 Rafale fighter jets for the Indian Navy which will have high indigenous content and will help in improving the operational preparedness of the Indian Navy.

Why In Broadcast

Iran became the new permanent member of the Shanghai Cooperation Organisation (SCO) at an India-hosted virtual summit of the grouping.

India's Interests

- SCO provides India greater visibility in the affairs of strategically important Eurasian region.
 - SCO enables India, as in integral part of Eurasian security grouping, to neutralize forces arising from religious extremism and terrorism.
 - Cooperation in 3 critical areas:
 - » Building trade and transportation links,
 - » Dealing with traditional and non-traditional security threats,
 - » Energy
- The above can be achieved through SCO mechanism.

Changing Geopolitics

- The chaotic exit of the US from Afghanistan has opened up space for Chinese influence and investments in the Central Asian region.
- China has drawn Pakistan more tightly in its strategic embrace, and grown ever more assertive on the global stage.
- In the light of Ukraine war, West's relations with Russia have plummeted to their worst-ever levels, while Beijing has declared a "no-limits" friendship with Moscow.
- Iran has signed a China-brokered deal to re-establish diplomatic relations with Saudi Arabia.

Shanghai Cooperation Organisation



About SCO

- SCO was created in 2001. It is permanent international organization.
- It works in maintaining peace, security and stability in the region.
- It's a Eurasian political, economic and military alliance.
- It is seen as counterweight to North Atlantic Treaty Organization (NATO).
- It is an economic and security block.
- It has emerged as one of the largest trans-regional and international organization.
- **Observer status:** Afghanistan, Belarus, Iran, and Mongolia.
- **Dialogue Partner status:** Azerbaijan, Armenia, Cambodia, Nepal, Turkey and Sri Lanka.

Bodies of SCO

- Secretariat in Beijing.
- Executive Committee of Regional Anti-terrorist Structure (RATS) in Tashkent.
- **Official Language:** Chinese and Russian
- **Chairmanship:** Among member States in rotation for a year.

Timeline

- **1996:** China, Kazakhstan, Kyrgyzstan, Russia and Tajikistan formed Shanghai Five Group.
- **2001:** Uzbekistan joined. Group renamed as Shanghai Cooperation Organization.
- **2003:** Charter signed in 2002. Entered into force in 2003. Charter focused on trade, connectivity and counter-terrorism.
- **2017:** India and Pakistan joined.
- **2023:** Iran joined.

- A border market was opened at Iran's border with Pakistan in 2023, despite the fact that they have not shared close ties over the years.
- For China, having Iran, with its abundant energy supplies, in the SCO is reassuring as it escalates the tussle with the US. In 2021, China and Iran signed a 25-year deal for cooperation in areas including oil.
- For Russia its close regional ally, Belarus, is likely to sign a memorandum of obligations, which will subsequently lead to full membership.

Why In Broadcast

The Union Cabinet has approved the draft of The Digital Personal Data Protection Bill, 2022, which is expected to be tabled in Parliament's Monsoon Session that begins on July 20.

Comparison with other Countries

➤ According to UNCTAD, an estimated 137 out of 194 countries have put in place legislation to secure the protection of data and privacy.

Adoption Rate:

- Africa: 61% (33 countries out of 54)
- Asia: 57% (34 countries out of 60)
- Least Developed Countries: 48% (22 out of 46)

EU Model:

- The GDPR focuses on a comprehensive data protection law for processing of personal data.
- It has been criticised for being excessively stringent, and imposing many obligations on organisations processing data.

US Model:

- Privacy protection is largely defined as "liberty protection".
- It enables collection of personal information as long as the individual is informed of such collection and use.



The Digital Personal Data Protection Bill, 2022

Purpose

The purpose of this Act is to provide for the processing of digital personal data in a manner that recognizes both the right of individuals to protect their personal data and the need to process personal data for lawful purposes, and for matters connected therewith or incidental thereto.

Application of the Act

- The provisions of this Act shall apply to the processing of digital personal data within the territory of India where:
 - » Such personal data is collected from Data Principals online; and
 - » Such personal data collected offline, is digitized.
- The provisions of this Act shall also apply to processing of digital personal data outside the territory of India, if such processing is in connection with any profiling of, or activity of offering goods or services to Data Principals within the territory of India.
- The provisions of this Act shall not apply to:
 - » Non-automated processing of personal data;
 - » Offline personal data;
 - » Personal data processed by an individual for any personal or domestic purpose; and
 - » Personal data about an individual that is contained in a record that has been in existence for at least 100 years.

Amendments

- The Information Technology Act, 2000 ("IT Act") shall be amended.
- Clause (j) of sub-section (1) of section 8 of the Right to Information Act, 2005 shall be amended.

Concerns Related to the Draft Bill

- The Bill approved by the Cabinet is understood to have largely retained the contents of the original version that was proposed in November 2022.
- Wide-ranging exemptions for the central government and its agencies, which were among the most criticised provisions of the previous draft, are understood to have been retained unchanged.
- The control of the central government in appointing members of the data protection board is learnt to have been retained as well.
- There is also concern that the law could dilute the Right to Information (RTI) Act, as personal data of government functionaries is likely to be protected under it, making it difficult to be shared with an RTI applicant.

Why In Broadcast

Recently, Supreme Court refused to hear plea on internet shutdown in Manipur and asked the petitioners to approach the Manipur High Court.

Supreme Court's Judgment & Subsequent Amendments

- In the Anuradha Bhasin vs. Union of India (2020) case, the SC declared indefinite suspension of internet services as illegal, stressing the importance of necessity & proportionality in issuing internet shutdown orders.
- In response, the Union government made amendments to the 2017 Rules in November 2020, limiting internet suspension orders to a maximum of 15 days.

Governance of Internet Shutdowns in India

- In India, internet shutdown orders are governed by the Temporary Suspension of Telecom Services (Public Emergency or Public Safety) Rules, 2017, which fall under the purview of the Indian Telegraph Act, 1885.
- These rules authorize senior bureaucrats from the Home Ministry at the central and state levels to order temporary shutdowns based on grounds of public emergency.
- The Information Technology Act, 2000 enables website blocking in cases threatening national sovereignty, integrity, or defense.



Restricted Internet Access & Public Order

Cost of Internet Shutdowns

- **Economic Losses:** Internet shutdowns can result in significant economic losses, especially for businesses that rely on internet connectivity for their operations.
- **Social Disruptions:** The internet serves as a vital tool for communication, enabling people to connect, share information, and participate in social movements. Internet shutdowns disrupt these essential channels, hindering social interactions and impeding the free flow of ideas.
- **Political Consequences:** Governments often employ internet shutdowns as a means to suppress dissent, control the dissemination of information, and limit political opposition.
- **Educational Setbacks:** Internet shutdowns can disrupt educational activities, particularly for students who depend on online resources for learning and collaboration.
- **Health Implications:** The internet plays a crucial role in accessing health information, telemedicine services, and online support groups.

Internet shutdown

An Internet shutdown happens when someone, usually a government, intentionally disrupts the Internet or mobile apps to control what people say online.

Reasons for Shutdowns

- Governments justify Internet shutdowns for a variety of reasons, such as
 - Stopping people from sharing information or organizing protests, even when the demonstrations are peaceful.
 - It is done to curb the spread of misinformation and rumors that can lead to deteriorating law and order situations.
 - Shutting down the internet helps maintain peace among communities in times of crisis.

How to Shutdown the Internet

- Blocking Websites
- Blocking the Whole Net

Are shutdowns becoming more frequent?

- As more people use the Internet and social media, they are also increasingly enjoying the freedom and opportunity these provide to organize themselves and advocate for what they want.
- In response, it seems governments are shutting down the net more often to stop this practice at enormous cost.

Why In Broadcast

In the ongoing 'chip war', the Chinese Ministry of Commerce announced that it would implement export controls on items related to gallium and germanium. It said that the controls were being imposed "in order to safeguard national security interests".

Impact on India

- The Chinese export controls are expected to have a short-term impact on India and its industries due to the disruption in immediate supply chains.
- The increased prices resulting from the export control order would affect the cost and availability of chips, potentially impacting India's chip-making plans.
- The long-term consequences for India's chip-making plans and industries will depend on several factors, including alternative supply sources, domestic semiconductor production capabilities, and strategic partnerships like the India-U.S. Initiative on Critical and Emerging Technology (iCET).
- As the two critical minerals are by-products in the processing of zinc and alumina, efforts should be made to focus on waste recovery from zinc and alumina production.
- Available substitutes indium and silicon could also be considered.
- Additionally, some good quality of silica feedstock is available in India, but that has to be converted to metallurgical-grade silicon for which cheap power is required.



China's Chip War

Response against the move

- U.S. "firmly" opposed the export controls and would consult its partners and allies to address the issue.
- European Commission has expressed concerns about the development, and doubts that the move was related to security.

Curbs Announced by China

- China has ordered that the export operators would now have to acquire a specific licence.
- Now operators are required to list the importers, end-users and end use.
- They would also have to produce the export contract in the original.
- Exporting without permission would constitute a violation — calling for administrative penalties.
- It would also be deemed a crime with the exporter being held "criminally responsible".

Concern for the World

- Gallium is used to make gallium arsenide which forms the core substrate for semiconductors.
- They are used to manufacture semiconductor wafers utilised in integrated circuits, mobile and satellite communications and LEDs.
- It is also used in automobiles and lighting, and for sensors in avionic, space and defence systems.
- According to the Critical Raw Materials Alliance, 80% of gallium production takes place in China.
- China also commands 60% of the total production of germanium.
- The element is used in fibre-optic cables, infrared imaging devices and optical devices.
- They are also used in solar cells for their ability to withstand heat and higher energy conversion efficiency.
- The European Commission, whose import dependency on China stands at 71% and 45% for gallium and germanium respectively, has recognised it as a 'critical raw material'.
- In India, the Ministry of Mines identified the two elements to be crucial for the country's

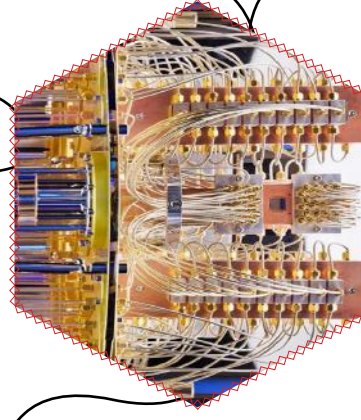
Why In Broadcast

Researchers at Microsoft have announced that they had figured out a way to create an elusive kind of particle that could potentially revolutionise quantum computing.

Applications of Quantum Computing

- **AI and machine learning (ML):** The capability of calculating solutions to problems simultaneously, as opposed to sequentially, has huge potential for AI and ML.
- **Cybersecurity:** Given the rapidly evolving nature of the cybersecurity landscape, quantum computers could help keep data encrypted while in use, providing both in-transit and at-rest protections.
- **Manufacturing:** Quantum computers in the manufacturing space, could help reduce the cost of prototyping and result in better designs that don't need as much testing.
- **Drug and chemical research:** Quantum computers can create better models for how atoms interact with one another, leading to a superior and more precise understanding of molecular structure.

- **Batteries:** Quantum computing could help incorporate new materials into products such as batteries and semiconductors. This could provide more insight into how to optimize batteries for longevity and efficiency.



Quantum Supercomputer

Reason for the Upgrade

The claim pertains to particles called Majorana zero modes, whose unique properties could help build quantum computers that are much less fragile than they are today, making them computationally superior.

About 'Majorana'

- A Majorana fermion, also referred to as a Majorana particle, is a fermion that is its own antiparticle.
- They were hypothesised by Ettore Majorana in 1937.
- The term is sometimes used in opposition to a Dirac fermion, which describes fermions that are not their own antiparticles.

Quantum Computing

Quantum computing is a type of computing that uses quantum bits (qubits) instead of classical bits (0s and 1s). This allows quantum computers to process information in a completely different way than classical computers.

Benefits of Quantum Computing

- **Speed:** Quantum computers have the potential to perform certain types of calculations much faster than classical computers. This can lead to significant improvements in fields such as cryptography, drug discovery, and financial modeling.
- **Parallel Processing:** A single quantum computer can perform multiple calculations at the same time due to the property of superposition.
- **Optimization problems:** Quantum computers are particularly well-suited for solving optimization problems, which are problems that require finding the best solution out of a large number of possibilities.
- **Simulation:** Quantum computers can be used to simulate quantum systems, which are difficult or impossible to simulate with classical computers. This has important implications for fields such as quantum chemistry and material science.
- **Cryptography:** Quantum computers have the potential to break many of the current encryption algorithms that are used to protect sensitive information.

Why In Broadcast

The three-day International Conference on Green Hydrogen (ICGH-2023) was organized by the Government of India, from 5th - 7th July 2023 at Vigyan Bhawan, New Delhi.

Way Forward

- India has an ideal geographical location with enough sunlight and wind for producing green hydrogen.
- Due to the industry's infancy, it is possible to establish regional hubs that export high-end green products along with engineering, procurement, and construction services.
- India is the only major economy to source 40% of its energy from non-fossil fuel sources nine years ahead of the target of 2030. International collaboration is crucial in realizing our vision of a green and clean planet, and the ICGH 2023 provides a platform for fostering such partnerships.

About Green Hydrogen Mission

- On 4th January 2023, the Union Cabinet approved the National Green Hydrogen Mission with an outlay of Rs. 19,744 crore from FY 2023-24 to FY 2029-30.
- Its objective is to make India a global hub for the production, usage and export of Green Hydrogen and its derivatives.

Outcomes Expected by 2030

- India's Green Hydrogen production capacity to reach 5 MMT per annum, contributing to the reduction in dependence on the import of fossil fuels.
- Nearly 50 MMT per annum of CO₂ emissions is expected to be averted through the production and usage of the targeted quantum of Green Hydrogen.

Challenges

- The development of green hydrogen is still in its infancy, and while India can lead the way by becoming a significant producer, it presently lacks the infrastructure required.
- Another challenge is the economic sustainability of extracting green hydrogen. It must be made cost-competitive with conventional fuels and

Green Hydrogen and it's need

- The source of electricity utilised to create the hydrogen molecule is indicated by colours. For instance, when coal is utilised the hydrogen produced is brown hydrogen.
- If the electricity used in the production of hydrogen comes from a renewable source like wind or solar energy, then the hydrogen produced is referred to as green hydrogen.
- Hydrogen has high energy content and when it is produced from a renewable source it emits almost no emissions, making it one of the cleanest energy sources.
- Since the world is facing its biggest-ever energy crisis and the threat of climate change is turning into a reality, it can ensure energy security and also help in cutting carbon emissions.

International Conference on Green Hydrogen



Aim

It aimed to explore the possibilities of establishing a Green Hydrogen ecosystem and fostering a systemic approach to meeting the global goals for decarbonisation through Green Hydrogen.

Why In Broadcast

E20 petrol, or petrol with 20 percent ethanol, is now available at 1,350 fuel retail outlets and will be available all over the country by 2025.

Global Biofuels Alliance (GBA)

- The GBA is one of the priorities under India's G20 Presidency.
- The USA and Brazil, which are working with India to build the GBA, are seen as global leaders in biofuels and account for 55 percent and 27 percent of global ethanol production, respectively.
- The GBA is also being supported by major international organizations like the World Economic Forum, the International Energy Forum, and the International Energy Agency, among others.
- The Alliance is expected to be launched on July 22 during the G20 Clean Energy Ministerial in Goa.

Ethanol Blending

- Ethanol is a biofuel, naturally produced by the fermentation of sugars by yeasts or by petrochemical processes like ethylene hydration.
- Ethanol is high in oxygen content, allowing an engine to more thoroughly combust fuel.
- In ethanol blending, a blended motor fuel containing ethyl alcohol derived from agricultural products is blended with petrol specifically.

Expansion of E20 Petrol

- The sale of E20 petrol was launched by PM Modi in February this year, starting with 84 retail outlets of public sector oil marketing companies (OMCs).
- The number of outlets dispensing E20 petrol has jumped to 1,350.
- In all, India has close to 87,000 fuel retail outlets.
- Global Biofuels Alliance (GBA) will be opened to other countries for membership on July 22 at G20 Energy Transition Ministerial Meeting in Goa.

About Biofuel

- Biofuel is a fuel that is produced over a short time span from biomass, rather than by the very slow natural processes involved in the formation of fossil fuels, such as petroleum.
- However, the word biofuel is usually reserved for liquid or gaseous fuels, used for transportation.
- Most of biofuel consumption occurs as a blend with refined petroleum products such as gasoline, diesel fuel, heating oil, and kerosene-type jet fuel.
- The most common biofuels now are – Bioalcohols such as ethanol, propanol, and butanol; Biodiesel; Bio-oils.

Ethanol Blending in India

Generations of Biofuel

Biofuels are divided into four categories:

- 1. First Generation:**
 - 1G biofuels are produced from consumable food items containing starch (rice and wheat) and sugar (beets and sugarcane) for bioalcohols, or vegetable oils for biodiesel.
- 2. Second Generation:**
 - 2G biofuels are mainly obtained from non-food feedstocks such as forest/industry/agricultural wastes and waste or used vegetable oils.
- 3. Third generation:**
 - 3G biofuels, known as 'algae fuel', are derived from algae in the form of both, biodiesel and bioalcohols.
 - But producing adequate algal biomass and scaling up extraction techniques are as yet unresolved challenges.
- 4. Fourth generation:**
 - Like the third generation, 4G biofuels are made using non-arable land.
 - This class of biofuels includes electro fuels and photo-biological solar fuels.

Mains Special: Important Questions based on Governance, I.R. and Social Justice

1. **Citizen participation is a must for working of a healthy democracy. In this context elaborate on Social Accountability and its tools. Also discuss the need for Social Accountability Law at all levels.**

Ans.

Citizen Participation refers to citizens acting individually and directly in political decisions and policies that affect their lives, rather than through elected representatives. It is necessary for a healthy democracy as it ensures

- improved governance,
 - better dialogue between communities,
 - improved quality of services through public awareness,
 - and capacity building of the public bodies.
- Citizen Participation manifests itself in the form of Social Accountability. Social accountability is an obligation and responsibility on the part of the government to be answerable to the citizens for its actions.

Tools of social accountability:

- **Social Audits** are powerful community monitoring processes that are often used to look at the utilization of resources in public works programs, employment schemes, etc.
- **Community Score Card** is an effective community monitoring and planning process that looks at the perception and performance of state services such as health, mother and child development, or water supply.
- **Participatory budgeting** offers a bottom-up approach for financial planning and management.
- **Community-led planning and implementation** is a process in which certain authorities in planning and implementing projects are delegated to the community to empower citizens as well as improve ownership and effectiveness of the interventions.

Significance of Social Accountability Law:

There have been demands from social activists for Social Accountability Law in the Country to ensure citizen's participation in the governance.

- It ensures that the citizens are able to access their rights and have their complaints redressed in a time bound manner by holding public officials accountable through the statute.
- It gives the right to citizens to hold the errant public officials and public institutions accountable to their duties through a wide range of actions, tools and mechanisms.

- It ensures that there is a Citizen's right to be heard in the matters of governance, not just being suggestive.
- The Law will provide a Collective Platform for Jan Sunwai(People's Court) on Janta Ka Manch (Public Platform).
- Information and reports of public works are disseminated to the public on a regular basis by the officials as part of their job.

Thus, Social Accountability Law, will ensure that citizens are actively involved in day to day governance, which generates civic sense in the Citizens and helps them to build democratic culture in the country.

2. **What is Academic Bank Of Credit in NEP 2020? Discuss its objectives and features. How this will lead to better higher education with standardization in the country at affordable prices?**

Ans.

One of the provisions of the National Education Policy 2020 (NEP 2020) is the introduction of the Academic Bank of Credit (ABC). ABC is a virtual store house of the student's academic records through a credit system.

Objectives of Academic Bank Of Credit (ABC)

- It will create an environment of higher education to be vibrant and accessible for all.
- Academic Bank of Credits will enable students to select the best courses or combination of courses to suit their aptitude at their own pace.
- Standardisation in the higher education of the Country by providing a competitive environment for educational institutions.
- Restructuring and integration of the decades old curriculum of the Universities according to the needs of students and market.
- Bring higher education closer to international practices, such as in the EU and South Korea.

Key Features of Academic Bank Of Credit (ABC)

- It will provide Multiple Entry and Exit Options for the students with a corresponding certificate or credit and allow them to exit and re-enter the studies and continue from where they have left.
- Flexibility of Curriculum Framework with a national level organisation to oversee this framework
- Bank for Academic Purposes for credit verification, credit accumulation and transfer with a virtual online store-house of database for students as account holders.

- ABC will only be accepting credit course documents for any course from the higher education institute, not from students to ensure uniformity.

Ensuring Standardisation in higher education

As education is a subject that comes under concurrent list, the credit system, curriculum and degree granting mechanisms vary from State to State and University to University. The ABC would reduce such disparity among institutions through standardisation of the credit system and promote uniformity in the degree-granting mechanism. This will also reduce the pedagogical gap that exists within higher education institutions of India. Many universities still have decades-old curriculum, obsolete readings and old evaluation and degree-granting mechanisms.

So, in a global environment where nations are moving closer for knowledge sharing and innovation, India cannot remain isolated by following a rigid system of granting degrees. Through its clauses, the ABC regulation can standardise our higher education up to the international level.

3. **According to UNDESA the number of elderly people in India is expected to rise to 20% of the total population by 2050 from 8.6% as per Census 2011. In this context discuss the socio-economic challenges faced by elderly in India and the measures that can be taken for their betterment.**

Ans.

The elderly Indian population is one of the fastest-growing in the world. Fulfilling needs for services and social protection for senior citizens, protection of their rights and enabling them to contribute in the development process must be priorities for India.

Socio-economic challenges faced by elderly in India:

- Majority of elderly population reside in rural areas, belong to low socioeconomic status (SES), and are dependent upon their families.
- Lack of quality, affordable, and accessible health and care services to the elderly.
- The high prevalence of several risky behaviors, such as tobacco and alcohol use and also physical inactivity.
- Familial neglect, low education levels and mental health issues.
- Due to lack of skills the elderly is not able to an active participant in the economy.
- Lack of physical infrastructure is a major deterrent to providing comfort for the aged.
- Inadequate welfare schemes.

Measures to be taken for betterment of elderly people:

- Stronger partnership between civil society,

community and families are necessary to complement the actions taken by the government.

- Adoption of Madrid International Plan of Action on Ageing, 2002.
- India should reimagine its entire health-care policy for the next few decades, with an elderly prioritized approach.
- India needs to accelerate implementation of programmes such as the National Programme for Health Care of the Elderly (NPHCE).
- Elderly-inclusive policies which bring the larger segment of the elderly within the ambit of the welfare schemes shall be formulated ensuring the coverage upto the last mile.

Conclusion:

India needs timely action based on the existing global framework and ensure that action should not fall behind this demographic trend. Increased investments, political will and addressing gaps in data and statistics are the key to concerted response.

4. **Narcotic drug use has grown significantly in India in recent years, ranging from traditional plant-based narcotics like cannabis, cocaine, and heroin to synthetic opiates like tramadol. What is the socio-economic impact of drug abuse on India? Suggest some measures to check the use of drugs among the vulnerable population.**

Ans.

The Global Burden of Disease Study estimates that illicit substances killed close to 7.5 lakh persons globally in just 2017 alone. 22 000 lives are thought to have been lost in India. Some estimates place the astonishing value of the world's drug trade at \$650 billion.

Socio-economic impact of drug abuse on India:

1. Psychological Effects: Prolonged drug usage results in chronic mental illnesses and a propensity for habit formation. Numerous long-term health consequences may result from it. These include paranoia, hallucinations, increased aggression, panic disorders, anxiety, and sadness.
2. Impact on the body: Misusing or abusing a substance can also have short-term physiological effects such as changes in hunger, insomnia, restlessness, elevated heart rate, slurred speech, alterations in cognitive function, a brief feeling of euphoria, and loss of coordination.
3. Drug misuse has a social impact that extends beyond the addicts themselves and into their families and the larger society. Families with substance misuse may also struggle with issues including criminal activity, alienation,

domestic violence, and child abuse or neglect.

4. **Economic Impact:** Drug usage, according to studies, causes poverty and family dissolution. Poverty is frequently passed down from parents to children in families where substance misuse has caused disruption.

Measures to curb abuse:

1. The only way to stop drug usage in India is to step up internal enforcement and tight border, airport, and sea port surveillance.
2. It's critical to distinguish between legalization, decriminalization, and commercialization of cannabis/marijuana.
3. The use of cannabis needs to be controlled, taxed, and monitored, just like the use of alcohol and tobacco products. Threats from it must be communicated in a suitable manner, just as we do with tobacco.
4. Children, the young, and people with serious mental problems must all have adequate safeguards in place because they are individuals who are most susceptible to its effects.
5. Drug abuse prevention and the health and psychosocial effects of drug use should be taught in schools starting in upper primary.

As stated in its constitution's Article 47 and as a signatory to the United Nations' International Conventions, India had a responsibility to take action to end the use of illicit drugs, devise strategies to prevent drug use, and make sure that those with drug use disorders could access treatment.

5. **Call for reservation in private sector has been rising in recent times to protect the right to life/livelihood of people domiciled in the State. What are the implications of reserving the private sector jobs?**

Ans.

There is increasing demand for reservation of jobs in private sector. Recently, Haryana government passed an act that reserved 75% of private jobs for the residents of the Haryana. Similar demands are being raised in other states like Andhra Pradesh, Madhya Pradesh, Karnataka, Gujarat, Maharashtra etc.

Reasons behind demand for reservation in private sector:

- The perception that outsiders and migrants are "taking away the jobs" meant for locals.
- Rising unemployment and lack of access to skills and low employability locally.
- The agrarian sector is under tremendous stress across the country, and young people are desperate to move out of the sector, hence seeking local jobs.

Several reports have shown that discrimination

is one of the reasons for under-representation of Dalits and Muslims in the corporate sector.

Implications of reserving the private sector jobs:

- New avenues for employment will open for lakhs of youth in the private sector.
- Reservation in private sector may stifle labor market and can choke the growth of the state.
- Labour productivity in the private sector may decline as some of such jobs would be done by people who might be less qualified.
- It would curb the unemployment rate within the states where these policies are to be implemented.
- It may discourage the influx of migrants seeking low-paid jobs, which has a "significant impact" on local infrastructure and leads to the "proliferation of slums".
- It was found that there were inherent biases among the corporate sector against minorities and Dalits and this will ensure that no such prejudice would be made.

Conclusion:

As the world turns inward, it is more than likely that these measures would soon be replicated in other Indian states. Thus, instead of rejecting or accepting such proposals in an outright manner, it would be better for all stakeholders to sit together and find the middle ground rather than disturbing the peace and harmony in the workplace.

6. **Poverty is a complex and insidious determinant of health caused by systemic factors that can persist for generations in a family. Comment upon the relationship between poverty and health. What are the challenges faced by persons below poverty line in accessing the health services in India?**

Ans.

"The biggest enemy of health in developing world is Poverty" – Kofi Annan. The key to achieve majority of Sustainable Development Goals are to reduce the poverty and increase the general health and well being of the population.

Relationship between Poverty and Health

1. A key contributor to poor health and a barrier to receiving necessary medical care is poverty. Financial constraints prevent the poor from acquiring the necessities for optimal health, such as enough quantity of high-quality food and medical care.
2. In turn, poor health is a significant contributor to poverty. This is partially attributable to the costs of receiving healthcare, which also include transportation expenses and any unofficial payments made to providers in addition to out-of-pocket expenses for services (such as consultations, testing, and medication).

3. Poverty is a causative factor since it can raise the risk of mental health conditions. Poor mental health can have a negative impact on poverty. One of the main causes is a restricted capacity for work, which results in unemployment through reducing productivity.

Challenges faced by Persons BPL:

1. Almost 50 million people are pushed to extreme poverty every year in India due to health care expenses. Almost 72% of out-of-pocket expenditure are drug related.
2. Studies have shown that those from lower socioeconomic groups who require more medical care are given less treatment than those who are wealthy and have fewer demands. This type of inequality is known as inverse care.
3. Over 2 million people die each year from preventable diseases such as diarrhea, malaria and typhoid. This mainly impacts the poorer section of the society.
4. Public health facilities are inadequate and unable to meet the demand of the country's burgeoning population. While private sector health facilities are beyond the approach of poor.
5. Most of the larger cities in India have large slum areas. Poor sanitation, the accumulation of garbage, poor drainage systems and a lack of clean drinking water are among the most prevalent problems in slums. These problems contribute to a host of health problems such as diarrhea, cholera and typhoid fever.

People who have enough money can feel less stressed and in control, have access to experiences and material resources, adopt and sustain healthy behaviors, and feel like they have a safety net in place financially. People are better able to obtain the possibilities required for a healthy existence through these methods. These chances include having a fulfilling job, a safe place to live, and a high sense of self-worth, all of which have an impact on our long-term physical and mental health.

7. **Crisis in Sri Lanka has provided an opportunity to India to deepen its ties with its island neighbour. Discuss the strategic significance of Sri Lanka for India and enumerate the measures taken by Indian government to aid Sri Lanka to overcome this crisis?**

Ans.

Sri Lanka has been going through worst economic crisis since its independence owing to serious balance of payment problem, depleting foreign reserves and very low import cover even for essential commodities. This economic crisis may transform into severe political crisis, which is

detrimental for India.

Significance of stable and prosperous Sri Lanka for India:

1. Strategic location in Indian Ocean:

- a. Critical for ensuring India's energy and trade security, 90% volume of trade through seas.
- b. Countering China's presence as it seeks to advance its string of pearls for encircling India.
- c. India friendly government critical for India emerging as net security provider in Indian Ocean.

2. Trade and economy:

- a. Significant reliance on Sri Lankan ports for trans-shipment business.
- b. India among one of the top exporters and investors in Sri Lanka.
- c. Significant presence of major Indian companies like Indian Oil, Dabur, Ashok Leyland etc.
- d. India's strategic projects like Trincomalee Oil Tank farm.

3. Security concerns: Instability may provide fertile ground for extremist forces in Sri Lanka, which may adversely impact India's security due to proximity.

4. Indo-Pacific vision: Free, open and inclusive Indo-Pacific requires political stable and economically prosperous island nations to counter China's Cheque book diplomacy.

5. Any instability in Sri Lanka may lead to migration from Sri Lanka and refugee crisis for India.

India's assistance to Sri Lanka in the crisis includes:

1. Currency Swap facility of USD 400 million under the SAARC Currency Swap Framework.
2. Loan deferment of about USD 500 million.
3. A dedicated USD 500 million Line of Credit for fuel imports.
4. Extension of a short term concessional loan of USD 1 billion.
5. A delegation headed by Foreign Secretary VinayKwatra visited island nation and assured Sri Lanka of its 'fullest support'.
6. Supply of essential food item, medicines, fuels, fertilizers etc. under the credit line facility.
7. Accelerated implementation of ongoing infrastructure and investment project to revive Sri Lankan Economy.

India being a larger neighbor and civilization friend must offer every possible financial help, policy advice as well as investments to help Sri Lanka rebuild its economy and also to prevent opportunistic China from making further inroads.

8. **"Indo-Pacific Economic Framework (IPEF) is a declaration of a collective desire to make the Indo-Pacific region an engine of global economic growth". Critically examine the significance of**

the framework for India's strategic interest in the region.

Ans.

IPEF is a US led initiative launched with 13 initial partners, including India, and aims to strengthen economic partnership among participating countries towards a resilient, inclusive, sustainable, prosperous, fair and competitive Indo-Pacific.

Significance of IPEF for India:

1. Offers an alternative to the Regional Comprehensive Economic Partnership (RCEP) through an opportunity to be part of value chain in Asia-Pacific region.
2. Opportunity to be part of a block currently representing 40% of global GDP.
3. Can help India to counter China's economic dominance in the region (China being part of RCEP), as it excludes China.
4. Coordination on the four pillars of IPEF, trade, supply chain resilience, clean energy and decarbonisation and tax and anti-corruption would help India to emerge as robust and responsible economic power.
5. It will help India and the world to improve mitigation and adaptation efforts toward climate change and realizing their Intended Nationally Determined Contribution.
6. It may facilitate development of 'Quad plus' architecture critical for India's security interest in Indo-Pacific region.
7. It may supplement India's effort under Act East Policy by providing opportunities for wider engagement.

Associated challenges include:

1. Possible conflict with India's policy like Data Localization rules, environment and labour standards etc.
2. India needs to strategically balance its engagement with IPEF vis-à-vis its membership in Shanghai Cooperation Organization.
3. Negotiations among the participating nations are yet to start, India must be vocal about its concern like Trade in Services, Intellectual Property Rights etc.
4. China views it as a US led Anti-China tool, and therefore India joining this initiative might antagonize China. This may lead to increased border tension.

Thus India must actively engage and cooperate with partners under the IPEF to materialize the objectives set under the framework as it is a sure path towards India's vision of free, open and inclusive Indo-Pacific.

- 9. Recently Finland and Sweden has applied to join NATO. Describe the aims and objectives of NATO and also discuss the apprehensions**

of Russia against the expansion of NATO in its neighbourhood.

Ans.

North Atlantic Treaty Organization (NATO) is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April, 1949, by the United States, Canada, and several Western European nations to provide collective security against the Soviet Union. There are currently 30 member states.

Aims and objectives:

- NATO's essential and enduring purpose is to safeguard the freedom and security of all its members by political and military means.
- NATO promotes democratic values and enables members to consult and cooperate on defense and security-related issues to solve problems, build trust and, in the long run, prevent conflict.
- NATO strives to secure a lasting peace in Europe, based on common values of individual liberty, democracy, human rights and the rule of law.

NATO is committed to the peaceful resolution of disputes. If diplomatic efforts fail, it has the military power to undertake crisis-management operations.

Apprehensions of Russia against the expansion of NATO in its neighborhood:

- Vladimir Putin has consistently maintained that the actions of current Ukrainian government pose a direct threat to Russia. Fear of NATO military presence at Russian border. In fact, large scale NATO military buildup over time in Ukraine. Russia called a red line beyond which there must be Russia's control. Russia feels that Ukrainian government is puppet government controlled by NATO.
- Russia wants NATO to return to its pre-1997 borders. Russia's concerns are understandable given that NATO was founded as a direct counterbalance to the USSR and Russia share considerable land border with the NATO Countries.
- Former Soviet republics such as Lithuania, Estonia and Latvia had already joined NATO which was hardly accepted by Russia. Thereafter Russia drew red line in case of Ukraine and Georgia.
- For centuries Russia viewed the Black Sea as central to its security due to its abundance of warm water ports, including Sevastopol in Crimea. However, access out of Black Sea into the Mediterranean is still restricted by the Montreux Convention of 1936, which gave Turkey, now a NATO member, control of Bosphorus Strait.

NATO played a critical role in stabilizing Europe

after World War II, preventing great-power conflict and overcoming Cold War divisions after 1989. However, many people are questioning the relevancy of NATO in today's world. Thus, all parties should adopt an amicable approach to allay fears of each other.

10 .Can G7 group be termed as exclusive club of world's richest countries? How G7 fulfils one of the strategies of India's pursuit of a multipolar world?

Ans.

The G7 is an informal bloc of industrialized democracies—the United States, Canada, France, Germany, Italy, Japan, and the United Kingdom—that meets annually to discuss issues such as global economic governance, international security, and energy policy.

G7 as exclusive club

1. The membership of group reflects richest economies of the world – USA, Canada, Japan etc. These advanced economies dominate global trade and the international financial system. Naturally, the grouping often takes their self-interest as prime consideration.
2. G7 used to be the club of richest countries in 1970s – the US, Japan, Germany, Britain, France, Italy and Canada. But now the seven biggest economies would include China and India, and exclude Italy and Canada.
3. Today's geopolitical realities are not reflected in the G7 grouping. With China rising as a new world power, G7 cannot remain a closed knit group. Various other countries, however, are now invited as invitees. For example, in the recent G7 summit India along with other countries were invited to the summit.

How G7 fulfils one of the strategies of India's pursuit of a multipolar world?

- India is now a regular invitee to G-7 summits and this year, despite New Delhi's differences with the West over the Ukraine crisis, India's presence as a guest for the summit underlines its growing weight in global conversations.
- At a time when the world order is intensely polarized, India remains one of the few nations which can engage with both the G-7 and BRICS.
- New Delhi has been consistent about its stance on global matters and in the process has managed to generate a sense of trust with its varied interlocutors.
- Participation in G7 meeting balances that in BRICS or SCO summits. Such participation gives us insights into thinking of major countries on current issues of international concern, multiple partners while never losing sight of its own vital interests.

Conclusion:

India can be the bridge between the US-led western alliance which has grown stronger by the day and the cause of the developing world that New Delhi had traditionally championed. It will be a tightrope walk, but Indian diplomacy is adept in doing so.

11. The success of democracy lies in accountability and transparency for both executive and legislature. Write how digitalization helps in this regard with special reference to Digital Sansad's objective and features?

Ans.

Introduction

Fundamental principles of any democratic government are transparency and accountability, not just in terms of clear command of hierarchy of seniors but also with the other stakeholders including, voters, citizens and civil society at large. The Executive, which is the Council of Ministers, is accountable towards the Parliament for its decisions. Parliament scrutinises its functions through various methods such as debates on Bills, issues on the floor of parliament, process of Question Hour and by scrutiny in Parliamentary Committees. Similarly, the Legislature is accountable to the Citizens of India by the electoral process. They have to get elected to the houses of the Parliament every five year.

Digitalisation of the Parliament

A digital parliamentary system uses digital media to enable lawmaking bodies to conduct meetings, conferences, and other forms of discourse. By doing so, the process can be made more efficient, and democratic governance can be improved.

Mechanisms of the Digitalisation

- Live proceedings of the sessions of parliament available to the Citizens.
- All records are stored electronically instead of on paper. The aim is not just to ensure data can't be manipulated, but to ensure no one can silence the public voice anymore.
- It is possible for all stakeholders to receive real-time updates about the law-making process.
- We produce more data, demographic data, social media data, etc., than we can possibly consume. Leaders in government must be able to leverage this information in order to make better decisions.

With an aim to make Parliamentary proceedings accessible not just to the members but also to the

public at large, 'Digital Sansad App' was launched recently by the Lok Sabha Secretariat.

Features of Digital Sansad App

- Updates on all Parliamentary proceedings and other activities will be available for the citizens on the 'Digital Sansad App'.

- It will further make it convenient for people to get general information on Members of Parliament, their participation in Sessions, on budget speeches from 1947 onwards.
- The archive of the House proceedings will be available from the 12th Lok Sabha to the 17th Lok Sabha.
- Users can see Members' profile, Question/Answers, and Today's Papers.

Thus, this app will make sure that information about the functioning and happenings of Parliament flows between all the stakeholders including Citizens seamlessly to hold those principles of transparency and accountability. In a sovereign democratic republic, it is the duty of the Parliament to uphold the highest standards of transparency and accountability.

12. "Civil society is new frontier of war, can be subverted to harm nation". Critically Examine the statement within the context of Civil Society being the engine of development, social justice and reforms in the nation.

Ans.

According to the World Bank, Civil society refers to the wide array of non-governmental and not for

profit organization that have a presence in public life, express the interest and values of their members and others, based on ethical, political, scientific, cultural, religious or philanthropic considerations. As such they are critical for nation's development as well as the security architecture.

Ways in which Civil society can be subverted:

1. Civil society consists of people and its organization, non-state actors, which is a critical element in the **fourth generation warfare**.
2. Disinformation easily spreads through Civil society organization, like religion based social media groups. This facilitates division and factionalism in society. For ex- communal violence, caste based violence.
3. In name of civil society, non-state actor easily carries out **propaganda** and incites people to raise violence against state machinery, for ex incitement of militancy in Kashmir.
4. According to an Information Bureau report, many foreign funded NGO's are deliberately thwarting numerous developmental projects.
5. According to IB's report **economic cost** of such malicious Civil society organization is around 2-3% of GDP.
6. Many of the MNC's use civil society as proxy to create hurdles for competitors, for instance US based NGO's are trying to create movement against French supported Jaitapur Nuclear

Power plant.

7. Civil society organizations are also used as fronts for money laundering.

Significance of Civil Society as:

Engine of development:

1. Helps in promotion of business and economic activities through constructive debates, voicing of interests by organizations like ASSOCHAM, FICCI, CII etc.
2. Civil society is also called the 'third sector', other two being government and business, and therefore harmonious relation between three is critical for developmental activities.
3. Many of them are engaged in providing and strengthening education (Save the Children, UNICEF, Teach for India), health care (AarogyaSeva, Bill and Melinda Foundation) etc. thus building human capital.
4. Also helping in skilling of the poor and marginalized.

Agents of Social Justice:

1. Protects and defends the rights of poor, marginalized, minorities etc., for ex Amnesty International.
2. There are rights advocacy groups like People Union for Civil Liberties, NALSA providing legal aid.
3. Gives platform to unheard and minorities to voice their concern, ex - Narmada BachaoAndolan to give voices to poor displaced tribals.
4. They also help increasing political and rights awareness through outreach campaign, Nukkad, Information campaign etc. This gives a sense of empowerment to marginalized.

Harbingers of reforms:

1. Raising voice for political transparency like Association for Democratic Reforms.
2. Catalyst for bringing necessary political reforms, for ex - fight of MazdoorKisan Shakti Sangthan led to passage of Right to Information.
3. Capacity building of masses participation in significant reform and review areas like social audit, public consultation for environmental clearance etc.

Thus what we need is an effective but liberal regulatory regime, political and rights awareness drive, vigilant security architecture, enabling environment etc. to ensure that Civil society flourishes rather than being subverted, for realizing the dream of India emerging as 'Vishwa Guru' (Global power).

MCQs Based on Current Affairs

1. Consider the following statements in the context of lambani embroidery patches, which were in discussion recently:

1. It is a complex form of textile ornamentation characterised by coloured threads, mirror-work and stitch patterns.
 2. Recently, it created a Guinness World Record.

3. The Lambanis speak the Gor dialect and have a script as well.

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

Answer: A

2. Consider the following statements-

1. The Indian Forest Act, 1927 was enacted with the objective of managing timber and other forest resources.

2. In 1975, forests were included in List III (Concurrent List) under the Seventh Schedule of the Constitution.

3. The Forest (Conservation) Act was passed on 25 October 1980.

Which of the above statements is/are correct?

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

Answer: B

3. Consider the following statements:

1. India is the second largest producer and exporter of wheat in the world.

2. Wheat has a higher water footprint and requires 1.4 times water than sorghum.

3. Sorghum (Jowar) is a drought resistant and heat tolerant crop and is an ideal alternative to wheat.

Which of the above statements are correct?

- A. One only B. Two only
 C. Three only D. None of the above

Ans: B

4. Consider the following statements regarding Sorghum (jowar):

1. Andhra Pradesh is the largest producer of sorghum in India accounting for about half of the total production followed by Karnataka.

2. Jowar is a nutritionally rich grain, high in dietary fibre, essential minerals and antioxidants and can be helpful in ensuring nutritional security in the country.

3. Jowar has a higher market demand than wheat and but it requires high investment and thus considered less economically viable.

Which of the above statements are incorrect?

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

Ans: C

5. Though birds are known to be monogamous species, recent research has indicated a rise in avian divorces. Consider the following statements with respect to increased divorces in birds:

1. Promiscuity is one of the major reasons for divorces in birds with male promiscuity being more prominent in most bird species.

2. Longer migration distances caused by climate change have resulted in prolonged separation in birds causing relationship instability.

Which of the above statements are incorrect?

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

Ans: D

6. Which of the following are the ecological impacts of increased avian divorces?

1. Altered gene flow within populations affecting genetic diversity

2. Increased stability of breeding partnerships within bird populations

3. Reduced resource sharing within bird communities

4. Enhanced survival rates and development of offspring

Which of the above options are correct?

- A. One only B. Two only
 C. Three only D. All of the above

Ans: B

7. Consider the following statements with respect to Cucumber Mosaic virus (CMV):

1. CMV is a plant pathogen that belongs to same Virgaviridae family of viruses like Tomato mosaic virus and Tobacco mosaic virus, affecting a narrow host pool like tomato, cucumber, and peppers.

2. CMV infection results in yellowish and dark green areas on foliage, blister-like appearances on leaves, leaf distortion.

3. Low temperatures and dry conditions are conducive to the spread of CMV in tomatoes.

Which of the above statements are correct?

- A. One only
B. Two only
C. Three only
D. None of the above

Ans: D

8. Consider the following statements regarding NeSDA.

1. National e-Governance Service Delivery Assessment (NeSDA) Framework was launched by Department of Personnel and Training under the Ministry of Personnel, Public grievances and Pensions.
2. It is a biannual assessment exercise based on the Online Service Index (OSI) of UNDESA that assesses all the e-service portals of states and UTs.
3. In the 2021 survey, it was noted that e-services of the finances, local governance and utility were most widely used by the citizens.

Which of the above statements are correct?

- A. One only
B. Two only
C. Three only
D. None of the above

Ans: A

9. Consider the following statements:

1. India is a signatory to the United Nations Convention on the Rights of the Child (UNCRC) and the Optional Protocol to the UNCRC on the sale of children, child prostitution, and child pornography.
2. Key laws in India against child trafficking include Immoral Traffic (Prevention) Act, 1956 (ITPA), POCSO Act 2012, and Juvenile Justice (Care and Protection of Children) Act, 2015.
3. According to a recent report by IOM, children from disaster-prone and vulnerable nations face 1.12 times higher odds of trafficking.

Which of the above statements are correct?

- A. One only
B. Two only
C. Three only
D. None of the above

Ans: C

10. Consider the following statements regarding child trafficking:

1. Recent report by International Organisation for Migration (IOM) linked climate change to increased child trafficking.
2. The analysis revealed that most child trafficking incidents occurred internationally for forced labour and sexual exploitation.
3. According to the report, children below the

age of 12 were most affected with females being the primary victim of sexual exploitation.

Which of the above statements are correct?

- A. One only
B. Two only
C. Three only
D. None of the above

Ans: A

11. Choose the correct statement about Digital Publishers Content Complaints Council (DPCGC)-

1. It has been established in July 2021 under the aegis of Internet and Mobile Association of India (IAMAI).
2. DPCGC is an officially recognized, independent self-regulatory body for Online Curated Content Providers (OCCP).

Which of the above statements is correct?

- A. Only 1
B. Only 2
C. Both 1 and 2
D. Neither 1 nor 2

Answer: B

12. Consider of the following statements -

1. The first co-operative society in India was established in 1906 by Sir Frederick Nicholson.
2. "Co-operative societies" are a subject in the Concurrent List.
3. Article 243(ZH) of the Constitution empowers the Parliament and the State Legislatures to make laws for the incorporation, regulation and winding up of cooperative societies.

Which of the above statements is/are correct?

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

Answer: C

13. Consider about Nitrogen Dioxide (NO₂) which has been in discussion recently -

1. Nitrogen dioxide (NO₂) is a reddish-brown colored gas with a pungent odor.
2. Nitrous acid and nitric acid are included in the nitrogen oxides.
3. It also contributes to the formation of acid rain and depletion of the ozone layer.

Which of the statements given above is/are correct?

- A. Only 1 and 2
B. Only 1 and 3
C. Only 2 and 3
D. All statements are correct

Answer: D

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A life of service: Defence Minister Rajnath Singh addresses a gathering of successful candidates of the UPSC Civil Services Exam in Lucknow on June 18. ANI

A genre in itself: civil service memoirs are important records of public administration

The best memoirs aren't the tell-all, gossipy accounts, but those that are insightful and reflective, acknowledging the role of civil servants in implementing policy decisions, and providing glimpses of the truth

Uma Mahadevan-Dasgupta

Bain was an unusual civil servant. "Call me Bain" – those were his first words when we met at his son, writer Dilip D'Souza's house in Bandra. J. Bain D'Souza was five decades older than me and had joined the civil service in the year that India became independent. As a trainee officer, he helped to organise refugee camps during Partition. He held key postings, including as Municipal Commissioner of Bombay and Chief Secretary of Maharashtra.

Bain also told terrific, self-deprecating jokes. His memoir, written in equally modest and very readable style, was titled *No Trumpets or Bugles: Recollections of an Unrepentant Babu*.

In spare, no-frills prose, he writes about the work of public administration in the early decades of the life of the nation. He also notes a troubling trend in a section of the IAS over the years: of becoming unreflective in work, dealing only with "what their clerical army feeds them... slaves of their in-trays." This naturally impacts accountability and responsiveness.

But, he adds, what has stayed unchanged is this: "The official's readiness to regard himself as master rather than servant of the people. This is something we happily inherited from the British... Our officials have steadily played God. They have known best what is good for the people, and being predominantly from the upper classes, have tended to make policy choices that favour their own kind. So (for example) you get the neglect of public transport in our cities."

Witness to history

The civil service memoir is a genre in itself and an important part of the record. Civil servants are witnesses to major historical moments and key discussions on policy. Nevertheless, the best civil service memoirs aren't the 'tell-all' or salacious accounts filled with gossip about the weak or fractious moments of powerful leaders. The most interesting memoirs are insightful and reflective, acknowledging their role of implementation rather than as prime movers of policy decisions; and providing glimpses of the truth, but in the poet's words, "telling it slant".

Civil service memoirs ought to be compelling – after all, they have a ringside view of history – but let's face it, many are hard to finish. They tend to be full of 'me, myself, and I' – forgetting that there is no 'I' in government, but that it is really all teamwork, with some of the hardest work being done by those who are directly in contact with the people at street level, especially frontline community workers.

Some civil service memoirs provide a chronological account of every single posting and every anecdote in excruciating detail. Some get lost in stories about "When I was a Collector" – forgetting that after the 73rd Constitution Amendment, the role of the Collector – a creation and legacy of the British administration – is marginal at best, and that it is decentralised local governance which needs to be strengthened.

Some sharp commentaries

The memoir can only be as interesting as the life story it tells. In a sea of banal,

self-obsessed, and triumphalist narratives, there are some that stand out. One highly readable memoir is V. Balasubramanian's *Full from Grace: Memoirs of a Rebel IAS Officer*. Intelligently written, richly detailed, and with the sharpest of commentary, Balasubramanian brings an original voice to his telling of several decades of administrative history.

Another deeply unusual memoir is Chiranjeev Singh's *Yaava Janmada Maitri*, written in Kannada. Born in pre-Independence India in Punjab, Singh served as India's Ambassador to UNESCO in Paris, and worked and settled in Karnataka where he retired as Development Commissioner.

K.M. Chandrashekar's recent memoir *As Good as My Word* is also about an unconventional career. In his assessment, the high points of his work, even more than the four years spent as Cabinet Secretary, were his tenures in Brussels and Geneva at the WTO, where, using negotiation skills learnt while dealing with unions and factions in Kerala, he worked on international trade policy.

I have also been drawn to analyses that take a long, honest look at the bureaucracy itself, not from the centre but from the margins.

One such critique is T.R. Raghunandan's witty and ironic deconstruction of life bound up in red tape, titled *Everything You Ever Wanted to Know About the Bureaucracy but Were Afraid to Ask* – a trenchant look at a civil service that takes itself far too seriously. Another is N.C. Saxena's introspective and deeply researched *What Ails the IAS, and Why It Fails to Deliver: An Insider's View*, in

which he argues why the IAS must share the blame for the country's inadequate performance on hunger and inequality.

Lack of women's voices

I have often wondered why there are so few memoirs by women civil servants. Surely, they have stories to tell, not least of all about the entrenched patriarchy they have often had to struggle against in their work. Yet perhaps, as women tend to do, they undervalue their own contributions.

At a recent discussion on a civil servant's book, there was the inevitable question about why civil servants wait until retirement to write their memoirs.

The answer is quite simple: for one thing, service conduct rules come in the way; for another, it is difficult to reflect and write in the midst of meetings, crises, and multiple demands on one's time; but the most important reason is that it is only after retirement that it is possible to take a long, measured look at the years that have gone by.

Finally, not all civil servants write their memoirs – but they leave a mark in the systems and processes they put in place. P.R. Nayak of the 1954 batch of the IAS passed on this week. Among the many deeply felt tributes, his junior colleagues recalled how, as Development Commissioner before the advent of computers, Nayak had devised a detailed system for monthly multilevel reviews, from the taluka to state level, of major developmental programmes – a system that continued to serve the state for decades.

A great legacy indeed.

Uma Mahadevan Dasgupta is in the IAS.

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