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

Year : 5 | No. : 17 | Sep 2023 / Issue 01 | Price : ₹ 70

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Evaluation of the Role of Women Self-Help Groups In Women Empowerment

Digital Health: A Revolutionary Step in Global Health Infrastructure Development

Rationale of New Laws Brought in Place of Colonial Laws IPC & CrPC

Central Government's Strategy & Initiatives for the Modernization of Indian Armed Forces

Supreme Court's Decision to Ban the Use of Words Showing Gender Stereotypes

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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.

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Best wishes.

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Complete Fortnightly for UPSC and PCS Exam

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Digital Health: A Revolutionary Step in Global Health Infrastructure Development

"Digital technologies are transforming lives, societies and businesses in all sectors across the world. we are at an important juncture where all countries are aligning their healthcare service delivery with integration of technology. The World Summit on Information Society (New York, 15–16 December 2015) highlighted the technology-enabled breakthroughs in government in the provision of health care. Boundless potential of digital health can accelerate progress towards universal health coverage."

Why in News:

Recently, Union Minister for Health and Family Welfare, Dr. Mansukh Mandaviya launched 'Global Initiative on Digital Health – a WHO Managed Network' in the presence of Dr Tedros Adhanom Ghebreyesus, Director General, World Health Organization at G20 Health Minister's Meeting in Gandhinagar, Gujarat.

Global Initiative on Digital Health (GIDH):

- GIDH is a WHO Managed Network that will promote equitable access to digital health. It will focus on four foundational pillars:
  - Aligning efforts with the Global Strategy on Digital Health 2020–2025.
  - Offering quality-assured technical assistance for standards-based Interoperable systems.
  - Facilitating the use of digital transformation tools.
  - Ensuring mutual accountability.
- The GIDH aims to consolidate efforts and investments in the digital health sector, creating a comprehensive digital health ecosystem. The initiative aims to support countries to plan and implement high quality digital health systems and facilitate patients to access healthcare services based on a people-centric approach.

WHO and Digital Health:

- Global Initiative on Digital Health will also support WHO's Global Digital Health Strategy 2020-2025. The Global Strategy on Digital Health was endorsed by Member States in 2020 as a way to align actions and goals, while defining a roadmap towards digital health transformation.
- WHO is harnessing the power of digital technologies and health innovation to accelerate global attainment of health and the well-being WHO has three key objectives to promote the adoption and scale-up of digital health and innovation:
  1. Translating latest data, research, and evidence into action: this means promoting standards for interoperability and data sharing and supporting implementation of digital solutions that contribute to informed decision making.
  2. Enhancing knowledge through scientific communities by bringing together top expert voices around topics of clinical and public health significance.
  3. Systematically assessing and linking country needs with supply of innovations. WHO takes a proactive, systematic approach to identify, promote, co-develop, and scale innovations that are based on country needs.
- The WHO Global Strategy on Digital Health, adopted in 2020 by the World Health Assembly, presents a roadmap to link the latest developments in innovation and digital health, and put these tools to action in order to improve health outcomes.
- The purpose of WHO's Global Strategy on Digital Health is to support countries in strengthening their health systems through the application of digital health technologies and achieve the vision of health for all. The strategy is designed to be fit for purpose and for use by all Member States, including those with limited access to digital technologies, goods and services.

World Bank on Digital Health:

- The launch of the GIDH also coincided with the release of the World Bank's flagship report on "Digital in Health – Unlocking the Value for Everyone." This report provides practical guidance for countries to kickstart digital health implementation.
- The World Bank's report calls for a new digital-in-health approach where digital technology and data are infused into every aspect of health systems management and health service delivery for better health outcomes. Further, evidence-based digital investments can help governments save up to 15% of health system costs.

Digital Health:

- Digital health is the use of digital technologies for health care purposes. The field encompasses a wide variety of digital health technologies, including health information technology, health informatics, wearable medical devices, software as a medical device, personalized medicine, mobile health, telemedicine and telehealth. Digital health technologies use computing platforms, connectivity, software and sensors for health care and related uses. Digital health can help make health systems more efficient and sustainable, enabling them to deliver good quality, affordable and equitable care.

Relevance of Digital Health:

Digital health is important for a better healthcare system. Appropriate and safe use of health data and proper legal and technical safeguards to the patient's privacy can support informed public health policy,

more strategic health financing models and promote unprecedented research opportunities.

- It can support the creation of standards-based electronic health records.
- Enable near real-time public health surveillance.
- Improve quality of care through clinical decision support systems.
- Facilitate self-management of health by patients.
- Digital health innovations are designed to help save time, boost accuracy and efficiency.
- Using AI in the healthcare applications can augment human decision-making. Many hospitals, for example, use AI-based patient monitoring tools to collect and treat the patient based on real-time reports.
- By analyzing patient records, medical software can find inconsistencies between a patient's health and prescriptions and then notify health professionals and patients of a potential medication error.
- Digital health has the potential to prevent disease and lower healthcare costs, while helping patients monitor and manage chronic conditions.
- One of the biggest benefits of digital healthcare is telemedicine. With its mass adoption, patients in rural and remote areas, who remained aloof from healthcare services, can now access affordable and quality healthcare. With the help of innovative technology, they can now seek online consultation and get medicines delivered to their homes in a few minutes.

Digital Health in India:

- India is committed to narrowing the digital health divide by promoting digital solutions and innovation. The country's digital infrastructure and capabilities, such as mobile apps and telemedicine, could increase access to healthcare for all, regardless of location or socio-economic status.
- NITI Aayog's National Health Stack and recently released report on National Digital Health Blueprint by the Ministry of Health and Family Welfare has conceptualized, amongst other things, a unique health ID containing individuals' health records
- India provided Co-Win, E-sanjeevani, and Aarogya Setu applications as digital public goods for providing equitable access to critical health solutions. E-Sanjeevni, a tele-consultation platform crossed 100 million teleconsultations, the vaccine management drive under Co-Win and Arogya Setu achieved administration of more than 2.2 billion doses. Prime Minister Arogya Yojana (PMJAY) provided health insurance to 500 million citizens free of cost in a cashless and paperless manner.
- National Digital Health Mission created a digital infrastructure for providing healthcare services across the country. It envisions a national digital health ecosystem in India which supports universal health coverage.

Challenges of digital health:

- The digital transformation of healthcare has raised several challenges that affect patients, medical professionals, technology developers, policymakers and others. Due to the massive amounts of data collected from a variety of systems, data interoperability is an ongoing challenge.
- Additional challenges relate to concerns ranging from digital literacy among patients, unequal access to healthcare, issues related to data storage, access, sharing and ownership.
- Other concerns relate to technology and ethics. For example, when medical robots are used, who is responsible for mistakes made during surgery: the hospital, the technology developer or manufacturer, the doctor who used the robot?
- The disparity in the rural-urban healthcare system in India is huge. Over 75% of the healthcare infrastructure is concentrated in metro cities, where only 27% of the total population resides—the rest 73% of the Indian population lack even basic medical facilities.

Way Forward:

- Digital health is a great enabler in delivery of healthcare services and has the potential to support overall universal health coverage targets. Digital solutions hold the capacity to revolutionize the healthcare delivery systems.
- Digital health should be an integral part of health priorities and benefit people in a way that is ethical, safe, secure, reliable, equitable and sustainable. It should be developed with principles of transparency, accessibility, scalability, replicability, interoperability, privacy, security and confidentiality.
- Global Initiative on Digital Health would foster equity in healthcare by integrating best practices and advanced technologies like AI, all while upholding ethical standards. The GIDH will ensure inclusivity and integration by not leaving anyone behind.
- Digital technologies are now integral to daily life, and the world's population has never been more interconnected. Innovation, particularly in the digital sphere, is happening at unprecedented scale. Even so, its application to improve the health of populations remains largely untapped, and there is immense scope for use of digital health solutions.

Strong India-Sri Lanka Ties for Peace & Security of South Asia And Indian Ocean

India and Sri Lanka recently celebrated the 75th anniversary of their political relations. With this, the Indian-origin Tamil community has completed 200 years of its arrival in Sri Lanka. On this special occasion, Sri Lankan President Ranil Wickremesinghe visited India to hold strategic discussions on a wide range of issues with India. This was his first visit to India after assuming the office of President of Sri Lanka. India has officially handed over the Dornier-228 maritime surveillance aircraft to Sri Lanka on the occasion of the 77th Independence Day and has once again proved that it pays special attention to Sri Lanka in its 'Neighbourhood First policy'. India has been working from time to time to navigate Sri Lanka through multiple challenges in the Indian Ocean.

- India and Sri Lanka have adopted a vision document for economic partnership. Through this, both countries will increase cooperation in tourism, energy, trade, higher education and skill development. The two countries have also decided to strengthen maritime, air, energy and people-to-people connectivity. During the bilateral talks, held during the Sri Lankan President's visit to India, Prime Minister Narendra Modi once again assured that India will continue to help Sri Lanka in this hour of need.
- India and Sri Lanka have decided to enhance air connectivity, start passenger ferry services between Nagapattinam in Tamil Nadu and Kankesanthurai in Sri Lanka, and resume flights between Chennai-Jaffna, which will boost economic and cultural linkages between the two countries. Regarding energy cooperation, the two countries have made crucial decisions which includes decision to speed up the work of connecting the electricity grid and to build a petroleum pipeline. It has also been decided to conduct a feasibility study to explore this possibility. Apart from this, both countries have also agreed to examine the feasibility of the land bridge and have decided to start negotiations on the Economic and Technology Cooperation Agreement (ETCA) soon. India believes that this agreement will open new avenues of bilateral trade and economic cooperation. The two countries have expressed confidence that the agreement for UPI launch in Sri Lanka will also help in enhancing fintech connectivity.
- Sri Lanka does not have a Free Trade Agreement with China. It has such agreements only with India, Pakistan and Singapore. Sri Lanka though had considered entering into Free Trade Agreements with countries like Thailand and China, but decided not to rush into such a decision, assessing its economic situation and economic sovereignty. That is why in the year 2019, Sri Lanka had also indicated to review its Free Trade Agreement policy.

Factors affecting India-Sri Lanka relations:

- India and Sri Lanka share a strong foundation in historical, cultural and civilizational linkages. The relationship between the two is more than 2500 years old. Since ancient times, there have been religious, intellectual and linguistic interconnections between the two countries. The Mauryan Emperor Ashoka sent his son Kunal and daughter Sanghamitra to Sri Lanka to spread Buddhism. The accounts of Ramayana also confirm the cultural relations between the two countries. Bond between the Tamils of Tamilnadu and Sri Lanka is also a major pillar of relationship between the two countries.
- Geographical factors, also significantly influence the relations between India and Sri Lanka. Sri Lanka's strategic position in the Indian Ocean has played an important role in determining India's foreign policy. Sri Lanka is India's immediate neighbour in the Indian Ocean and due to the vast expanse of its Exclusive Economic Zone, it is critical for the development of blue economy or ocean economy with India.
- Sri Lanka's vast Exclusive Economic Zone is also crucial for the development of fisheries resources. Sri Lanka is part of Asian continent and the South Asian subcontinent and as a key member of SAARC, it plays an important role for peace, stability, security and prosperity of South Asia. Its geographical proximity and cultural ties with Tamil Nadu have influenced both countries at the foreign level.
- Furthermore, the Gulf of Mannar, the Palk Strait, Mandapam, Pamban Island, Katchatheevu Island, Talaiya Mannar, Rameswaram, Adam's Bridge have influenced the relations between the two countries. All these sites have played a key role in promoting the issues of fishermen between India and Sri Lanka, which has negatively impacted the relations between the

two nations from time to time.

Growing cooperation between the two countries in South Asia and the Indian Ocean Region:

- The 'Neighbourhood First policy' has a special significance in India's foreign policy. Along with this, the 'SAGAR' vision is also an important aspect of Indian foreign policy. India believes that Sri Lanka has an important place in these two and considers good relations with Sri Lanka essential for the success of its island diplomacy in the Indian Ocean. The two countries are members of the SAARC and have previously spoken on counter-terrorism cooperation and counter-trafficking operations at the SAARC forum. Ever since the SAARC Summit ceased to held, the two countries, as members of BIMSTEC, have stressed on enhancing regional cooperation in the Bay of Bengal region.
- Additionally, as members of the Colombo Security Conclave (CSC), India and Sri Lanka are working to address diverse security and trade challenges in South Asia as well as the IOR. India, Maldives, Mauritius and Sri Lanka are members of the CSC. Mauritius has been made a full member in 2022. The Colombo Security Conclave has two observer member countries: Bangladesh and Seychelles. Its secretariat is located in Colombo, Sri Lanka. CSC was launched in 2011 as a trilateral maritime cooperation mechanism by India, Maldives and Sri Lanka. It is a forum to effectively raise regional maritime issues related to the security of the Indian Ocean. The areas in which the Colombo Security Conclave cooperates include:
  - Maritime safety.
  - Counter-terrorism.
  - Counter-radicalisation.
  - Combating smuggling and organised crime
  - Cyber security.
  - Humanitarian assistance.
  - Disaster relief assistance.
- Its worth noting that the CSC countries are part of India's policy of Neighborhood First, India's Extended Neighborhood Policy, Sagar Vision, Indo-Pacific Strategy and Island Diplomacy. They are of great importance in terms of India's maritime trade interests in the Indian Ocean.

Significance of Tamil issue for peace and security in South Asia

- The dispute between the Tamils and Sinhalese in Sri Lanka gave rise to organizations like the LTTE, which had an impact on separatist movements of the south Asian states, including India. The issue of discrimination and denial of political rights to the Tamil community in Sri Lanka is also an aspect of the relationship between the two countries, which has been causing bitterness from time to time. The demand for political autonomy to the Tamil minority community in Sri Lanka is very old. President Wickremesinghe began talks with the Tamil National Alliance (TNA) in December 2022 to find a solution to this demand. In the north and east of Tamil-majority Sri Lanka, they have been demanding full political autonomy, which has been opposed by the Sinhalese community. Sri Lanka has about 75 per cent Sinhalese and 11 per cent Sri Lankan Tamils.
- India has always been an advocate of full implementation of the 13th Amendment to the Sri Lankan Constitution. Through this, it has been said to give more powers to the provincial councils to meet the demand of the Tamil people. It was incorporated in 1987 but has not been fully implemented. Ever since Ranil Wickremesinghe became president, he seems to be trying to resolve the issue. However, his ideas of full implementation of the 13th Amendment have been opposed by powerful Buddhist religious leaders.
- Prime Minister Narendra Modi and the Sri Lankan President recently discussed this issue. The Sri Lankan President had expressed confidence that the Sri Lankan government would fulfil the aspirations of the Tamils and carry forward the reconstruction process for equality, justice and peace. India also expects the Sri Lankan government to fulfil its commitment of implementing the 13th Amendment and hold provincial council elections. India has announced that various projects worth Rs 75 crore will be completed for Indian-origin Tamil citizens of Sri Lanka. India will also contribute for the development programmes in the northern and eastern region of Sri Lanka.
- India believes that a peaceful, stable and prosperous Sri Lanka is essential for the stability and development of not only India but the entire South Asia and the Indian Ocean. Keeping with this vision, India has provided financial, developmental and humanitarian assistance to Sri Lanka in these times of economic crisis.

Evaluation of the Role of Women Self-Help Groups In Women Empowerment

On the occasion of Independence Day, PM Modi paid homage to the irreplaceable role that women have played in scripting the saga of our nation's progress. With visionary zeal, he unveiled a bold ambition: to see two crore "lakhpati didis", a flagship programme by the govt to empower women through Self Help Groups (SHG). The PM asserted that a women-led government is an additional force that will take India forward while G-20 has acknowledged the country's approach of women-led development.

Self Help Groups (SHG):

- Self Help Groups (SHGs) are community-based organizations formed by a small group of people, primarily women, with the aim of pooling their resources and working together for mutual support and economic upliftment. SHGs typically consist of 10 to 20 members from similar socio-economic backgrounds who come together voluntarily to address common challenges and opportunities.
- In order to address the multi-dimensional aspects of social development, the SHGs are intensively involved in awareness generation, behavioural changes and demand generation for services in food, nutrition and sanitation activities. SHGs create a supportive environment, fostering leadership, health, and education. They empower women beyond finances, challenging norms and promoting community development. Ultimately, SHGs catalyze holistic women's empowerment, benefiting individuals, families, and communities.
- Eg: Kerala's SHG network – Kudumbashree, took an active role in developing a wider community response during COVID19 in multiple areas including microfinance, microenterprise, social development, and mental health initiatives.

Role of SHGs in Women Empowerment:

- **Microfinance and savings:** One of the primary goals of SHGs is to encourage members to save small amounts regularly. These savings are then collectively used to provide loans to members for various income-generating activities.
- **Financial inclusion:** SHGs promote financial inclusion among their members, especially in rural areas where access to formal banking services might be limited. Through regular savings and loan facilities within the group, members gain access to credit without the need for collateral.
- **Capacity building:** SHGs focus on building the capacity of their members through training and skill development sessions. This helps members enhance their knowledge about various livelihood activities, financial management, and other relevant skills.
- **Income generation:** SHGs encourage their members to engage in income-generating activities, such as small-scale agriculture, animal husbandry, handicrafts, and more. Loans from the group's savings pool are provided to members to initiate or expand these ventures.
- **Empowerment:** SHGs empower women by giving them a platform to voice their concerns, make decisions collectively, and manage their finances. This increased participation leads to improved self-esteem and confidence among the members.
- **Social support:** Apart from economic goals, SHGs also provide social support to their members. They act as forums for discussing and addressing various social issues like health, education, and community development.
- **Linkages to Government Schemes:** SHGs often serve as intermediaries between their members and various government schemes and programs. They facilitate access to subsidies, grants, and other benefits provided by the government.

Government Initiatives to Support SHGs:

- **NRLM and Income goal:** The Government is committed to the National Rural Livelihood Mission (NRLM), aiming to elevate the annual income of every woman in self-help groups (SHGs) to Rs 1 lakh by 2024. The focus is on boosting entrepreneurship and fostering economies of scale within SHGs.
- **Shift to entrepreneurship:** Moving away from a grant-based approach, the Government is emphasizing a shift towards providing loans and improving market access to support SHGs. This approach aims to strengthen the self-sufficiency of SHG members.
- **Sakhis to perform diverse roles:** SHGs are envisioned to have a multifaceted role. Women in SHGs are engaging in roles like Business Correspondents, Bank Sakhis, Kisan Sakhis, and Pashu Sakhis. The goal is to encourage diversification in sectors like agriculture, animal husbandry, millet cultivation, and horticulture, offering new opportunities.
- **Mission 1 Lakh, 2024:** The government is

launching "Mission 1 Lakh, 2024" with a focus on supporting women farmer producer companies and clusters. It's forging partnerships with e-commerce giants like Flipkart and Amazon to connect these groups with larger markets. The Government's assistance includes upskilling, branding, and packaging support.

- **Drone ki Udaan:** The PM said that 15,000 Women's Self-Help Groups would be given loan and training for operating and repairing drones. "Drone ki Udaan" will be carried out by these Women Self-Help Groups.
- **Lakhpati Didis Initiative:** This program is a collaboration between the Ministry of Rural Development and the Ministry of Ayush. It aims to skill rural youth and empower women through Self Help Groups (SHGs).

How can Lakhpati Didis Empower Women?

- **Economic Empowerment:** Under the 'Lakhpati Didi' scheme, women belonging to SHGs are encouraged to engage in micro-enterprises with skill development. The goal is to help them achieve annual earnings of Rs. 1 lakh or more, doubling their income and boosting their economic status.
- **Market Access:** The initiative strives to provide market access for the products produced by these women. Partnerships with prominent e-commerce platforms like Amazon, Flipkart, and others, as well as Government e-Market Place (GeM), are being established to ensure fair market exposure at both national and international levels.
- **Current Impact:** Prime Minister Modi highlighted that around 10 crore women are already part of women self-help groups. Their proactive involvement in initiatives such as 'didi in the bank' and 'didi in the anganwadi' is generating positive outcomes for all stakeholders in villages and rural areas.
- **Future Vision:** The Prime Minister envisions creating 2 crore 'Lakhpati Didis' in villages. He recognizes the immense potential of rural women and is exploring ways to infuse technology into the agriculture sector. By strengthening agritech and providing training within Self Help Groups, he aims to catalyze women-led economic growth and overall development.

Challenges faced by the SHGs:

- Self Help Groups (SHGs) encounter several challenges that can impede their effectiveness and sustainability.
- **Financial Hurdles:** Limited access to affordable credit and high interest rates restricts SHGs' capacity to fund income-generating activities.
- **Skill Deficits:** Inadequate training and knowledge hinder effective enterprise management, impacting the success of ventures.
- **Market Constraints:** Poor market linkages and lack of marketing strategies restrict product reach and profitability.
- **Institutional Support:** Inconsistent guidance from government bodies and NGOs hampers SHGs' ability to navigate obstacles.
- **Gender Bias:** Deep-rooted norms limit women's participation and decision-making within SHGs.
- These challenges underscore the need for comprehensive policies promoting financial inclusion, skill development, market access, stakeholder collaboration, and gender equity.

Way Forward:

- Women-run SHGs form the backbone of our country. A policy should be designed and implemented to support their activities so that they can sustain their livelihoods. But policies are not well-defined for SHGs. Women face several roadblocks compounded by traditional malpractices that hold them back from participating with confidence in all aspects of business.
- Creating effective policies for SHGs in India is pivotal. Policymakers must rely on informed baseline studies, tackle challenges faced by women-led SHGs, and implement projects gradually. However, financial aid is insufficient; a gender-neutral ecosystem, infrastructure, training, and mentorship are crucial.
- Collaboration, monitoring frameworks, and stakeholder involvement are vital for success. CSR, international funding, and bank support can facilitate growth. Institutes can foster innovation, while policies must encourage financial stability, sectoral growth, and technological adoption. Ultimately, SHGs require institutional backing and recognition of their potential, achievable through a multidisciplinary committee and mentorship initiatives for sustainable progress.

Rationale of New Laws Brought in Place of Colonial Laws IPC & CrPC

The central government has been contemplating how much appropriate it is to retain the laws of the British colonial era in today's time. The Central Government had constituted several committees from time to time to review the old and irrelevant laws. A review of criminal laws, especially made during the British colonial period, had become more necessary. The Indian Penal Code, which was created by the British in 1860, was made following the circumstances and challenges the country faced during that time. At that time, the nature of crime and criminals were different. The British made a provision to punish those who committed revolution, violence, rebellion or rioting against the British. Since then, there has been a big difference in the nature of crimes like murder, loot, arson, criminal conspiracy and economic crimes. The nature of crimes against women has also seen a massive change and severity. Therefore, a need has been felt to re-enact or redefine the laws.

- The central government has worked towards ending all traces of British slavery in the last few years. There were several discrepancies in the laws of the Indian Penal Code-1860, Criminal Procedure Code (1898)-1973 and the Indian Evidence Act-1872, made by the British and passed by the British Parliament. In this series, the Union Minister of Home Affairs and Cooperation recently introduced Bharatiya Nyaya Sanhita Bill, 2023, Bhartiya Nagarik Suraksha Sanhita Bill, 2023 and Bharatiya Sakshya Bill, 2023 in the Lok Sabha. It has been decided that the Indian Penal Code, 1860 will be replaced by Bharatiya Nyaya Sanhita Bill, 2023, the Criminal Procedure Code, 1898 will be replaced by the Bhartiya Nagarik Suraksha Sanhita Bill, 2023 and the Indian Evidence Act, 1872 will be replaced by the Bharatiya Sakshya Bill, 2023. The Government of India believes that these three abolished laws were made to strengthen and protect the British rule and their purpose was to punish, not to give justice. The central government has clarified that the basic goal of the three new laws will be to protect all the rights given by the Constitution to Indian citizens. These laws will aim to give justice not punish.
- Under the new laws, a very important decision has been taken to abolish sedition which will have far-reaching consequences. The central government is going to completely abolish sedition through new criminal laws because India is a democracy and everyone has the right to speak.

Provision for re-management of criminal laws in India:

The earlier three laws, which were passed by the British Parliament had full of signs of slavery. The proposed provisions in the 3 laws include:

- Bhartiya Nagarik Suraksha Sanhita Bill, which will replace CrPC, now has 533 sections, 160 sections of old law have been changed, 9 new sections have been added and 9 sections have been repealed.
- Bharatiya Nyaya Sanhita Bill 2023, which will replace the Indian Penal Code, will have 356 sections instead of the earlier 511 sections, 175 sections have been changed, 8 new sections have been added and 22 sections have been repealed.
- Bharatiya Sakshya Bill, which will replace the Evidence Act, will now have 170 sections instead of the earlier 167, 23 sections have been changed, 1 new section has been added and 5 have been repealed.

- The law expands the definition of documents to give legal validity to electronic or digital records, e-mails, server logs, computers, smartphones, laptops, SMS, websites, locational evidence, mail, and messages available on the device. Again, provision has been made in this law to digitize the entire process from case diary, case diary to charge sheet and charge sheet to judgment.
- A special provision has been made to justify this law and allow it to work following the procedure established by law. The new provision is that videography has been made compulsory at the time of search and seizure, which will be part of the case and it will not implicate innocent citizens, no charge sheet will be valid without such recording by the police. No government will be able to withdraw a case of imprisonment of 7 years or more without listening to the victim, this will protect the rights of the citizens.

- The forensic team's visit to the crime scene of offences punishable for 7 years or more is compulsory, through which the police will have scientific evidence, after which the chances of the convicts being acquitted by court will be greatly reduced.
- For the first time, the provision of e-FIR is being added, every district and police station will have a police officer who will inform the family of the arrested person online and in-person about his arrest.
- In the case of sexual violence, the statement of the victim has been made compulsory and in the case of sexual harassment, the video recording of the statement has also been made compulsory. It will be mandatory for the police to give the status of the complaint within 90 days and thereafter every 15 days to give the status to the complainant.

New provisions with respect to charge sheet and accused person:

- In the event of a crime, the most important process is to file a charge sheet against the offender and the manner of filing the charge sheet should be such, that no person can be falsely implicated in a false case and the authorities filing the charge sheet do not file a false charge sheet. Keeping these requirements in mind, the new criminal laws have set a time limit of 90 days for filing a charge sheet and depending on the circumstances, the court will be able to give an additional 90 days of permission, thus concluding the investigation within 180 days and sending it for trial. The court will now be obliged to give notice of framing of charges against the accused person within 60 days. The Hon'ble judge will have to give the decision within 30 days of the completion of the argument, this will not keep the decision pending for years and the decision will have to be made available online within 7 days.

New penal law on crime against women and children:

- For the first time, sexual intercourse on false promises of marriage, employment and promotion and false identity have been criminalized. In all cases of gang rape, a provision has been made for 20 years of imprisonment or life imprisonment, while in case of crime with girls below 18 years of age, provision of death penalty has also been made. For mob lynching, seven years of life imprisonment and the death penalty have been kept. There was no provision for snatching mobile phones or women's chains, but now a provision for this has also been kept in the new law. The punishment for a person committing crimes against children has been increased from 7 years to 10 years, a provision has also been made to increase the amount of fine in many crimes.

Definition of Terrorism in the New Law:

- All the British-era criminal laws that India had earlier had no interpretation of terrorism, but now when the Indian Penal Code, 1860 is being replaced by Bharatiya Nyaya Sanhita Bill, 2023. It has explained terrorism and its scope. Now offences like armed rebellion, subversive activities, separatism, and challenging the unity, sovereignty and integrity of India have been interpreted in this law for the first time. Apart from this, a new provision of different types of stringent punishment against inter-state gangs and organized crimes is also being added to this law. A provision has also been made for the attachment of property of proclaimed offenders.
- In case of inactivity due to grievous injury and minor injury, there was a provision of 7 years imprisonment, now they are separated into two. Further, in case of permanent disability or brain death, there is a provision of 10 years or life imprisonment. The punishment for committing crimes against children has been increased from 7 years to 10 years. A provision has also been made to increase the amount of fines for many offences. There is also a provision of 10 years imprisonment for criminals who escape from custody. There were many cases of use of remission of jail term for political gains. Now the death penalty can be commuted to life imprisonment, life imprisonment to a minimum of 7 years and 7 years imprisonment to a minimum of 3 years and no culprit will be spared.

Changes in both the process and vision of the criminal justice system:

- The central government believes that in the current laws, heinous crimes like homicide or mistreatment of women have been kept very low and crimes like sedition, loot of treasury, and attack on a government official have been kept above these. The central government is changing this approach and the first chapter in these new laws will be on crime against women and children. The second chapter will be on human killing and crimes against the human body. The Government of India believes that these laws have been brought by taking a very principled decision to bring the citizens to the center instead of governance.

Supreme Court's Decision to Ban the Use of Words Showing Gender Stereotypes

In a landmark move towards gender equality, the Supreme Court of India has released a pioneering handbook titled "Handbook on Combating Gender Stereotypes." This handbook is a significant step towards addressing and eradicating deeply ingrained gender stereotypes present within the judicial system and legal community. Spearheaded by Chief Justice D.Y. Chandrachud, the handbook underscores the vital role of unbiased language in judicial decisions and reaffirms the judiciary's commitment to impartiality, fairness, and justice for all.

Recognizing the Need for Change

- **The Chief Justice's Call for Equitable Justice:** Chief Justice Chandrachud's announcement of the handbook's publication highlights its profound significance in fostering a more just and equitable society. He emphasizes that the use of gender stereotypes in judicial decision-making contradicts the fundamental duty of judges to evaluate each case based on its unique merits.
- **The Distorting Impact of Stereotypes:** The handbook acknowledges the pervasive nature of gender stereotypes, often leading to distorted legal outcomes that compromise the principles of equality and justice. It aims to counter these distortions by urging judges to question preconceived notions and consider cases through an unbiased lens.

Unveiling the Handbook: A Paradigm Shift

- **Unmasking Stereotypical Language:** The "Handbook on Combating Gender Stereotypes" serves as a comprehensive guide for judges and legal practitioners to identify, understand, and counteract gender-based stereotypes present within legal documents. It exposes common phrases and words that perpetuate antiquated notions about women's roles and attributes.
- **Empowering Neutral Terminology:** The handbook provides a roadmap for replacing gender-biased language with neutral, accurate, and respectful terms. It advocates for the use of terminology that mirrors contemporary perspectives on gender and upholds the principles of equality. For instance, the handbook proposes the use of word "woman" instead of "career woman" to recognize that women's careers are as valid and diverse as those of men.

What are Gender Stereotypes:

- Gender stereotypes, deeply ingrained within societies, are detrimental preconceived notions that prescribe specific roles, attributes, and behaviors to individuals based solely on their gender. These stereotypes perpetuate inequality, limit opportunities, and hinder social progress. Overcoming these biases is imperative to foster a more equitable and just society that upholds the principles of human dignity, equality, and individual freedom.

The Detrimental Impacts of Gender Stereotyping:

- **Constricting the Spectrum of Opportunities:** Gender stereotypes confine individuals within narrow roles and expectations. Women are often stereotyped, while men are expected to be strong and dominant. This restricts their access to diverse opportunities, curbing personal growth and societal advancement.
- **Undermining Professionalism and Competence:** Stereotypes linking women to emotions and men to logic perpetuate the fallacy that women lack the rationality required for leadership and decision-making. Such misconceptions hinder women's progress in professional fields and reinforce the glass ceiling that limits their career trajectories.
- **Reinforcing Gender-Based Violence:** Harmful gender stereotypes contribute to a culture of victim-blaming, especially in cases of sexual violence. The belief that women's clothing or behavior invites harassment is rooted in these stereotypes, deflecting responsibility from perpetrators and perpetuating a cycle of violence.

Linguistic Influence on Reinforcing Stereotypes:

- **Power of Words:** Language is a powerful tool that reflects and shapes societal attitudes. Biased language reinforces stereotypes and sustains discriminatory practices. Gender-neutral language should be embraced to reflect the diverse and evolving roles that individuals play.
- **The Judicial Perspective:** Within the legal realm, the impact of gender stereotypes is profound. Biased language can taint judgments and perpetuate discriminatory outcomes. Initiatives like the "Handbook on Combating Gender Stereotypes" released by the Supreme Court of India are crucial in addressing this issue.
- Overcoming gender stereotypes is a collective endeavor that demands comprehensive changes across societal, institutional, and individual levels. It requires introspection, education, and policy changes that challenge established norms. As societies shed these stereotypes, they will unlock the full potential of all individuals, fostering an environment where everyone can thrive, regardless of their gender. In this

journey towards equality, the recognition of each person's inherent worth and unique capabilities will ultimately lead to a more just and harmonious world.

The Importance of Language in the Legal Sphere:

- **Language as a Conduit of Values:** Chief Justice Chandrachud highlights the profound impact of language on legal values and perceptions. He recalls past instances where language changes were made to uphold human dignity, demonstrating that linguistic shifts reflect evolving societal norms and the judiciary's commitment to inclusivity.
- **Upholding Constitutional Ethos:** Even when stereotypes do not sway case outcomes, the handbook argues that their presence in judicial language contradicts the constitutional ethos of gender equality. The language used by judges reflects their interpretation of both the law and society, making it imperative to abandon language that perpetuates bias.

Global Initiatives and India's Trailblazing Efforts:

- **A Global Mirror to Judicial Practices:** Efforts to combat gender bias within judiciaries extend beyond India's borders. Initiatives like the Women's Court of Canada and the Indian Feminist Judgement Project have aimed to reevaluate legal judgments through a feminist lens, challenging discriminatory language and perceptions.

Embracing Change for Equitable Justice:

- The release of India's "Handbook on Combating Gender Stereotypes" heralds a new era of consciousness within the legal community. The launch of the "Handbook on Combating Gender Stereotypes" by the Supreme Court of India marks a significant milestone in the ongoing battle for gender equality within the legal landscape. This groundbreaking initiative underscores the imperative of addressing deeply entrenched biases that have persisted for generations, permeating both language and perception. As this handbook sets forth a comprehensive framework for recognizing and rectifying these biases, it paves the way for transformative change and underscores the judiciary's commitment to upholding principles of justice, impartiality, and inclusivity.
- The transformation of language is not merely a superficial alteration; it is a reflection of the evolving consciousness and understanding of society. Chief Justice Chandrachud's emphasis on the historical role of language in upholding human dignity is a powerful reminder that words hold immense power to either perpetuate discrimination or forge a more equitable future. The handbook's approach of offering tangible alternatives to biased terminology and encouraging judges to adopt neutral and respectful language is a substantial step towards dismantling gender stereotypes that have been deeply ingrained within legal discourse.
- The global context of this initiative is equally significant. As the legal community in India takes strides towards greater equality, it finds companionship in similar global efforts that seek to challenge discriminatory practices within judiciaries.
- In essence, the "Handbook on Combating Gender Stereotypes" is more than just a legal document– it is a call to action, a catalyst for change, and a roadmap for achieving a more equitable society. By acknowledging the detrimental impact of gender stereotypes and the insidious role of biased language, this handbook reinforces the idea that the evolution of the legal system is inseparable from the evolution of societal attitudes. As the legal community embraces this transformation, it becomes a beacon of hope, leading the charge against prejudice and bias. By encouraging judges and legal practitioners to question deeply ingrained assumptions, the handbook breathes life into the principle that justice must be blind, impartial, and resolute in its commitment to individual freedom and dignity.

Way Forward:

In the journey towards a more just and harmonious world, the handbook champions the recognition of each individual's unique worth and capabilities, unshackling them from the chains of gender stereotypes. It envisions a future where every individual is free to pursue their aspirations, unrestricted by preconceived notions of gender roles. With this remarkable initiative, India's judiciary takes a resolute stand against bias, reaffirming its dedication to forging a path where justice truly prevails for all, regardless of gender. The "Handbook on Combating Gender Stereotypes" not only represents a turning point in legal discourse but also serves as a symbol of hope, progress, and the indomitable spirit of equality.

Hydroelectric Power Generation In India: Opportunities & Challenges

"We are at risk of stalling on the progress made at COP 26. It will not be possible to deliver on our climate goals unless we start talking seriously about hydropower's role in strengthening renewable energy systems"
-Malcolm Turnbull, Former Prime Minister of Australia

- "As the oldest and largest source of renewable energy on the planet, hydropower has a crucial role to play in combatting climate change. No other clean technology can provide the storage and flexibility needed at scale to enable net zero carbon emissions.
- To limit global temperature rises to 1.5°C above pre-industrial levels, the International Renewable Energy Agency (IRENA) reports that we need a doubling of hydropower capacity by 2050."

Why in News:

Recently, 12 Hydro Power Projects of Arunachal Pradesh of more than 11.5 GW were handed over to Hydro PSUs under Union Ministry of Power. These Projects are expected to attract investment of about Rs. 1.26 lakh Crores. The Government of India and the Government of Arunachal Pradesh have come together to rejuvenate and execute 12 stalled hydro-electric power projects in the state.

Potential and Prospects of Hydro Power in India:

- As per the Reassessment Study carried out by the Central Electricity Authority (CEA), the assessed hydropower potential in the country is about 145 GW. Presently, 42104.6 MW (29%) out of 145 GW has been developed and 15023.5 MW (10.3%) is under construction. As per reports of International Hydropower Association (IHA), USA has developed more than 80% of its hydro power potential and EU has developed more than 70% of its hydro power potential. In terms of installed capacity, India is the fifth largest producer of hydroelectric power in the world after China, Brazil, US and Canada.

How does a hydroelectric power plant work?

- A hydroelectric power plant consists of a dam built across a large river to create a reservoir and a power station where energy is converted to electricity. The water flowing through the dam turns a large wheel called turbine, that converts the energy of falling water into mechanical energy. Following this electricity is generated, and it is transferred through transmission lines, while water is released back to the water body.

Benefits of Hydro Power:

- Development of Hydro projects will contribute towards achieving the declared Nationally Determined Contribution (NDC) target of achieving 500 GW non-fossil energy capacity of India by 2030. Hydro Power will also be an effective contributor to the objective of achieving Net Zero carbon emissions by the year 2070.
- These projects are also expected to create huge employment opportunities in the region and boost the local economy as well as foster skill development and technical expertise in the region.
- As most of the hydro power potential is located in the higher reaches of Himalayas and North- East Region, it will result in overall socio-economic development of the region by providing direct employment in the power sector. It will also provide indirect employment/ entrepreneurial opportunities in the field of transportation, tourism and other small scale businesses.
- Further, hydropower also provides water security, irrigation and flood moderation benefits.
- When developed in accordance with good environmental and social practices, hydropower plants have the advantage of producing power that is both renewable and clean, as they emit less greenhouse gases than traditional fossil fuel plants and do not emit polluting suspended particulate matter.
- Hydropower plants can also start up and shut down quickly and provide flexibility to respond to wide fluctuations in demand across seasons and at different times of the day. This flexibility is particularly important in a highly-populated country like India where household electricity demand is a significant portion of total demand.
- Although hydropower plants are subject to daily and seasonal variations in water flows, they are not subject to the fluctuations in fuel costs that trouble thermal power plants.
- Hydropower plants are thus generally cheaper in the long run than natural gas-based plants and coal based plants, which are constantly at risk from fuel price increases in the global market.
- While India plans to develop mainly run-of-the-river projects, multipurpose hydropower plants with water storage facilities can help manage critical water resources in an integrated manner by serving as flood controllers as well as sources of irrigation and much-needed drinking water.

Challenges:

- Large-scale hydroelectric dams impact local ecosystems and communities.They displace people and result in loss of habitat for fish and other wildlife. The building and maintenance of large hydroelectric dams can also have a significant environmental impact.

- *The main challenges in the development of hydroelectric potential in the country are remote location, unpredictable geology, natural calamities, environment and forest issues, Rehabilitation and Resettlement (R&R) issues.*
- Dams and reservoirs disrupt river ecosystems and surrounding habitats, and recent studies show that reservoirs can emit more carbon dioxide and methane than previously understood.
- Huge time and cost overruns, high upfront cost to establish projects, long-drawn process to get green clearances, additional cess imposed by various state governments on projects, high tariff and reluctance of states to sign power purchase agreements (PPAs) are the some of the difficulties that are currently impeding the hydroelectric power development in the country.
- DISCOMS are reluctant to sign Power Purchase Agreements (PPAs) from Hydro Power due to higher tariff, particularly, in the initial years. One of the reasons for high tariff of hydropower is the loading of cost of flood moderation and enabling infrastructure in the project cost.

Measures taken to promote Hydro Power in India:

- In India, the government has identified hydropower as a key renewable energy source. Many hydropower projects are under construction or in the planning stages in the Indian Himalaya, including the Subansiri Lower Hydroelectric Project in Arunachal Pradesh and the Teesta Low Dam Hydroelectric Project in Sikkim.
- The Government had taken several policy initiatives in the past for hydropower development in the country viz., National Electricity Policy 2005, National Tariff Policy 2016, National Rehabilitation & Resettlement Policy 2007 and Right to Fair Compensation & Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013.
- Subsequently, the Government has also issued measures to promote Hydro Power in 2019 under which the following provisions have been made:-
  - Declaring Large Hydro Projects (>25 MW) as Renewable Energy source.
  - Tariff rationalization measures for bringing down hydropower tariff.
  - Budgetary Support for Flood Moderation/ Storage Hydro Electric Projects.
  - Provision of budgetary support for cost of Enabling Infrastructure, i.e. roads/bridges and Flood Moderation.
  - Notification of a "Dispute Avoidance Mechanism" through 'Independent Engineer' and "Dispute Resolution Mechanism" through "Conciliation Committee of Independent Experts (CCIE)" to expeditiously and effectively address contractual disputes.
  - Notification of guidelines to reduce the incidence of time and cost over-run in Hydro Power Projects
  - Waiver of Inter State Transmission System (ISTS) charges on transmission of electricity generated from new Hydro Electric Projects.
- These measures would be particularly beneficial for development of hydro projects, in hilly regions/ States, which are often located in remote and far-flung areas and require development of extensive associated infrastructure such as roads, bridges etc. for transportation of heavy, large sized equipment & machinery to the project site.

Role of World Bank:

- The Government of India has requested World Bank's support for its plans to increase the country's hydropower capacity. It has also requested Bank assistance to help its power sector agencies build on their recent achievements with the aim of attaining international standards in hydropower design, construction and operation.
- The World Bank aims to assist the Government of India in meeting its targets for hydropower expansion in a sustainable manner. This entails not just ensuring financial, economical, and technical soundness but also meeting social practices which have been developed by the industry in recent years, and safeguarding environmental assets for future generations.
- The Bank has been engaged in hydropower in India since the late 1950s. The two projects the Nathpa Jhakri and Koyna IV projects were completed in 2002 and 1998 respectively, have benefited from the support of the World Bank.

Way Forward:

- Hydropower is often considered green energy because it generates electricity from the natural flow of water without releasing any emissions or pollutants. It also does not rely on fossil fuels. Unlike coal-powered power plants, hydropower, which is the second highest power producing source is a significant contributor to clean global electricity generation.
- According to the International Energy Agency (IEA), reaching the net zero emissions target requires a potential doubling of current global hydropower capacity. With this goal, hydropower projects need to be built responsibly and sustainably, safeguarding communities and the environment.

Central Government's Strategy & Initiatives for the Modernization of Indian Armed Forces

Given the changing nature of challenges to the country's internal security and national security, the Central Government is laying special emphasis on the modernization and capacity building of the Indian Army. Challenges like cyber warfare, information technology warfare, drone attacks, and narco-terrorism have increased. Therefore, efforts by the Indian Army to empower themselves have also intensified.

- It has been reported that US major arm manufacturer Boeing has a started construction of 6 Apache helicopters for the Indian Army. Boeing has started production of the Apache helicopter which will be handed over to the Indian Army in Mesa, Arizona. The AH-64 Apache is one of the world's most advanced multi-role combat helicopters. The advanced technology and proven performance of the AH-64 will help further strengthen the operational preparedness and defence capabilities of the Indian Army. The supply of the Apache to Indian Army is scheduled for 2024.
- Earlier, Boeing had completed the successful delivery of 22 e-model Apache to the Indian Air Force in 2020. Boeing will deliver a total of six AH-64E Apache helicopters to the Indian Army. The AH-64E Apache helicopter is known for its advanced technology. Apache attack helicopters are used extensively by the US Army. The Indian Air Force had signed a contract with the US government and Boeing Ltd in September 2015 for 22 Apache helicopters. In addition, the Defence Ministry had in 2017 approved the procurement of six Apache helicopters for the Indian Army at a cost of Rs. 4,168 crore.

Modernization of the Indian Army:

- Various policy decisions have been taken by the Government of India to help promote the indigenization of weapon systems for the Armed Forces. In this direction, many new equipment including mines, personal weapons and infantry combat vehicles have been included by the Army. With the arrival of new indigenous weapons, the strength of the Indian Army has increased. These weapons include mines, personal weapons and combat vehicles. The weapons made in the country include anti-personal mines, face-to-face combat weapons, and infantry combat vehicles. These also include AK-203 and F-INSAS rifles as well as the new anti-personnel mine 'Nipun'. The new weapons have been developed by Indian companies. Last year, the Defence Minister handed over indigenously developed equipment and systems to the Indian Army in New Delhi. The state-of-the-art equipment includes future infantry soldiers, new-generation anti-personnel mines, upgraded sight systems for tanks, high-mobility infantry-protected vehicles and assault boats.
- In this series, the Quick Reaction Fighting Vehicle (MEDIUM) is an essential initiative to increase the mobility of Indian troops in eastern Ladakh. The military system in the Ladakh region has also been strengthened through infantry mobility-protected vehicles. The mini remotely piloted aerial infrastructure removes the operational limitations faced by Indian Air Force aircraft and unmanned aerial vehicles, Heron at the tactical level. It empowers the Indian Army by removing the restricted capability of surveillance, detection and reconnaissance at the level of infantry battalions and mechanized units.
- Nipun mines will be helpful for the Indian Army: Nipun mines are landmines developed in the country. They act as the first of defence line to prevent intruders and enemy forces from advancing. They are being called anti-personal mines because they are used against humans. They are small in size so can be laid in large numbers.

Landing Craft Assault for Protection of Pangong Lake Area:

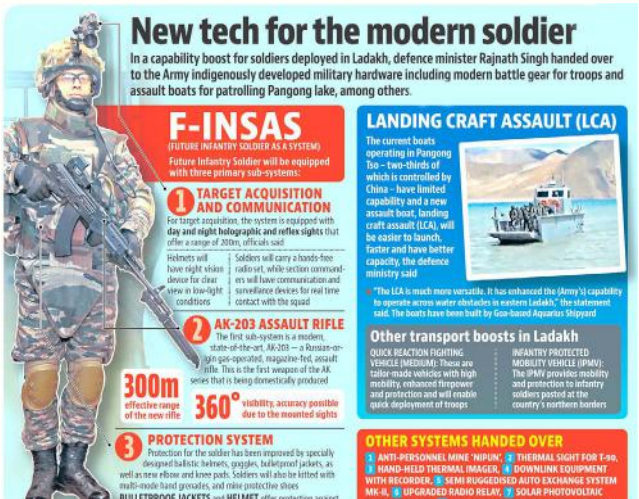
- Landing Craft Assault has been developed to protect the Pangong area. These will replace the boats that currently patrol Pangong Tso Lake in eastern Ladakh and have limited capability.LCA has been manufactured by Goa-based Aquarius Shipyard Limited. They are fast in speed and have the ability to work in the water despite all kinds of trouble. These boats can carry up to 35 combat troops at a time and can reach any area of the lake in a very short time.

Future Infantry Soldier (F-INSAS)

- The Future Infantry Soldier is being equipped with three primary subsystems. The first subsystem is a state-of-the-art assault rifle with day and night holographic and reflex sites. In addition to the primary weapon system, the troops will also be given a multi-mode hand grenade, which has been procured indigenously with a multipurpose knife.
- Agreements have been signed by the Ministry of Defence for the procurement of defence equipment needed by the armed forces. These equipment includes radars, aircraft rockets, artillery guns, helicopters, missiles, ballistic helmets, bulletproof jackets, weapons, simulator electronic fuses and explosives.
- The Indian Army is also encouraging women to enter the armed forces through its policies and significant initiatives have been taken in this direction. Women serving personnel have been given a Grant of Permanent Commission. The armed forces have allowed the entry of women

candidates into the National Defence Academy and the Indian Army has also started giving opportunities to women officers to serve as fighter pilots from 2021.

- In keeping with its commitment to 'Make in India', the Indian Army signed a contract for the procurement of Tactical LAN Radios by innovating for defence excellence. Further, it signed the second procurement contract through Innovation for Defence Excellence on 9 June 2023. With this initiative, the Indian Army has so far taken its lead by signing two contracts under IDEX.
- IDEX was launched by the Hon'ble Prime Minister during Defence Expo India 2018 on 12th April 2018. IDEX aims to promote innovations in defence and aerospace by providing grant funding/funding and other support involving R&D institutions, academia, industries including MSMEs, startups, and individual innovators who have good potential to be inducted into the Indian defence and aerospace in the future and create an ecosystem to encourage technological development. In the last four years, IDEX under the Defence Innovation Organization has emerged as a 'frontrunner' in establishing the right kind of engagement with startups and innovators and has been receiving substantial attention in the defence startup community.



National Security Strategy and National Defense Strategy before creating Theatre Command:

- It is necessary to have a National Security Strategy(NSS), National Defense Strategy(NDS) and Higher Defense Organization before creating a theatre command, only then it would be logical to think of a theatre command. The four key aspects of the army's restructuring are human resource management, modernization and incorporation of technology, rebalancing and restructuring, and jointness and better integration.
- Along with the NSS, there is also a need for a Higher Defence Organization that gives effect to the entire country's vision and has representation from all concerned ministries. A top-level Defence Planning Committee headed by the National Security Advisor was set up in 2018 to prepare the NSS and NDS but no progress has been made so far. For the modernization of the Indian Army, it is necessary to make its institutional, organizational structure more logical and result-oriented and move towards creating a theatre command while managing all the necessary resources. More than 32 countries around the world already have theatre or joint command in some form or the other to bring about better integration among their military forces. Notably, the United States was the first country to implement the Theatre Command System, which currently consists of six geographic and four functional commands. Russia also started with the restructuring of its defence forces in 2008 and has four theatre commands. China's theatre command system is said to be based on the American model and has "five geographical commands in times of peace". The Chinese Western Theatre Command covers the area adjacent to the Indian border.
- The idea behind the 'Theatre Command System' is to bring synergistic coordination among the three branches of the armed forces. In addition, it aims to bring separate commands for the Army, Navy, and Air Force under a unified command led by a single commander. The integration process will eventually lead to integrated military assets connected in a single command under an operational head, who will be responsible for directing and controlling their activities in a given situation.
- In conclusion, it can be said that the Indian Army, famous for its military capability all over the world, is paying special attention to modernization along with changes in its functioning. The new defence system is being developed in collaboration with various organizations in the country associated with the defence industry to upgrade the weapons. In this sequence, the Army is also working rapidly on the vision of defense self-reliance, as a result of which not only indigenous technologies are being adopted in the army but defense exports have also seen a boom. Along with the theaterization of the army, the Army is also committed to the development of a National Security Strategy, National Defense Strategy and Higher Defense Organization. The Central Government is fully committed to further strengthening the security forces by working fast on military changes in the coming year.

1 National Curriculum Framework

Why in News:

Recently, a draft document of the National Curriculum Framework (NCF) stated that students of class 9 and 10 will now compulsorily have to study three languages, including two Indian languages, while students of classes 11-12 will study one Indian language and an another language.

Key points of the draft document:

- According to the draft, R1 represents the mother tongue or home language, R2 can be any other language (including English), and R3 is any language that is not R1 or R2. The State Governments and respective school boards have been given the freedom to decide the R1, R2, and R3 languages.
- The drafting committee, headed by former ISRO chief K Kasturirangan, included former chairperson of the National Book Trust, Najma Akhtar, vice-chancellor of Jamia Millia Islamia, Milind Kamble, founder president of Dalit Indian Chamber of Commerce and Industry, and Dhir Jhingran, founder director of NGO called Language and Learning Foundation.
- The NCF framework mandates the teaching of three languages (R1, R2, and R3) up to class 10. At least two of these three languages should be R1, R2, or R3 as the native language of India, and in classes 11 and 12, students have to study two languages and one of them should be an Indian language.
- It states that students in Class 12 will be assessed on a maximum of seven subjects, although currently most school boards only include six subjects.

Current rules regarding languages:

- Most school boards, including the Central Board of Secondary Education (CBSE), evaluate students based on two languages in the Class 10 board exam and one language in the Class 12 board exam. However, some state boards make it mandatory to teach a regional language till class 10, like Marathi in Maharashtra and Bengali in West Bengal etc.

What is the National Curriculum Framework (NCF)?

- The NCF, based on the National Education Policy (NEP) 2020, is a benchmark document used by the NCERT to prepare the syllabus and textbooks to be taught in CBSE-affiliated schools from classes 3 to 12.

Way Forward:

The roadmap proposes to conduct class 12 board exams twice a year and also to hold board exams at least twice a year to ensure that students get enough time and opportunities to perform well.

2 Bharat NCAP Launched

Why in News:

The Union Ministry of Road Transport and Highways launched the much-awaited Bharat New Car Assessment Program (Bharat NCAP) which aims at improving road safety standards of motor vehicles up to 3.5 tonnes.

About Bharat NCAP:

- The NCAP program in India was started in 2011 but gained momentum in 2016 when the government decided to make a standard to reduce road accidents in the country.
- It is a voluntary program in which the base variant of a given model will be tested, based on the Automotive Industry Standard (AIS) 197.
- This will apply to type-approved motor vehicles of the M1 category (not more than eight seats other than the driver's seat) having a Gross Vehicle Weight Rating (GVW) of 3.5.
- The program will be administered by the Central Institute of Road Transport (CIRT).
- Based on the performance of the car in this test,

the vehicle will be assigned a star rating on a scale of 0-5 for adult occupants (AOP) and child occupants (COP).
- The program will be voluntary but the test could cost around Rs 60 lakh, compared to Rs 2.5 crore, globally.

Tests carried out under NCAP:
- Vehicle safety will be assessed through this test as the government is planning to induct the EV segment in the near future.
- Car makers have already provided about 15 to 20 models for evaluation under the India NCAP programme.

Selection Process of Cars:
- As part of the selection process, the manufacturers and importers have to submit an application (Form 70-A) to the designated agency under the Government.
- After submission of Form 70 -A, cars will be shortlisted for a crash test, which will be attended by representatives of both the manufacturer and the India NCAP team.
- After public disclosure of crash test results, the Central Institute of Road Transport (CIRT) will publish and certify the same.

Way Forward:
India NCAP test protocol will be aligned with international rating agencies. It will include front impact, side impact, and pole impact tests at a speed of 64 km/h, an Electronic Stability Program (ESP), and pedestrian protection for all cars in addition to the rating system crash test. Safety features such as safety measures, and belt reminders will be included which will further enhance the road safety in India.

3 Vishwakarma Yojana and Lakhpati Didi

Why in News:
On the occasion of Independence Day, Prime Minister Narendra Modi announced the launch of two new schemes from the Red Fort. Among these, Vishwakarma Yojana was announced for Other Backward Classes, while Lakhpati Didi for women empowerment.

About Vishwakarma Scheme:
- The scheme will focus for the upliftment of persons skilled in traditional craftsmanship, especially from the Other Backward Classes (OBC) community.
- Named after the famous architect and craftsman Vishwakarma, the guru-shishya tradition of transferring skills from one generation to another in various professions will be preserved.
- In this, 18 communities including weavers, goldsmiths, blacksmiths, laundry workers and barbers will be empowered through 'Vishwakarma Yojana' for which the initial budget for the next five years (2023-24 to 2027-28) has been earmarked for around 13000-15000 Crore rupees.
- A certificate of Pradhan Mantri Vishwakarma will be given to the workers enrolled under this scheme.
- Under this, workers will get wide exposure, both at domestic and global levels, so that they too can develop competitive skills.

About Lakhpati Didi Scheme:
- The government is promoting women empowerment through this scheme. The government's target is to make 2 crore Lakhpati Didi from the rural areas.
- Via this scheme, women will be trained and made capable so that they can earn at least Rs 1 lakh per year.
- This scheme includes training in plumbing, LED bulb making, operating and repairing drones. Consequently, more than 15 thousand drones will be given to women Self-Help Groups so that they can be empowered with new emerging technologies.
- This will give women an opportunity to join e-commerce platforms like Amazon, and Flipkart. It will also ensure large-scale participation.

What is Self Help Group?
- These are community-based groups formed by a small group of people, mainly women, agreeing to pool their resources and work together for their economic upliftment. It usually consists of 10 to 20 members from similar socio-economic backgrounds. For example, the Kudumbashree Self Help Group of Kerala.

Way Forward:
The Government of India should also actively ensure the participation of the State Governments under this so that empowerment can be promoted by giving rapid training and awareness in rural areas. Both these initiatives will also greatly aid in poverty alleviation.

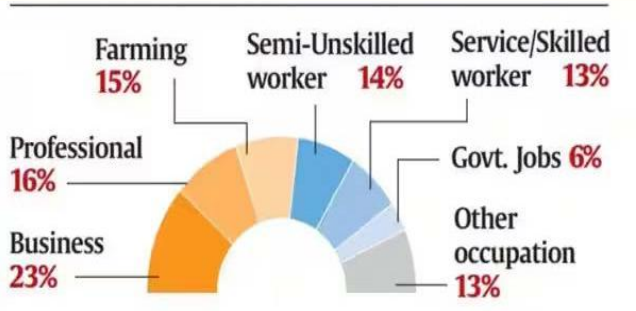
4 Job and Economic Struggle Biggest Concern of Youth- Lokniti- CSDS Survey

Why in News:

A survey report released by Lokniti and CSDS 2023 states that unemployment, poverty and inflation are the biggest problems in the context of 15 to 34-year-old youth in India.

Some key Points of the Report:

- Unemployment was the most serious concern for 40% of the higher educated people.
- 27% of the non-literate people cited unemployment as their primary concern.
- 42% of men reported that unemployment is the biggest problem for them.
- Poverty and price-rise have emerged as major problems for the youth belonging to low economic backgrounds.
- Corruption is the biggest concern for 6% of youth.



Professional status of youth:

- 49% of youth are employed in some work or the other.
- 40% of youth get full time and 9% of youth get part-time employment.
- 23% of youth are self-employed, 16% are doctors or engineers, 15% are employed in agriculture and 6% in government jobs.

Job Aspiration:

- 16% of youth want jobs in the health sector, 14% education, 10% science and technology 10% industry and 6% government job.

Why unemployment and economic struggle are the biggest concerns?

- There is a mismatch between the skills of the workers and the jobs available in the market in India.
- Latest technology like the Internet of Things, machine learning, robotics, biotechnology, artificial intelligence etc. have weakened employment prospects.
- Till now, every sector of the economy has not been able to develop its full employment potential due to the adverse effects of COVID-19.
- The youth of India lacks a lot of vocational-oriented skills.
- In the rural areas still, there is a lack of speed of labour, which is due to social suspicion, law and order, and non-compliance with economic regulations in the migrant area.
- It has been observed in various surveys that the youth in India are becoming victims of depression, anxiety and behavioural disorders, which has negatively affected their employability.

Way Forward:

At present India is the country with the highest demographic dividend in the world. To take advantage of this, investment in education and skills has to be made while improving the social infrastructure. To promote employment, it is necessary to decentralize industries and increase the employment capacity in the manufacturing and service sectors.

5 India's Workforce is Ageing- CMIE Report

Why in News:

While addressing the nation on 77th Independence Day, Prime Minister Modi made a special mention to India being a youthful nation and highlighted the opportunities that lay before India's youth. However, an analysis of India's workforce, sourced from CMIE's Economic Outlook data, shows that while India may be the country with the most youthful population, its workforce is rapidly ageing.

What does the ageing population means to India?

- An ageing workforce basically means that if one looks at all the employed people in India, the share of young people is going down while the share of those closer to 60 years of age is going up.
- The share of the age group 15-29 years in the total workforce has decreased from 25% in 2016-17 to 17% in the financial year 2022-23.
- The share of individuals in age group 30-44 years has also declined from 38% to 33% over the same period.
- The share of people aged 45 years and older in the total workforce has increased from 37% in 2016-17 to 49% in the financial year 2022-23.
- In other words, just in the past seven years, the workforce has aged so much that the share of people 45 years and older has gone from one-third to almost half.

Implications of Ageing Workforce:

- **Lower growth potential:** A younger workforce is generally more productive, innovative and adaptable than an older workforce. A younger workforce also implies a higher labour force

participation rate and a lower dependency ratio, which boosts economic growth.

- **Lower human capital development:** An ageing workforce may imply a lower investment in education, skill development and training for the younger generation, which may hamper India's human capital development and future productivity.
- **Higher social security burden:** An older workforce may require more expenditure on health care, pensions and other social security benefits, which may strain India's fiscal resources and crowd out public investment in other sectors.

Table 1: Composition of the workforce by age group (%)

Year	Share of >15 and <30 in workforce (in %)	Share of 30 to <45 in workforce (in %)	Share of 45 years and more in workforce (in %)
2016-17	25	38	37
2017-18	23	38	39
2018-19	22	38	40
2019-20	21	37	42
2020-21	18	36	45
2021-22	18	35	47
2022-23	17	33	49

Source: CMIE's Economic Outlook and Indian Express Research

Catching the Opportunities:

- India will gain from its demographic opportunity only if policies and programmes are aligned to this demographic shift. Demography is not destiny.
- The projected demographic dividend would turn into a demographic disaster if an unskilled, under-utilised, and frustrated young population undermines social harmony and economic growth.
- Harnessing the demographic dividend will depend upon the employability of the working age population, their health, education, vocational training and skills, besides appropriate land, and labour policies, as well as good governance.

Conclusion:

India has large youth population as compared to other developing nations. However, if India remains unsuccessful in giving this population adequate employment, the situation may get worse. Unless these trends are reversed, India may continue to experience the rather counterintuitive phenomenon of being a youthful country with an ageing workforce.

6 India's Evolving Performance Over 76 Years: A Comparative Analysis

Why in News:

Recently India celebrated its 77th Independence day. India has made a remarkable progress in the past 76 years, compared to other countries across four parameters: GDP per capita, HDI, IMR & women's participation in Parliament. The following analysis defines India's journey of success and the challenges ahead:

GDP Per Capita Ranking:

- Despite considerable technological advancements and infrastructural development, India's GDP per capita ranking has remained stagnant at 24 out of 26 nations assessed, spanning from the 1960s to 2022.
- In the 1960s Indonesia and Nepal were below India but in 2022 they are at better position.

HDI Progress:

- While the HDI has increased by 0.11 points, reaching 0.633 in 2021, India's ranking has slipped from 26 in 1950 to 29 by 2021.
- This suggests that while India has made strides in areas like education, income, and life expectancy, other nations have accelerated their development at a faster pace.
- While Saudi Arabia, Indonesia, and Bangladesh, were below India in 1950, now they have surged ahead in HDI rankings. It showcases the need for India to increase the speed of its social and economic progress.

IMR Improvements:

- The decline in Infant Mortality Rate (IMR) underscores advancements in healthcare accessibility and quality, reflecting positively on India's developmental journey.

Women's Political Participation:

- Women participation in Parliament has increased from 7% in 1997-98 to 14.9% in 2022.

Infrastructure Advancements:

- India achieved substantial improvements in access to electricity and internet usage. Between 1993 and 2000, electricity access increased from 50% to 99% by 2020, aligning with global trends.
- Internet access, provided to 43% of India's population by 2020, highlights progress, though it trails behind several countries.

Population Dynamics:

- In 1960, India had the second-highest population at 45.05 crore, trailing behind China at 66.7 crore. By 2023, India's population

surged to 1.417 billion (According to UN Report), surpassing China's 1.412 billion, establishing India as the world's most populous nation.

Way Forward:

India's path over the past 76 years showcases a nuanced blend of progress and challenges across key parameters. India's journey exemplifies the intricate interplay between economic development, social well-being, and political inclusivity, underscoring the need for continued efforts to address gaps and achieve comprehensive advancement.

7 Bureau of Port Security

Why in News:

The Ministry of Shipping will set up a Port Security Bureau for all government and private ports.

Need of such step:

- In 2021, the Directorate of Revenue Intelligence caught the theft of a container of drugs from Mudra Port in Gujarat, which was smuggled from Afghanistan.
- Maritime trade is playing an important role in India's economic growth for which ports and shipping routes should be secure.
- The increasing number of ports increases the need for control and coordination. The initiative is significant as the number of private ports is increasing, thereby ensuring an integrated and robust security mechanism at all Indian ports.

Current Security Status of Indian Ports:

- All the 12 major ports owned by the central government are guarded by the Central Industrial Security Force which works under the Ministry of Home Affairs.
- Ports owned by state governments and the private sector have their own security arrangements.

About Port Security Bureau:

- It will be constituted to streamline and strengthen security measures in important ports and shipping centers of India.
- The Bureau of Port Security will be a single-point agency responsible for coordinating security audits at all Indian ports to reduce overlap.
- It will strive to enhance coordination among various stakeholders including law enforcement agencies, port authorities and maritime security personnel by integrating and focusing security measures.
- This collaborative approach will enable rapid response to security threats and incidents.

Controlling Authority:

- The Bureau of Port Security shall function under the control of the designated authority. The authority shall determine the security level and provide information on port facilities within India and to every ship entering and exiting an Indian port or while in port within the country.

Way Forward:

The establishment of the Bureau of Port Security marks a proactive shift towards greater security preparedness and will support India's commitment to international maritime security protocols. It will aid in maintaining stability in the Indian Ocean region and will contribute to safe navigation, safe cargo handling and protection against potential security breaches.

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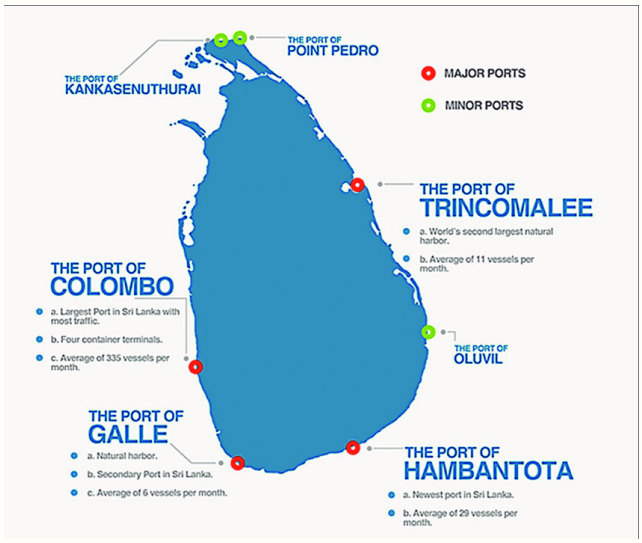
1 India-Japan-Sri Lanka Trilateral Cooperation

Why in News:

India, Japan and Sri Lanka have initiated an agreement to restart the trilateral cooperation of the East Container Terminal Project (ECT) in Colombo in 2023, two years after the cancellation of the joint India-Japan MoU.

More about the news:

- This MoU collaboration event was organized by Natstrat, Vivekananda International Foundation, Pathfinder and CII.
- The Sri Lanka Ports Authority will have 100% ownership of the ECT.
- The Terminal Operations Company will conduct all the ECT operations. Sri Lanka will have a 51% stake in it, while Japan and India will own a stake of 49%.
- For the development of ECT, a 40-year loan agreement has been signed with Japan at an interest rate of 0.1%.



Interests of India and Japan:

- To prevent Chinese dominance in the Indian Ocean region, the Chinese presence in Sri Lanka must be reduced.
- The Colombo International Container Terminal project being built by China, is merely a few miles away from the ECT and will be easier to counter.
- India and Japan share a vision of a free, open and inclusive Indo-Pacific (FOIIP) that is relevant to all countries in the region, including Sri Lanka.
- Both India and Japan are challenging China's debt Trap Policy through tripartite cooperation. China took Hambantota Port on 99 year lease through a debt trap.

Interests of Sri Lanka:

- Sri Lanka, which is going through an economic crisis, has to encourage private investment with this cooperation.
- The debt restructuring process is being co-chaired by India, Japan and France to help Sri Lanka emerge from the economic crisis.
- In this situation of the crisis, Sri Lanka was given the Bail Out Package by Japan and India.
- Japan and India have always been committed to the development of Sri Lanka's infrastructure.

Way Forward:

The Rajapaksa government cancelled the ECT MoU in the year 2021 and eventually handed it over to a Chinese company. In May 2023 the Wickremesinghe government expressed regret over the incident. It said that in future it would not treat any country more favorably than others as the previous Sri Lankan governments did.

2 Sulina Channel

Why in News:

Although Ukrainian ports were damaged by the Russian Drone strike, Ukraine was provided with a new alternative route for its grain transport through the Sulina Channel.

About Sulina Channel:

- The Sulina Channel is a 63-km-long tributary of the Danube River which provides safe transit for cargo ships from Ukrainian Black Sea ports (Udessa, Chornomosko, Pivdennyi). It will ensure global access to Ukraine via the Mediterranean Sea through the Bosphorus Strait.

Significance of the Danube River Delta:

- The Danube River is the second longest river in Europe after the Volga River, which originates from the Black Forest Mountains of Germany.
- It travels about 2850 kilometres through ten countries and joins the Black Sea.
- It will pave way for Ukraine to alternatively transport its grain cargo ships on the inland river water of the Danube River.

Trade Routes and Economic Dependence of Ukraine:

- Danube Delta, an expressway river for freight,

plays an important role in connecting inland water way to the global market.
- Ukraine is heavily dependent on agricultural exports, foodgrain trade has become a very serious matter for the nation.
- The Sulina Channel is the only deep and wide channel for freight transport.
- Ships carrying foodgrain will have access to Ukrainian ports (Izmail, Reni) through Sulina and Romania's major port of Constanta.

Challenges and Constraints:
- Russia targeting Ukrainian ports and foodgrain facilities could threaten the stability of the route.
- The potential for the sudden increase in food grain volumes from Ukrainian ports is limited.
- Shipping would be significantly delayed due to congestion at the mouth of the Sulina Channel.
- The drone strike has deepened the disbelief between the two countries for any other international agreement in the future.

Way Forward:
The drone strikes aimed to disrupt the food grain supply from Ukraine. Since Ukraine is called the Bread Basket of Europe, the whole world will face a serious food grain humanitarian crisis due to these strikes. It will not only lead to the price rise of grains but also disrupt the entire supply chain. This crisis should be resolved as soon as possible through the global initiative of the countries.

3 MoU in Health Sector between India and Suriname

Why in News:
A Memorandum of Understanding (MoU) was signed between the Indian government and the Republic of Suriname for the recognition of Indian Pharmacopoeia (IP) in Suriname. This MoU was specifically undertaken between the Indian Pharmacopoeia Commission (IPC) and Suriname's Health Ministry.

Key Features of the MoU:
- This MoU is signed to recognize the importance of developing close cooperation and exchanging crucial information in the field of regulation of medicines.
- The major feature of the MoU is to accept the Indian Pharmacopeia (IP) as the book of standards for medicines in Suriname to ensure the quality of medicines being manufactured and/or imported in Suriname.
- Another provision allows Suriname manufacturers to accept the Certificate of Analysis issued by the Indian Manufacturers as per IP.

Advantages of MoU:
- The key features of the MoU are intended to boost the development of generic medicines and ensure the availability of affordable medicines in Suriname. The MoU will also assist in exploring opportunities for technical cooperation in areas of medical research and future technologies.
- It will also facilitate the export of medical

products to Suriname and eventually encourage the Atmanirbhar Bharat.

About Indian Pharmacopeia Commission:

- Indian Pharmacopeia is published by the Indian Pharmacopeia Commission (IPC) on the behalf of Ministry of Health & Family Welfare (MoHFW) based on the Drugs and Cosmetics Act, 1940.
- IPC is an autonomous institution of the MoHFW. IPC also provides IP Reference Substances (IPRS) which act as a fingerprint for the identification of an article under test.

Significance of IP:

- It is an officially recognized book of standards for the drugs being manufactured and marketed in India. IP contains a collection of authorized procedures of analysis and specifications of drugs for their identity, purity and strength. In case of dispute in the court of law, these IP standards are legally acceptable.

Geo-Strategic status of Suriname:

- Suriname is located on the northeastern coast of South America. It is bordered by the Atlantic Ocean to the north, French Guinea to the east, Brazil to the south, and Guyana to the west. It is a small coastal country but rich in natural resources and the mining of oil and minerals constitute a major part of its economy.

Way Forward:

This MoU highlights the growing international stature of the Indian Pharmaceutical Sector. Alongside it promotes bilateral trade and knowledge collaboration between India and Suriname.

4 Drilling in the North Sea by UK

Why in News:

The UK Prime Minister Rishi Sunak has supported plans for fossil fuel drilling in the North Sea to increase Britain's energy independence. In this regard, the environmental climate scientists and experts have expressed concern.

About the North Sea:

- The North Sea is located in Northwestern Europe. It is bordered by several countries such as Norway, Sweden, Denmark, Germany, the Netherlands, Belgium and the United Kingdom.
- It is an area connected by the Drover Strait and the English Channel.
- The 1958 Geneva Convention on the Continental Shelf was the first international law that paved the way for the exploration of the North Sea.
- Thereafter the UK Parliament enacted the Continental Shelf-Limits Act 1964, which strengthened the country's jurisdiction over oil and gas resources under the seabed adjacent to its coast.

The Current Requirements of the United Kingdom:

- Even after achieving net zero emissions by 2050, a significant quarter of the UK's energy needs will still depend on oil and gas.
- Russia stopped supplying North Stream gas pipeline energy to Western countries. A large part of the energy in the West is supplied through this gas pipeline.
- There is insufficient preparedness for climate change under the UK's second national adaptation programme.
- It would be better to meet these requirements using domestic supplies rather than relying on potentially unreliable sources from other countries.

Environmental Concerns Associated with Drilling:

- Oil spills will pose a threat to the ecosystem.
- There will be degradation of marine habitats which will be a threat to biodiversity in future.
- Greenhouse gas emissions will increase.
- Drilling warms the oceans which in turn increases the sea water level.
- There would be a breach of environmental commitments made in the Paris Climate Agreement.

Way Forward:

Britain's move to drill in the North Sea is a matter of serious concern for environmentalists around the world. The world cannot afford to develop any new fossil fuel projects for the foreseeable future.

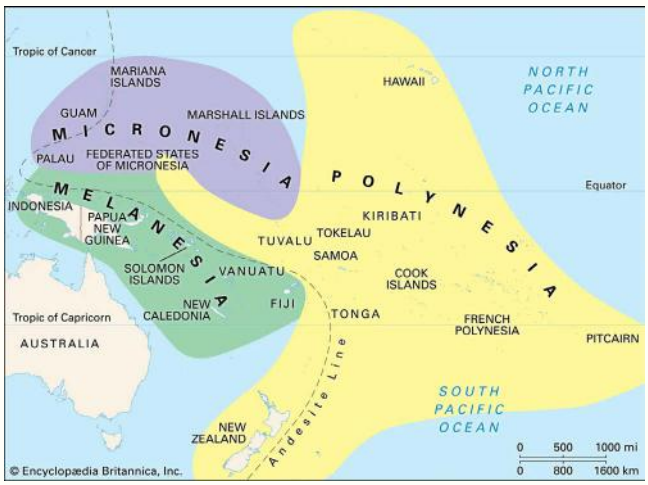
5 India and Samoa Relations

Why in News:

India and Samoa recently discussed cooperation and various dimensions of bilateral relations including areas of development such as health, information and communication technology, small and medium industries, capacity building, etc.

Historical Relations of India and Samoa:

- India was the second country after New Zealand to establish political relations with Samoa in 1970.
- Both are bound by membership in the Commonwealth of Nations and cooperation in various international forums.



Cooperation in various fields:

Economic Sector:

- In 2014 India increased the economic grant assistance to Samoa to US$ 200,000.
- In the year 2015, the FIPIC Business Accelerator Office was opened on the FICCI campus.

Agriculture Sector:

- In the year 2012, the Coconut Development Board in the coconut sector expressed its desire to have a closer relationship in the field of processing technology.
- The nation also expressed the intention to take advantage of technology in plant protection and processing from India.

Sports co-operation:

- In 2015, the fifth Commonwealth Youth Games were held in Apia, in which India participated in eight sports disciplines with 33-member teams.

What is the Forum for India-Pacific Islands Cooperation (FIPIC)?

- FIPIC is a multilateral grouping that aims to enhance India's relations with the Pacific Islands region. It was started in November 2014 during the visit of the Prime Minister of India to Fiji and there are a total of 14 countries which are part of it. Through this forum, the relationship between the countries is being promoted multilaterally.

Current Scenario:

- The first Foreign Office Consultations (FOC) between India and Samoa was held in Apia (July 2023).
- India Pacific Islands Cooperation Forum Summit as well as regional-global issues and cooperation on the framework of the Pacific Islands Forum, Commonwealth and United Nations were also discussed.
- Samoa will host the CHOGM, a meeting of Commonwealth Heads of Government in October 2023, of which India is also a part.

Way Forward:

There is no immediate prospect of trade with Samoa, but there is potential for strengthening this aspect. India under its Act East policy, can maintain a free trade movement area in the Indian Pacific Ocean region and further enhance this through bilateral, regional and global cooperation forums. By doing this, the growing influence of China in this region can be strategically countered as well.

6 The Debt-Fossil Fuel Trap

Why in News:

According to a recent report, a poor country with heavy debt has been forced to rely on fossil fuels to pay back loans taken from rich countries and private lenders and to meet various economic needs.

Global South's Debt Burden:

- The report focuses on countries located in the global south, including developing, less developed and underdeveloped countries in Africa, Latin America and Asia.
- These countries have experienced a significant increase in foreign debt payments, reaching a staggering 150% increase between 2011 and 2023.

Debt crisis amid the pandemic:

- The report says that the pandemic worsened the situation, forcing 54 countries to cut their public spending budgets to repay the debt.

Fossil Fuels to manage Debt Crisis:

- To cope with the mounting debt, these countries have turned to fossil fuel extraction as a source of revenue.

- An example of this is Argentina, which has supported fracking projects in the Waca Muerta oil and gas field.
- Experts caution that such a strategy could inadvertently contribute to high debt levels without generating enough revenue for repayment which in turn could create a "debt-fossil fuel trap".

Resource Backed Loans:

- The report makes clear that resource backed loans (RBLs) further increase dependence on fossil fuels.

Strategies to break free:

- The report urges the implementation of ambitious debt cancellations, involving all creditors and freeing them from economic conditions.
- Clean energy initiatives supported by prosperous governments and institutions are proposed to pave the way for changes in sustainable practices.
- Alignment with climate goals.

Way Forward:

In order to meet the Sustainable Development Goals and address environmental challenges, developed countries will have to follow a trust-oriented path by adopting a comprehensive approach to conserve the environment and resources, leaving aside personal interest.

7 India and ASEAN Economic Ties

Why in News:

The 20th ASEAN-India Economic Ministers' Meeting was held in Semarang, Indonesia. The focus was on the timely review of ASEAN-India Trade in Goods Agreement (AITIGA)-2009.

Objectives of the Meeting:

The above mentioned meeting was attended by all 10 ASEAN member countries' representatives and also by Democratic Republic of Timor-Leste, as an observer. They reviewed the bilateral trade investment relations between India and ASEAN.

- The ministers looked into the Non-Tariff Barriers (NTB) flagged by the ASEAN- India Business Council (AIBC) and also examined the effectiveness of ASEAN- India Comprehensive Strategic Partnership.
- Along with this, it was decided that the long demanded review of AITIGA from India Businesses will get completed by 2025.

ASEAN- India Trade in Goods Agreement- 2009:

- AITIGA also known as ASEAN- India Free Trade Area (AIFTA) is a free trade area among the 10 member states of the Association of Southeast Asian Nations and India. It came into force from January 2010.
- The parties have agreed to review this agreement due to following concerns:
  - The trade deficit with ASEAN has widened significantly since the pact was implemented.
  - NITI Aayog study reveals that India's trade deficit with ASEAN doubled to $10 billion in 2017 from $5 billion in 2011.
  - The major cause of trade deficit was low utilisation of FTA routes by Indian exporters.
- It is expected that review would help in making the FTA trade facilitative and mutually beneficial. Further, the review of agreement is expected to enhance and diversify trade while addressing the current asymmetry in bilateral trade.

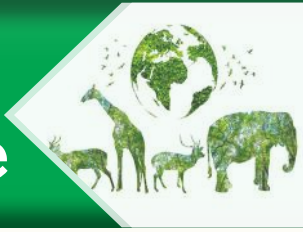
India and ASEAN:

- India and ASAN registered a bilateral trade of USD 131.5 billion in 2022-23. The trade with ASEAN accounted for 11.3% of India's global trade in 2022-23. ASEAN is the 4th largest trading partner of India and the 3rd largest market that can help India boost its export potential.

Way Forward:

Along with economic significance, ASEAN is also crucial for India to implement its Indo-pacific strategy and counterbalance the China's influence. Through fostering of ASEAN- India relations India can also develop North East region of India as hub for regional trade and commerce. Accordingly, yearly review of AITIGA and resolution of the hurdles is the need of the hour.

Environmental Issue



1 275 Bird Species Counted in Corbett Tiger Reserve

Why in News:

During a recent bird survey in Corbett Tiger Reserve, Nainital about 275 bird species were counted which included two critically endangered, four vulnerable, and two endangered species.

Important points related to the bird survey:

- In this survey, a total area of 540 km of 135 forest routes was surveyed between June 20 and 23 by a 62-member team of ornithologists, conservationists, and volunteers from the World Wide Fund (WWF) India, Tiger Conservation Foundation, and Village Volunteer Protection Force.
- Two species listed as critically endangered by the International Union for Conservation of Nature (IUCN), namely the white-tailed vulture and the red-headed vulture, have also been mentioned in the survey.
- Furthermore, researchers also counted two endangered species namely the Pallas fish eagle (Haliaeetus leucoryphus), and the Egyptian vulture (Nephron percnopterus), and four vulnerable bird species including the Great hornbill, Great slaty woodpecker, Grey-crowned Prinia and the River Tern.

Other Species Count:

- Species like River lapwing, red-breasted parakeet, Oriental darter, lesser fish-eagle, Himalayan griffon, great thick-knee, grey-headed fish-eagle, black-necked stork, Asian woolly-necked Storks, and Alexandrine parrots have also been counted.

About Jim Corbett National Park:

- Jim Corbett National Park, established in 1936 as Hailey National Park, is India's oldest and most prestigious national park.
- It was named after the renowned naturalist and conservationist, Jim Corbett.
- It is spread over a total area of 520.8 square kilometres, comprising a river belt, marshy depression, grasslands, and a large lake. Its altitude varies from 1300 to 4000 feet.

Way Forward:

The point count method and the trail monitoring count method are two methods of recording the bird species. The survey aims to give a holistic view of the biodiversity and shows a road ahead to protect all parts of the landscape that harbour large-scale mega-fauna.

2 Urea gold

Why in News:

Urea Gold, a new variety of sulphur-coated urea, was launched by Prime Minister Modi in Sikar, Rajasthan. It has been developed by the public sector company Rashtriya Chemicals and Fertilizer Limited.

What is Urea Gold?

- This is sulphur-coated urea (SCU), also called sulphur urea. It contains 37 percent urea and 17 percent sulphur.
- Primary purpose- To meet the sulphur requirements of Indian soils.

Properties:

- It is more efficient than conventional urea. Where 20 kgs of conventional Urea is required, Urea Gold will do the task in only 15 kgs.
- It has the ability to increase the quality and holding capacity of the soil.
- Urea Gold is added many times in low quantity and therefore the plants get nutrients for a long time.
- Additionally, due to the sulphur coating, the plants also get nutritional sulphur.

Challenges due to excessive use of urea:

- The government provides a huge amount of subsidy on Urea thereby increasing its consumption. Excessive consumption of urea is harmful to soil as well as detrimental to environmental conservation.
- Urea is a nitrogen nutrient concentrate, which causes nitrogen pollution. This in turn increases the amount of ammonia and ozone depletion in the atmosphere.
- Excess of nitrogen in plants also plays a vital role in pest infestation.
- Import of urea also harms foreign exchange reserves.

Solutions:

- Urea subsidy needs to be rationalised.
- A balanced fertilizer system is the need of the hour through nutrient management and crop diversification.
- The farmers must be educated regarding the nutritive quality of their soil and nature of fertilisers required to enhance it.
- Urea Gold, Neem Coated Urea and organic farming needs to be promoted at larger scales.

Way Forward:

To make Urea Gold completely successful among the general public, extensive public awareness programs will have to be conducted. Cooperative societies and

ministries will have to make this scheme successful under a specific action plan by conducting adequate surveys and improvising as per the need of a region. In this way, we will be successful in achieving sustainable agriculture.

3 Elephant Census 2023

Why in News:

According to the Asian Elephant Population Report of August 2023, Karnataka has the highest number of elephants in India. The state's forest divisions are home to 6395 elephants, and a recent report shows that this number has increased to 346 elephants since 2017. The elephant population is estimated to be between 5,914 and 6,877. Most elephants are in protected areas (80%) while some are outside (935). The report was released ahead of World Elephant Day being observed on August 12.

Key highlights of the report:

- The synchronised elephant population estimation conducted every five years in Karnataka, Kerala and Tamil Nadu revealed changes in elephant numbers.
- Bandipur Tiger Reserve has 1,116 elephants, Nagarhole Tiger Reserve has 831, Yellapur Division has only one while Halial has two.
- The Tamil Nadu census recorded an increase in the number of elephants, from 2,761 in 2017 to 2,961. In contrast, Kerala's count dropped from 3,322 to 1,920.
- The Mysuru Elephant Reserve has 6,111 elephants, while the Dandeli Elephant Reserve has 36 elephants.
- Outside the protected areas, 161 elephants were spotted on private land and 792 in non-protected areas, underscoring the importance of maintaining elephant corridors due to healthy birth rates.

Efforts for conservation:

- The elephant is a national heritage animal of India and is protected under the Solitary I species of the Indian Wildlife Protection Act, 1972.
- Project Elephant, a centrally sponsored scheme was launched in the year 1992.
- Two new elephant reserves have been created; The Terai Elephant Reserve (located in the Dudhwa-Pilibhit region) and the Agastiyarmalai Elephant Reserve in Tamil Nadu.
- Some of the important elephant corridors like Chilla-Motichur in Uttarakhand, and Tirunelli-Kudarakot corridor in Kerala have been restored.
- The DNA profiling initiative for captive elephants was launched in August 2022 as a part of the Gaj Information mobile application for forest officials. This initiative aims to obtain a specific DNA pattern or profile from a bodily tissue sample that will serve as an 'Aadhaar card of captive elephants'.

Way Forward:

Human-elephant conflict is a major challenge in Indian elephant conservation. Pradhan Mantri Fasal Bima Yojana now compensates farmers for crop losses related to wildlife. Celebrating 30 years of Project Elephant, the government has also launched Gaj Utsav in Kaziranga National Park, which aims to spread conservation messages and increase commitment to protect this species.

4 The Wildfires of Hawaii Island

Why in News:

In one of the worst natural disasters to hit the US, multiple wildfires are raging through Hawaii, especially the island of Maui. It is known that at least 93 people have died as of August 13, thousands have been displaced and buildings and businesses have burnt down.

About Hawaii Island:

- Hawaii Island, also known as the Big Island, is part of the Hawaiian Islands, an archipelago in the North Pacific Ocean. It is the largest and southeastern most island in the Hawaiian archipelago. The Hawaiian Islands are generally categorized into different regions based on their geographical characteristics and locations. Hawaii Island falls into the following geographical regions:
  - Hawaii Island is situated in the North Pacific Ocean, approximately 2,400 miles (3,900 kilometers) southwest of California.
  - It is part of the Hawaiian archipelago, which consists of a chain of volcanic islands.
  - The island is known for its active volcanoes, including Mauna Loa and Kilauea. These volcanoes have shaped the island's landscape over millions of years.
  - Mauna Kea, one of the island's volcanoes, is the highest point in the state of Hawaii and reaches upto an elevation of 13,796 feet (4,205 meters) above sea level.
- Hawaii Island has a variety of microclimates due to its diverse topography. Generally, the climate is tropical, but it can range from humid and rainy to dry and sunny, depending on the location.

Cause of Wildfire in Hawaii?

- The exact cause of the fire is still uncertain.
- Data from 2000-2017 by the US Forest Service and others indicates that 85% of US wildfires are

caused by human activities.
- Human-caused factors include campfires, garbage burning, equipment malfunctions, and discarded cigarettes.
- Natural causes of fire include volcanic activity and lightning strikes.
- Maui is home to one of Hawaii's six active volcanoes.
- Experts highlight that severe drought was prevalent across most of Maui.
- Dry land with non-native grasses and vegetation provided ample fuel for fires.
- These dry conditions facilitated the rapid spread of the fires

Impact of Hurricane Dora Winds on Hawaii Fire:
- The fire in Hawaii is believed to have originated in the wild.
- Strong winds, blowing at nearly 100 kmph, played a significant role in spreading the fire.
- These winds were connected to Hurricane Dora, an unusually potent storm located in the Pacific Ocean.

Way Forward:
Always follow campfire regulations and guidelines. Regularly maintain and inspect equipment that might spark fires, such as chainsaws and vehicles. Educate the public about fire prevention and safety. Have an evacuation plan and emergency kit ready.

5 The Third Longest Monsoon Break In This Century

Why in News:
According to the India Meteorological Department (IMD), rainfall in East and North-East India was the fourth lowest since 1901.

What is Monsoon Break?
- The southwest monsoon is said to be in a break phase when the main rain-causing extended region of low-pressure areas, known as the monsoon trough, moves north of its normal position. The normal position of these monsoon trough is mainly over northwest and central India, also known as the core monsoon zone. It is the region stretching from Gujarat in the west to West Bengal and Odisha in the east — where agricultural activities are rain-fed.
- During the break monsoon phase the rainfall is concentrated in the foothills of the Himalayas and the Northeast. The latest break monsoon phase had lasted from August 7 to August 18 and was the third longest in the 21st century after 2002 and 2009.

Reasons of longer Monsoon Break
- **Monsoon 2023, an El-Nino year-** The continuing progress of El-Nino, the warm phase of a climate pattern across the tropical Pacific called the El-Nino Southern Oscillation (ENSO). This generally decreases monsoon rainfall over India.
- Indian Ocean Dipole (IOD) which occurs due to differential warming of the western and eastern sides of the equatorial Indian Ocean. When the western side is warmer, IOD is said to be in a positive phase and this enhances monsoon rainfall over India and when the eastern side is warmer, IOD is said to be in a negative phase and it decreases monsoon rainfall over India. However, according to the Bureau of Meteorology (Australia), IOD is currently neutral.
- The snow cover over the northern Himalayas and the Eurasian landmass, also has an impact on the Indian Monsoon through the differential heating of the landmass.

The impacts of El Nino will be more pronounced in the tropical countries:
- **Climate-** El-Nino is predicted to cause global losses worth $84 trillion by 2099. India may be more vulnerable than estimated. During the last break monsoon period, heavy to extremely heavy rains in the mountainous states of Himachal Pradesh and Uttarakhand caused flash floods and landslides leading to loss of human lives and infrastructure.
- **Agriculture -** Two weather phenomenon decides the fate of Agriculture in the Indo-Gangetic belt. The deficit monsoon will affect the Kharif cropping season. The sowing area for paddy in 2023 has already shrunk by 8% compared to last year, according to Crop Weather Watch Group.
- **Socio-Economic-** According to Skymet, a weather forecast service provider, 70% of India's population directly or indirectly depends on the monsoon season while 260 million farmers in the country depend on the monsoon for cropping products like rice, sugarcane, etc.

Way Forward :
Due to the uneven distribution of Monsoon,

Rajasthan plants two times more bajra as India's paddy acreage drops by 26%. To avoid shortage in production, IMD has been issuing advisory alerts for farmers to switch to short-duration varieties for the Kharif season.

6 Floodwatch Mobile App

Why in News:

The Central Water Commission has launched its in-house developed mobile application, 'Floodwatch' to forecast the flood situation for the next seven days on a real-time basis.

The Key highlights of the application:

- Through this application , users can get vital information about the flood situation across the country. It will provide a user-friendly interface to the information and can reduce the risk during flood events.
- The application will generate a forecast based on 328 flood monitoring points out of 1543 spread over 24 river basins. Flood monitoring points are those where the water level of rivers, reservoirs, and canals is assessed every hour.
- This data will also help in making informed decisions about water allocation and forecasting of flood and drought risks.
- The app uses real-time river flow data from various sources and will also provide flood forecasts at the nearest location, where users can check flood advisories at their nearest station right on the home page.
- It is a bilingual mobile (Hindi, English) app, and is available for download on Android devices. The app can be downloaded for free from Google Play Store, and will soon be available on Apple iOS as well.

The Need for the Application:

- India has about 400 rivers and seven major river systems with a length of more than 2 lakh km.
- The flood situation in some rivers is concerning. For instance, the Yamuna River in the national capital reached an astonishing level of 208.62 meters, breaking the 45-year-old record of 207.49 meters by a huge margin.
- With the flood situation becoming alarming in some areas, adequate flood monitoring systems are not available which can provide a correct picture of the situational assessment.

Conclusion:

This mobile app uses advanced technologies such as satellite data analysis, mathematical modeling, and real-time monitoring to deliver accurate and timely flood forecasts, thereby reducing the risk during flood events.

7 Sponge City

Why in News?

The devastating rainfall in the months of July and August has affected many Chinese cities and caused severe damage to human lives and the economy and infrastructure of China. This consequence has raised the effectiveness of the Chinese urban flood redressal initiative- Sponge Cities, which was launched in 2015

What is Sponge City?

- The issue of urban floods is of grave concern in China, as 180 out of 654 Chinese cities face floods every year. The issue of urban flood has become a priority for policymakers to resolve due to the exponential pace of urbanization and increasing population pressure on cities along with the extreme rainfall due to climate change.
- Accordingly, the 'Sponge Cities' program was launched in 2015 to make greater use of lower impact "nature-based solution" to better distribute water and improve drainage and storage.
- It included the use of permeable asphalt, construction of canals and ponds, restoration of wetlands to reduce the waterlogging problems and improving the urban environment.

Why this has remained ineffective?

- Only few cities (64 out of 654) have been covered so far.
- The maximum potential of sponge cities is much less than the average rainfall in that region. (Max potential to handle- 200 mm rainfall per day. The average rainfall in Beijing during three days in July 2023- 745mm).
- The lack of administrative focus on the implementation of the program.
- Although Sponge cities have some structural and administrative faults, they can be addressed.

Urban Floods as a Global Issue:

- Urban flood is one of the major threats to life and property posed by haphazard urbanization, lack of effective drainage systems and climate change. In 2020, floods caused an estimated 6000 deaths and $51.3 billion worth of economic losses globally.

Way Forward

Since urban flooding not only leads to the losses of invested capital but also increases the vulnerability of the city against climate change. The expansion of unsustainable development all around the world, especially in developing countries, needs to be looked upon by the concerned agencies so that the resilience of cities can be ensured.

1 Scientists detect 'Microplastic' in human heart for the first time

Why in News:

The latest study by the American Chemical Society(ACS) states that a team of scientists at Beijing Anzhen Hospital in China has discovered microplastics in the human heart for the first time. Scientists at the hospital discovered this while analyzing heart tissue from 15 heart surgery patients.

What are Microplastics?

- Microplastics are small pieces of plastic, that are less than five millimetres in size, that get caught in the Earth's atmosphere.
- They are transported around the world, including to remote areas like Antarctica. Last year, microplastics were found in icebergs.
- Studies have found that these micro plastics can enter the human body through the mouth, nose, and other body openings.
- They are indirectly responsible for diseases like obesity, diabetes, and chronic liver disease as they cause changes in the gastrointestinal tract.

Major highlights of the study:

- In the study, researchers collected blood samples before and after surgery and then analyzed the samples with laser direct infrared imaging to determine whether these particles entered people's cardiovascular systems through indirect or direct exposure.
- The researchers collected particles of eight types of plastic which had width between 20 and 500 micrometres.
- They also found thousands of microplastic fragments in most of the tissue samples they collected, although it varied from person to person.
- Among the eight types of plastics in the study, was polyethene terephthalate, which is a common plastic used in clothing and food containers, as well as polyvinyl chloride (PVC), which is found in window frames, drainage pipes, and paint.

Way Forward:

The researchers' finding of in vivo MPs (microplastics) in the human heart is quite worrisome. More investigations need to be conducted regarding how these microplastics enter the heart tissue and what are its long-term effects after cardiac surgery.

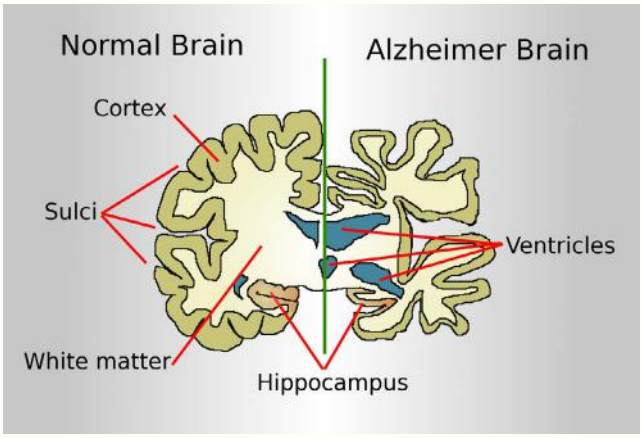
2 Donanemab: Alzheimer's Treat

Why in News?:

Donanemab, the expected revolutionary medicine for the treatment of Alzheimer's - has again resurfaced in the news. The trial tests, which are still in process, have suggested that there are some set of complications emerging against the efficacy of Donanemab.

What do new trials suggest about Donanemab?

- The Eli Lilly Company last month stated that Donanemab has shown positive results in the phase 3 trials. However, further trial tests on Donanemab, Lecanemab and Aducanumab (all of these are under trial for Alzheimer) have shown some complications.
- It is reported that these could cause fatal brain bleeding and seizures. The JAMA Neurology in 2021, also reported that Donanemab and aducanumab are not cost effective.



What is Alzheimer's disease?

- It is a neurological brain disorder that causes the brain to shrink and eventually die. Its most common of form dementia that leads to a gradual decline in memory, thinking, behaviour and social skills. These changes affect a person's ability to function.
- This disease is thought to be caused by the abnormal build-up of proteins (amyloid protein) in and around brain cells.
- At the global level, almost 55 million people are suffering from dementia- the most common cause of which is Alzheimer's disease. India is expected to have about 7.6 million people suffering from Alzheimer's disease by 2030- as

reported by Dementia in India Report 2020.

Donanemab, Lecanemab and Aducanumab:

- These are not a cure for Alzheimer's but antibody-based therapies. The common thread in these drugs other than being monoclonal antibodies is that they neutralize the build-up of amyloid protein in the brain. That is believed to be the most significantly associated with the disease.

Challenges related to Alzheimer's treatment:

- Dementia is the hardest condition to treat. The limited success with the drugs suggests that there may be other factors responsible (other than amyloid protein) for triggering this disease.
- The increasing life span and very high burden of diseases like disabilities, obesity etc. are expected to increase the prevalence of dementia in India.

Way Forward:

Considering the complications associated with medications various Indian agencies have also conducted various clinical trials. As of now the burden of the disease is increasing exponentially and adequate treatment is not available, therefore further incentive-based research and development for Alzheimer's is the need of the hour.

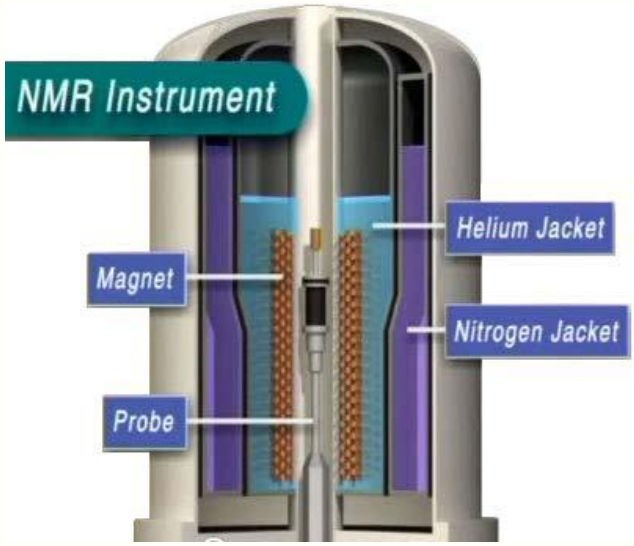
3 India's First Indigenous MRI Scanner

Why in News:

Bangalore-based Voxelgrids Innovations Private Limited has unveiled its first made-in-India MRI scanner in October at the Sathya Sai Institute of Higher Medical Sciences, Bengaluru. This MRI scanner is designed in a way to avoid reliance on liquid helium for use as a coolant in large superconducting magnets powering MRI scanners. Liquid nitrogen will be used in place of liquid helium for cooling the superconducting magnets

Benefit of using liquid nitrogen

- Liquid nitrogen is generally more affordable than liquid helium.
- This cost difference can significantly impact the operational expenses of healthcare facilities that utilize MRI scanners, making the technology more economically viable.
- Liquid nitrogen offers improved safety aspects when compared to liquid helium. Its higher boiling point (-196°C vs. -268.9°C for helium) makes it less likely to evaporate rapidly and cause pressure-related hazards. This makes handling, storage, and transportation safer and more manageable.
- The safety profile and handling characteristics of liquid nitrogen make it more suitable for use in clinical environments, reducing the potential risks associated with maintenance and operation.
- Utilizing liquid nitrogen for cooling in MRI scanners is generally simpler than using liquid helium.



Working of MRI scanner:

- MRI uses strong magnetic fields and radiofrequency waves to create detailed images of the body's internal structures.
- The human body is composed mostly of water, which contains hydrogen nuclei (protons). When placed in a strong magnetic field, these nuclei align with the magnetic field.
- A brief radiofrequency pulse is applied to the aligned hydrogen nuclei. This pulse is in resonance with the hydrogen nuclei's natural frequency, causing them to absorb energy.
- To form a detailed image, the scanner employs complex mathematical algorithms to convert the raw signal data into a visual representation.

Application of MRI Scanner:

- Detailed visualization of internal body structures for diagnosing a wide range of medical conditions, from brain disorders to musculoskeletal issues.
- Detection and characterization of tumors, lesions, and abnormalities.

Way Forward:

The introduction of an indigenous MRI scanner in India represents a significant stride towards affordable healthcare, self-reliance in medical technology manufacturing, and innovation in the healthcare sector. This achievement has the

potential to positively impact healthcare accessibility not only in India but also globally, underscoring the importance of technological advancements in advancing healthcare outcomes for all.

4 Vaccine Efficacy Against COVID-19

Why in News:

The study conducted by the Clinical Studies and Trial Units of the Indian Council of Medical Research has found that vaccination against COVID-19 provides around 60% protection against post-discharge mortality even after at least one dose.

The Key Findings of the Study:

- The research has found post-discharge mortality rate of 6.5% in patients hospitalized for COVID-19. The male patient above the age of 40 years suffered from moderate-to-severe COVID-19 disease with comorbidities and had higher probability of death within one year of discharge from the hospital.
- It has been pointed out in the study that Post-COVID Condition (PCC) was reported in 17.1 % of the participants and was linked with the 2.7 times higher chances of post- discharge mortality.
- National Clinical Registry collected data on the series of three nested case-control analyses for COVID-19 between September 2020 and February 2023.
- Nested case-control analyses are studies that include diagnosed individuals in comparison to matched controls who have not developed the disease.

What is Post COVID Condition?

- PCC is defined by the Centers for Disease Control and Prevention (CDC) as "signs, symptoms, or conditions that persists or develop at four week or more after the initial infection". The World Health Organisation includes a wide range of symptoms in others, including constitutional, neurological, cardiovascular and gastrointestinal.

Advantage of COVID-19 vaccination:

- It is reported by the study that vaccine effectiveness reduced after 165-195 days but was still around 86%. Therefore, it provided 60 % protection against Post-discharge death after at least one dose.

Coverage of COVID-vaccination:

- The National COVID-19 Vaccination Program was started from January 2021. As per government data till March 2023, India has administered over 2.2 billion doses overall (including first, second and precautionary/booster doses) of the currently approved vaccines.

Way Forward:

The current study has highlighted the importance of vigilant medical follow up for post-COVID patients. The regular, affordable and active check up facilities should be made available via Primary Health Centre and Mobile Health Centers in rural regions so that better treatment can be provided at an early stage of disease.

5 Metagenome Sequencing and Pathogen Surveillance

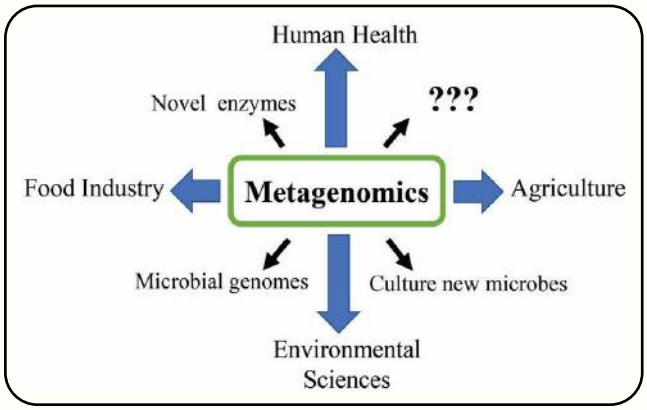
Why in News:

Metagenome sequencing revolutionized pathogen surveillance during the COVID-19 pandemic. Unlike traditional methods, scientists directly sequenced and analyzed virus genomes from patient samples, swiftly identifying SARS-CoV-2 as the culprit.

What is metagenome sequencing:

- It skips the need for isolating and culturing individual microorganisms, providing a more comprehensive view of the microbial community.
- Metagenomics captures the entire genetic diversity within a sample without prior knowledge of what might be present.
- Enables quick detection of pathogens by directly sequencing their genomes, avoiding the need for traditional microbiological techniques.
- It can simultaneously analyze multiple genomes within a single sample, making it efficient for studying complex microbial ecosystems.
- Particularly useful in identifying novel or unknown pathogens, as it doesn't rely on specific primers or targets.
- Provides insights into the genetic makeup, potential virulence factors, and evolution of pathogens.

- Helps trace the origins, transmission pathways, and genetic changes in pathogens during outbreaks.
- Metagenomics can aid in diagnosing infections by identifying the causative agent directly from patient samples.



Pathogen surveillance:

- Pathogen surveillance refers to the systematic monitoring and analysis of pathogens (disease-causing microorganisms) to track their presence, spread, and potential impact on public health. This
- surveillance is crucial for early detection, response, and control of infectious disease outbreaks.

Application:

- The traditional microbiology methods, scientists opted for metagenome sequencing to analyze samples from infected patients. Metagenome involves sequencing genetic material directly from environmental samples, which in this case included patient samples.
- Metagenome is an unbiased approach that doesn't require prior knowledge about the pathogen. This allowed scientists to identify the causative agent without the need for specific diagnostic tests or targeting known pathogens.
- Metagenome combined with advanced bioinformatics enabled rapid identification of the virus. Traditional methods could have taken more time as they involve culturing the pathogen, which can be time-consuming. The speed of metagenomewas crucial for responding promptly to the pandemic.
- The success of metagenome in rapidly identifying SARS-CoV-2 has highlighted its potential in future pathogen surveillance efforts. This approach can be applied to identify and characterize new pathogens, aiding in quicker responses to potential pandemics.
- The use of metagenome has transformed the field of pathogen surveillance by offering a faster, more comprehensive, and less biased approach to identifying and studying infectious agents.

Way Forward:

Metagenome sequencing, an innovative approach involving direct genome sequencing and bioinformatic analysis, rapidly identified SARS-CoV-2 as the cause of COVID-19. Departing from conventional methods, this technique allowed scientists to swiftly pinpoint the virus's identity.

6 Vaccine to Protect Newborns Against RSV

Why In News:

A new vaccine to protect newborns against RSV have been approved by the US Food and Drug Administration for pregnant women. A new monoclonal antibody for RSV has also been approved for use in babies and children.

Monoclonal Bodies:

- Monoclonal antibodies are man-made proteins that act like human antibodies in the immune system

About RSV (Respiratory Syncy Tial Virus):

- It is a respiratory infection and spreads through coughing, sneezing etc. from an infected person.
- RSV is also called human respiratory syncytial virus (hRSV) and human orthopneumovirus.
- It is a highly contagious virus that commonly causes respiratory illness, particularly in infants and individuals with certain medical conditions.
- It is a single-stranded RNA virus.
- Its name is derived from the large cells known as syncytia that form when infected cells fuse.
- RSV can survive for many hours on hard surfaces.

Symptoms:

- Like Influenza (flu) and (COVID-19), symptoms of RSV include coughing, sneezing, fever, runny nose, wheezing and decreased appetite.

About Pfizer's Maternal Vaccine:

- It is given to 32 to 36 weeks pregnant Mothers to prevent Lower respiratory tract infection and contagious disease in infants until they are six months.
- The vaccine is more than 80% effective at combating severe illnesses that require a doctor's visit among infants through the first

three months of life and still reduces risk as far as 6 months.
- This Maternal Immunization will pave the way to help pregnant women pass on disease-specific antibodies to the fetus during the second and early third Trimester.
- Pfizer has also sought approval for RSVpreF for the prevention of RSV in older adults.
- The potential approval of RSVpreF represents an important advancement in the prevention of RSV-related illness, offering protection to vulnerable populations and potentially reducing the global burden of RSV infections.

7 Nanomechanical Testing Technology

Why in News:

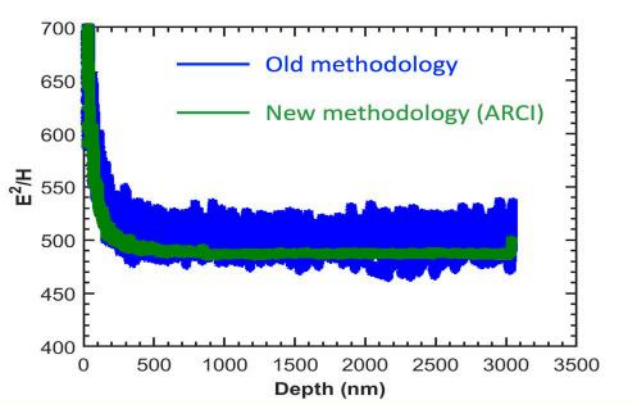
The Indian scientist Dr. Sudharshan Phani, in collaboration with international institutions including KLA Corp. and Texas A&M University, has developed a novel method to test nanomechanical properties of materials at extremely tiny scales with high precision and accuracy.

About Nanomechanical Testing:

- Nanoindentation testing measures mechanical properties at the nanoscale.
- A diamond-tipped indenter is used to apply controlled force.
- The indenter penetrates the material's surface to a set depth.
- Applied force and depth are continuously tracked.
- Force-depth data reveals material responses.
- Extracted information includes hardness, elastic modulus, stiffness.
- Applicable to diverse materials like metals, polymers, biomaterials.
- Suitable for nanoscale structures.
- Used in material science, engineering, nanotechnology.
- New method enable faster testing rates.

Key feature of nanoindentation Testing:

- Nanoindentation testing provides precise and accurate measurements of mechanical properties at extremely small scales, allowing researchers to understand the material's behavior on a nanometer level.
- Conventional mechanical testing methods are often not suitable for nanoscale materials due to limitations in sample size and equipment sensitivity.
- The depth of penetration of the indenter tip into the material is continuously monitored during the test.
- Nanoindentation can be performed on a wide range of materials, including metals, polymers, ceramics, and biological tissues. It helps to characterize mechanical properties across different materials and applications.
- The novel methodology mentioned in your initial description enhances the testing rate, allowing for higher throughput of samples.



Application:

- The new method allows for quicker testing of mechanical strength.
- Applicable in various domains, from medicine to space exploration.
- Precision Improvement: Enhances the precision and accuracy of nanoindentation testing.
- Suitable for materials at scales around 1/100th of a human hair's diameter.
- Can be used on different material types, including semiconductors and structural materials.
- Enables identifying cancerous cells and analyzing biomaterials.
- Useful in studying meteorite formation in deep space.
- Developed through collaboration with international institutions.
- Involves extensive modeling and simulation for method improvement.
- Modeling results validated through experiments under extreme conditions.
- Expected to influence various scientific research areas.

Way Forward

the newly developed nanomechanical testing method holds significant promise for advancing multiple fields and industries. By leveraging its potential and fostering ongoing collaboration and research, scientists can continue pushing the boundaries of knowledge and technological innovation.

Economic Issues

1 RBI Launches UDGAM Portal to Find Unclaimed Deposits

Why in News:

Reserve Bank of India (RBI) has launched a centralized web portal, UDGAM, (Unclaimed Deposits – Gateway to Access Information) to help citizens search for their unclaimed deposits.

About UDGAM Portal :

- The portal has been developed in collaboration with Reserve Bank Information Technology Private Limited (REBIT), the Indian Institute of Financial Technology and Allied Services (IFTAS) and participating banks.
- First announced on 6th April 2023 as a centralized web portal, the objective of this portal is to help the public to search for unclaimed deposits in multiple banks in one place.
- State Bank of India, Punjab National Bank, South Indian Bank, Central Bank of India, Dhanlaxmi Bank, DBS Bank India, and Citibank are the banks whose users will be able to get their unclaimed deposit details through this portal.

How will this initiative work?

- Given the increasing trend of unclaimed deposits, RBI has been often conducting public awareness campaigns, to create awareness among the public on this matter.
- The launch of this portal will help the users know their unclaimed deposits or accounts. They will be able to claim the deposit amount or activate their deposit accounts with their respective banks.

What is the mode of registration?

- In this portal, users need to enter their mobile number, name, password, and captcha and then submit. After clicking on submit, an OTP will be received on the registered mobile number. Thereupon, one can log in to the UDGAM account by entering the mobile number and password (OTP).
- After entering OTP, users will be redirected to a page where the account holder's name, bank name, and ID like PAN, voter ID card, driver's license number, passport number, etc. have to be entered.

Way forward:

The total amount of unclaimed deposits in India is Rs 35,000 crore while many accounts have been forgotten or ignored. This centralized web portal will be an ideal platform for users to find and identify their unclaimed deposits/accounts in multiple banks through a single window.

2 New Guidelines For Banks, NBFCs To Regulate Interest

Why in News:

Reserve Bank of India (RBI) has issued new guidelines to ensure transparency in disclosure of interest rates, and penal charges in loan accounts, which will be effective from January 1, 2024.

Instructions given by RBI:

- A penalty, if imposed, for non-compliance with important terms and conditions of the loan agreement by the borrower shall be treated as a 'penal fee' and not as 'penal interest' to be added to the rate i.e. no additional interest will be calculated on such charges. However, this will not affect the normal processes of interest and compound interest on loan accounts.
- Regulated entities shall not incorporate any additional component in the interest rate and shall ensure compliance with these guidelines in letters and spirit.
- The quantum of penal charges shall be reasonable and commensurate with non-compliance with material terms and conditions of the loan agreement without being discriminatory within any particular loan/product category.
- Regulated Entities (REs) may make appropriate amendments to their policy framework and all entities that have been renewed with effect from the date may ensure implementation of the instructions in respect of new loans.
- The most important terms and conditions/ Key Fact Statement (KFS) applicable to the customers will be disclosed by the RE to the customers, besides being displayed on the RES website under Interest Rates.

Entities to whom these rules will apply:

- These rules will apply to all banking entities regulated by RBI, including all commercial banks, cooperative banks, NBFCs, housing finance companies, and all Indian financial institutions like EXIM Bank, NABARD, NHB, SIDBI, and NABFID.
- These directions will not apply to credit cards, external commercial borrowings, trade credit, and structured obligations, which are covered under product-specific directions.

Way Forward:

The imposition of penal interest or charges would

lead to a spirit of credit discipline. Such charges, therefore, cannot be used as a revenue enhancement tool over or above the contracted interest rate.

3 Multilateral Development Bank

Why in News:

An 11-member G20 Expert Group on "Strengthening Multilateral Development Banks (MDBs) has been constituted, under the aegis of India's G20 Presidency.

About Multilateral Development Bank

- MDB is a financial institution established by multiple member countries and falls under international law. It is similar to financial institutions like the International Monetary Fund, World Bank, Asian Development Bank etc. It provides loans, grants and technical assistance to developing countries for their economic and social development.

The objective of MDB:

- MDBs have been instrumental in supporting the development of both low-income and middle-income countries (LICs and MICs) by addressing issues such as poverty reduction, infrastructure development, human capital formation, etc. However, MDBs are also facing several challenges and limitations that affect their relevance and performance in the changing global context. Some of them are described below-
  - One size fits all conditions, imposed by MDBs on borrowing countries are not always justified.
  - Heavy increase in the debt-to-GDP ratio of developing countries.
  - Western dominance – The World Bank president comes from the USA and the IMF president is always a European national.
  - Countries are prone to fall into debt-trap situations.

Need to reform MDBs:

Under India's G20 presidency, the Expert Group proposes to submit two reports-

- **To broaden the mandate and vision:** To address the challenges of transboundary issues and the opportunities connected with climate change.
- **To expand the need for finance and the sources of finance:** The World Bank Group estimates that the average annual spending needed to address global challenges of climate change, conflict, and pandemics is $2.4 trillion per year between 2023 and 2030.
- **To mobilise private capital:** The current system has failed to raise sufficient private finance. On the demand side, there are concerns about moral hazards associated with private capital. On the supply side, private capital is not immune to risks – such as those associated with foreign exchange.
- For India, reforming MDBs would mean advocating the voice of the Global South.

Way Forward :

Reforming MDBs is crucial and would contribute towards enhancing human welfare. This requires extensive consultations and deliberations among various stakeholders to ensure Inclusive Growth and Shared Prosperity.

4 Public Tech Platform by RBI

Why in News:

The Reserve Bank of India (RBI) launched a pilot project in the form of a Public Tech Platform, to ease access to credit. This move is aimed at providing digital information to lenders to facilitate credit or loans in just a few minutes.

What is a Public Tech Platform?

- It is an end-to-end digital platform that has been developed by the Reserve Bank Innovation Hub, a wholly-owned subsidiary of the Central Bank. The platform will have an open architecture, open Application Programming Interfaces (APIs), and standards, to which all financial sector players can connect in a 'plug and play' model.
- Currently, data needed for credit appraisal are available with different entities like Central and State governments, account aggregators, banks, credit information companies and digital identity authorities. This has created hindrance for the timely delivery of Rule-based lending.
- During the pilot program, the platform will focus on products such as Kisan Credit Card loans of up to Rs 1.6 lakh per borrower, dairy Loans,

MSME loans (without collateral), personal loans, and home loans through participating banks.
- It is worth mentioning that the process of delivering credit involves credit appraisal, which evaluates the borrower's ability to repay the loan and adhere to the credit agreement.

Pilot Project Examples:
- Digital Kisan Credit Card highlighted how digitized land record data can be used to sanction and disburse loans in a few minutes, liberating farmers from the need to visit physical bank branches. It is completely paperless and digitized.
- Similarly, the Digital Dairy Loan leveraged the digitized milk pouring data available with milk cooperatives, and the loan sanction to disbursement process is end-to-end digitized.

Benefits:
- Improved access to credit.
- Reduction in operational costs and time.
- Enhanced credit portfolio management.
- More efficient credit ecosystem.
- Enabling linkage with services such as Aadhaar e-KYC, land records from on boarded State Governments (MP, TN, Karnataka, UP and Maharashtra).

Way Forward:

Based on the pilot project learning, the scope and coverage would be expanded to include more products, seeking to facilitate seamless credit delivery and therefore boosting Financial Inclusion in India.

5 Advisory Board on Banking and Financial Frauds (ABBFF)

Why in News:

The Central Vigilance Commission (CVC) has reconstituted the Advisory Board on Banking and Financial Frauds (ABBFF).

About the Advisory Board on Banking and Financial Frauds:
- It conducts first-level investigations of bank frauds before recommendations or references are made for investigation to agencies such as the Central Bureau of Investigation (CBI).
- It is empowered to investigate the role of officers and whole-time directors (including former officers and former whole-time directors), in cases of fraud of Rs 3 crore and above, in public sector banks, public sector insurance companies, and public sector financial institutions.
- The Central Vigilance Commission or the Central Bureau of Investigation (CBI) may also refer any matter including matters of technical nature to the Board for advice.
- The Board may also provide input to the Reserve Bank of India and the Central Vigilance Commission for policy formulation relating to fraud.
- It gives its advice, when sought by the Ministries, Departments, the Central Vigilance Commission, or the CBI, ordinarily within one month of the receipt of the initial reference.
- It consists of a chairman and four other members, and the term of the chairman or members is two years.
- **Headquarters of ABBFF:** New Delhi

About the Central Vigilance Commission:
- It was established by the government in 1964, on the recommendations of the Anti-Corruption Committee headed by K. Santhanam.
- It is a statutory body governed by the Central Vigilance Commission Act of 2003.
- CVC is not controlled by any ministry or department and is answerable to Parliament.
- It investigates offenses, alleged to have been committed under the Prevention of Corruption Act, 1988 by public servants, government companies, societies, and local authorities owned or controlled by it corporations established under any Central Act.
- The Commission consists of a Central Vigilance Commissioner (Chairman) and not more than two Vigilance Commissioners (Members).
- The appointment is made by the President on the recommendation of a committee consisting of the Prime Minister (Chairman), the Minister of Home Affairs, and the Leader of the Opposition in the Lok Sabha.
- **Tenure of Chairperson and Members -** Four years from the date of entering office or 65 years of age, whichever is earlier.

Way Forward:

The Enforcement Directorate (ED) has registered 757 cases related to bank fraud in public and private sector banks under PMLA in the last 10 years and 36 cases in the current year. It is mandated to investigate and prosecute cases under the Prevention of Money Laundering Act of 2002. Steps taken for fraud risk management Action in respect of loan fraud can be initiated through various mechanisms.

6 Promotion of Rail-Sea-Rail Transportation for Efficient Coal Movement

Why in News:

The initiative to promote Rail-Sea-Rail (RSR) transportation for the efficient movement of domestic coal is in the news due to its potential to revolutionize the logistics industry in India and ensure a seamless and uninterrupted power supply.

Key Point of the Initiative:

- The Ministry of Coal is promoting the integration of Rail-Sea-Rail (RSR) transportation for efficient movement of domestic coal.
- RSR allows seamless coal transportation from mines to ports and then to end-users, reducing transportation costs and improving logistical efficiency.
- States like Odisha, Chhattisgarh, Jharkhand, and parts of Madhya Pradesh accounted for around 75% of total domestic coal dispatch in FY'23.
- The Ministry aims to double coal production in India with a Compound Annual Growth Rate (CAGR) of approximately 7.7% by FY'30.
- Inter-Ministerial Committee (IMC) An IMC has been formed, consisting of representatives from the Ministry of Power, Ministry of Railways, and Ministry of Ports, Shipping, and Waterways. The IMC is responsible for planning long-term coal movement strategies.
- Currently, railways account for about 55% of coal evacuation. The goal is to increase this share to 75% by FY'30.
- RSR mode aims to reduce congestion on the All-Rail Route and offers an alternative route for coal evacuation.
- The committee aims to achieve coal evacuation of 112 MT by 2030 through RSR, up from the current 40 MT.
- RSR reduces congestion, creates export opportunities, and has a lower carbon footprint compared to All-Rail Route (ARR).

Benefit of Rail-Sea-Rail (RSR):

- RSR integrates rail and sea modes, creating a seamless transportation system from mines to ports and then to end-users. This reduces handling and transfer issues, streamlining the movement of coal.
- RSR reduces logistics costs for end users, particularly in Southern India, potentially saving around Rs. 760-1300 per ton compared to traditional modes. This cost-efficiency enhances the affordability of coal for power generation.
- RSR has a significantly lower carbon footprint compared to the All-Rail Route (ARR), making it a more environmentally friendly choice. This aligns with sustainability goals and contributes to reducing emissions.
- By providing an alternative mode of evacuation, RSR helps in reducing congestion on the existing All-Rail Route. This leads to smoother transportation flow and minimizes bottlenecks.
- RSR transportation of coal has witnessed a substantial growth rate of around 125% over the past four years, indicating its effectiveness and potential for further expansion.

Way Forward:

The integrated approach of using multiple modes of transportation, namely railways, sea, and railways again, presents various benefits for both logistical efficiency and environmental sustainability. As coal production is projected to increase, this initiative becomes even more crucial.

7 Arctic's Northern Sea Route

Why in News:

The prominent Sea Lane of Communication (SLOC) in the Arctic Ocean, the Northern Sea Route (NSR), is becoming more crucial for India. India has received 35% of Cargo handled by the Murmansk port via NSR just in 7 months of 2023.

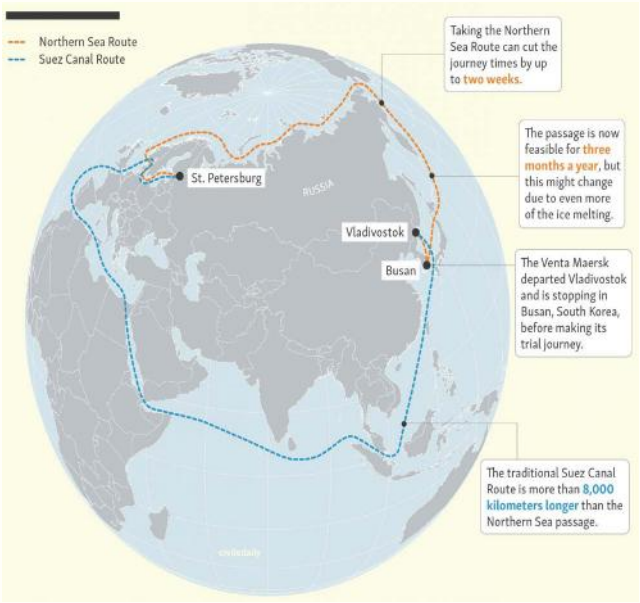
What is the Northern Sea Route?

- The Northern Sea Route also known as Northeast Passage (NEP) connects the eastern and western regions of the Arctic Ocean. This route is the shortest shipping route for freight transportation between Europe and countries of the Asia-Pacific region. It encompasses (extension- 5,600 km) the four seas of the Arctic Ocean- i.e. Barents, Kara, Laptev, and East Siberian Sea.

Why NSR is significant for India?

- The major advantage associated with this route is that its affordability and time consumption is more favorable than the traditional sea routes (Suez and Panama Canal). It has the potential to cut down the shipping cost by up to 50%.
- India heavily relies on Russian imported coal and crude oil and the major share of this trade is associated with sea transport.
- The proposed Chennai-Vladivostak Maritime Corridor (CVMC) project signed at a bilateral level between India and Russia in 2019, has

the potential to cut down the transport time to 12 days (almost a third of the present duration). This CVMC (10,500 km) will pass through the Sea of Japan, the South China Sea and the Malacca Strait.



- This route is dominantly controlled by Russian agencies with whom India has positive and friendly strategic relations. India can counterbalance the increasing Chinese influence in this route. China's Polar Silk Route is targeting monopolies of the NSR and Arctic region.

Arctic Region: Potential and Threats:

- The Arctic region lies above the Arctic Circle including the Arctic Ocean and North Pole at its center. It has a vast amount of minerals, hydrocarbon resources, and rich deposits of coal, gypsum, diamonds and other rare earth minerals. Greenland alone possesses about a quarter of the world's rare earth reserves.
- However, the Arctic region is the most vulnerable to the present climate changes and global warming. The warming in the Arctic has been much faster than the rest of the world. The permafrost melting will further fuel global warming by releasing GHG gases into the atmosphere.

Way Forward:

The Arctic Region holds immense geo-strategic importance for India and Indian scientists. Nevertheless, associated environmental complications are also a concern for the world community. Therefore, India should actively engage with Russian agencies to boost trade via the NSR route and also encourage their scientists to develop sustainable exploring options.

Miscellaneous Issues

1 UGC sets up a Panel to Study Manuscripts

Why in News:

- The University Grants Commission (UGC) has constituted a special panel that will develop a model curriculum for the study of courses in Manuscriptology and Archeology in various colleges and universities across the country.

Key Points Related to the Panel:

- The University Grants Commission has developed a model syllabus for courses in Manuscriptology and Epigraphy in colleges and universities.
- It has been developed in line with the National Education Policy 2020.
- The eleven-member panel will be headed by the former director of the National Mission for Manuscripts Prafulla Mishra and will also include professors from IIT-Mumbai, the School of Languages, Gujarat University, and former directors of NCERT.
- According to the UGC, it will be a committee for the standardization of postgraduate and diploma courses in Manuscriptology.
- Under this, philosophy, science, literature, religion, and miscellaneous subjects in the Indian language, manuscripts have also been included.

What is Manuscriptology and Epigraphy?

- Manuscriptology is the study of history and literature through handwritten documents, while epigraphy is the study of ancient writing systems, although most epigraphy is believed to be a creation of classical and medieval times.
- The preservation of Indian manuscripts contributes to the preservation of the country's diversity and fosters a deeper understanding of the heritage and the ideas, beliefs, and practices of the past.
- Manuscripts also provide invaluable insight into India's history, intellectual traditions, preservation of culture, promotion of academic research, and the potential to inspire future generations.
- According to the National Mission for Manuscripts (NMM), India has about 10 million manuscripts in the 80 oldest scripts, which are written on materials like palm leaves, paper, cloth, and bark.
  - 75% of the extant manuscripts are in Sanskrit while 25% are available in regional languages.
  - There are many ancient manuscripts available in India like Brahmi, Kushan, Gaudi, Lepcha, and Maithili.

Way Forward:

Manuscript studies will play an important role as part of promoting the Indian knowledge system, developing a model curriculum and making culture and ancient civilizations an open elective for students in other streams.

2 69th National Film Awards 2023

Why in News:

The 69th National Film Awards were announced at the National Media Center (NMC) in New Delhi, under which honors for censored films have been included in the year 2021. The event was organized by the Directorate of Film Festivals, Government of India, under the Ministry of Information and Broadcasting.

Key points related to the 69th Film Awards:

- The National Awards were announced by film producer Ketan Mehta who headed the 11-member jury.
- The Best Film award was given to R Madhavan's 'Rocketry: The Nambi Effect' and Best Actress award was given to Gangubai Kathiawadi, Alia Bhatt and Kriti Sanon for Mimi, respectively.
- Best Actor award went to Allu Arjun for the film 'Pushpa'. He became the first Telugu actor to receive this honour.
- The Best Supporting Actor award was given to Pankaj Tripathi for Mimi. The actor dedicated the award to his father, who passed away recently.
- The film 'Sardar Udham' directed by Shoojit Sircar won the award for Best Feature Film in Hindi. The film was released on Prime Video in 2021 and it starred Vicky Kaushal in a pivotal role.
- The Best Supporting Actress Award was given to Pallavi Joshi for 'The Kashmir Files'. The film also received the 'Nargis Dutt Award' for the Best Film on National Integration.
- The National Film Award for Best Director was given to Nikhil Mahajan for the Marathi film 'Godavari'.
- The Best Popular Film award was given to the Telugu version of the multilingual film 'RRR'.

Other film awards announced:

- Mithu Di (English), (Producer & Director: Aseem Kumar Sinha) and Three Two One (Marathi & Hindi), (Producer: FTII, Director: Himanshu Prajapati) shared the award.
- The award for Best Environment Film including Agriculture was presented to Munnam Valavu (Malayalam), producer Sri Gokulam Movies, and director RS Pradeep.
- The award for Best Promotional Film was given to Endangered Heritage 'Worli Art' (English), Produced by Baba Cinemas and directed by Hemant Varma.
- The Best Science and Technology Film Award was received by 'Ethos of Darkness' Produced by Shree Ganesh Productions and directed by Avijit Banerjee.

Way Forward:

The objective of the National Film Awards is to enhance the understanding and contribution of technical excellence to the cultures of different regions of the country in cinematic form. This will encourage the production of films of social relevance and also promote the unity and integrity of the nation.

3 Kuwi & Desiya Books Launched

Why in News:

The Union Minister for Education, Skill Development and Entrepreneurship and the Union Minister for Finance and Corporate Affairs launched Kuwi and Desiya Books in Bhubaneswar. A special cover was also released by the Department of Posts, Ministry of Communications, Government of India on this occasion. It marks a collaborative effort with the Central University of Odisha, Koraput, the Department of Posts, and NCERT.

About Kuwi and Desiya Books:

- Kuwi and Desiya Books will provide a strong and educational foundation to the tribal community of Odisha and will preserve and promote the cultural, and linguistic heritage and identity.
- These books will help students improve their speaking skills, learning outcomes, and cognitive development with the help of pictures, stories, and songs based on their locality nature, and culture.
- For the first time, the National Council of Educational Research and Training (NCERT) in association with the Central University of Odisha has also prepared two invaluable books 'Kuwi Primer' and 'Desiya Primer' for these children.
- These books are specially designed for children who speak the tribal languages 'Kuwi' and 'Desiya' in the undivided Koraput region of Odisha.
- These books will provide a strong educational foundation to the students and preserve the cultural, and linguistic heritage and identity of the tribal community of Odisha.

About National Education Policy (NEP) 2020:

- The National Education Policy 2020 was announced in July 2020. It proposes various reforms in school education as well as technical education, and higher education.
- This policy strives to provide education in the mother tongue, local language, or regional language.
- This policy is based on the committee headed by Indian space scientist K. Kasturirangan.
- The main goal of NEP 2020 is to increase the Gross Enrollment Ratio (GER) from pre-school to secondary level to 100% by 2030, while in higher education including vocational education to bring GER from 26.3% to 50% by 2035.

Meri Maati Mera Desh Tour:

- On this occasion, the Ministers visited the sand art 'Meri Maati Mera Desh' by Padma Shri award Shri Sudarshan Patnaik, dedicated Shilaphalakam (memorial plaque) and planted 1000 saplings. They also took the Panch Pran Pledge along with the students.
- Families of martyrs and freedom fighters were also felicitated on the occasion. Soil and rice were collected in 'Amrit Kalash' from each house in Birharekrishnapur village of Puri district, the birthplace of Shaheed Jai Rajguru, to make 'Amrit Vatika' in Delhi.

Way Forward:

The rich cultural, and historical heritage of Odisha, a testimony to sacrifice and valor are what makes the Meri Mati Mera Desh campaign even more relevant. On the occasion, the Ministers interacted with the artisans of Raghurajpur, a heritage crafts village in Puri district, and highlighted the benefits of the 'PM Vishwakarma' scheme.

4 INS Vindhyagiri

Why in News:

Vindhyagiri, the sixth Stealth Frigate of Project 17A being built at GRSE, was launched at the shipyard by the Hon'ble President of India, Smt Droupadi Murmu. This is the sixth of seven ships being built

for the Navy under 'Project 17 Alpha'.

About INS Vindhyagiri:

- INS Vindhyagiri is named after a mountain range in Karnataka, India, just like its predecessors in the Nilgiri-class frigates.
- The Nilgiri-class frigates in the Indian Navy were named after different mountain ranges in India.
- The series of frigates includes INS Nilgiri, INS Udaygiri, INS Himgiri, INS Taragiri, INS Dunagiri, and INS Vindhyagiri.
- Each ship's name reflects a specific mountain range.
- This naming tradition pays homage to the diverse geographical features of India and is a symbolic representation of the navy's connection to the nation's landscape.

Specification of INS Vindhyagiri:

- Project Name:Project 17 Alpha
- Frigate Size: 149 metre
- Displacement: 6670 Tonnes
- Additional Features: Long Range Torpedoes and anti-ship missiles
- Top speed: 28 knots

PROJECT 17A:

- Launched by the Indian Navy in 2019.
- Initiated by the Indian defense forces to construct a series of stealth guided-missile frigates.
- Being constructed by two companies: Mazagon Dock Shipbuilders (MDL) and Garden Reach Shipbuilders & Engineers (GRSE).
- Project 17A's total value is approximately Rs 25,700 crores.
- First stealth ship launched under Project 17A was Nilgiri in 2019.
- Nilgiri is expected to be commissioned in the Indian Navy by year-end.
- Udaygiri, the second ship, launched in May 2022, likely to be commissioned in 2024.
- The first six ships of the series were named after the older class: Nilgiri, Himgiri, Taragiri, Udaygiri, Dunagiri, and Vindhyagiri.

Way Forward:

- The ships represent India's commitment to indigenous production, with 75% of equipment and systems orders sourced from domestic firms, including MSMEs.
- The successful completion and commissioning of INS 'Vindhyagiri' symbolize India's growing naval prowess and commitment to safeguarding its maritime interests.
- The launch of 'Vindhyagiri' reflects the successful outcome of the collaborative efforts and showcases India's advancements in shipbuilding technology.

5 CAG Report on Ayushman Bharat

Why in News:

In a breakthrough report, CAG has exposed serious inconsistencies in the database of Ayushman Bharat – PM Jan Aarogya Yojana (AB-PMJAY).

About AB-PMJAY:

- It is the world's largest health insurance scheme which offers Rs. 5 lakh per family for secondary and tertiary care hospitalization.
- The beneficiaries are identified by the latest Socio-Economic Caste Census (SECC) data and the funding is shared by the Central and State governments in the ratio of 60:40.
- The National Health Authority (NHA) has been constituted for implementation of the scheme whereas State Health Agencies (SHAs) have been entrusted with the same at state level.

Status of PMJAY:

- Out of 10.74 crore targeted households, 7.87 crore beneficiaries, that is 73%, were registered.

This target has been increased to 12 crore.

REGISTRATION OF BENEFICIARIES AGAINST SAME OR INVALID MOBILE NUMBERS

Number of mobile numbers in system	Mobile number	Number of people registered against them
3		9,85,166
	9999999999	7,49,820
	8888888888	1,39,300
	9000000000	96,046
20		10001 to 50,000
1435		1001 to 10,000
185397		11 to 1,000

Source: CAG report

Discrepancies found:

- **Bogus mobile numbers and Aadhaar:** Around 7.5 lakh beneficiaries were linked with a single cell phone number — 9999999999. Similarly, same Aadhaar numbers were linked to multiple beneficiaries.
- **Treatment of dead and discharge before admission, surgery:** It noted that in 2.25 lakh cases, the date of the 'surgery' done was shown to be later than the date of discharge.
- In other instances, the date of discharge was earlier than date of admission and even before the inception of the scheme. Likewise, many claims were made in the name of deceased person.
- **Unrealistic Household Sizes:** The registered household sizes in some cases were unrealistically large, ranging from 11 to 201 members.
- **Pensioners Availing Benefits:** In certain states, pensioners were found to possess PMJAY cards and were availing treatment.
- **Hospital empanelment and missing hospitals:** Many of the public and private sector hospitals empanelled do not fulfill essential criteria for services like pharmacy, blood bank, laboratory, dialysis unit, post-operative services, ICU care etc.
- Also, many hospitals in the empanelled list have not submitted any claims thus they were not providing PMJAY services at all. The problem is further aggravated by less number of empanelled hospitals vis-à-vis number of beneficiaries, frequent malpractices, infrastructural inadequacies, etc.
- Pending penalties and issues in data collection: The report flagged pending penalties of Rs12.32 crore from 100 hospitals across nine states.

Way Forward:

NHA should be more cautious and observe adequate supervision before releasing funds to SHAs. At the same time, vigilance, deployment of Artificial Intelligence and machine learning in detection of frauds and up-gradation of Beneficiary Identification System at each level could help majorly.

6 Reforms Introduced for Secure Digital Connectivity

Why in News:

Recently, two major reforms were introduced with regard to Mobile user Protection for promote safer and cleaner Digital Ecosystem This was done to ensure the security and integrity of India's rapidly expanding digital Environment.

What Are The Reforms

- Revamping KYC
- Transforming Point-of-Sale (POS) Registration

- These two reforms are in the direction of Previous reforms introduced with a Launch of Sanchar Saathi Portal. It is a citizen centric initiative of Department of Telecommunications to empower mobile subscribers and help them fight against the menace of cybercrimes and financial fraud.

KYC Reform:

- KYC is the process of identifying the customer through their Identity Document (ID) and Address Verification documents as PAN, AADHAAR, Driving License, Passport etc. It enables customer traceability before providing the customer with telecom services.
- KYC reform is important in providing safeguards to subscribers of telecom services from any probable frauds and bolstering the confidence of general public in the digital ecosystem.

Point-Of-Sale (POS) REFORM:

- POS reform emphasizes on the process for compulsory registration of Franchisee, Agents and Distributors (POS) by Licensees. This will help to combat the menace of cybercrimes and fraudulent activities. The purpose is to eliminate rogue POS entities that engage in fraudulent practices by issuing SIMs to Anti-Social and Anti-national elements.
- The registration process involves robust verification and written agreements between POS and Licensees. Any POS found engaged in illegal activities will be terminated and face blacklisting period of three years.

Other Reforms:

- **QR Code Scanning of Aadhar:** To fend off the misuse of Printed Aadhaar, the demographic details will be captured by scanning the QR code of Printed Aadhaar during the KYC process.
- **Mobile number disconnection:** Till the expiry of 90 days, a disconnected mobile number will not be allocated to any new customer. The subscriber has to complete KYC for replacement of his SIM and will be barred for 24 hours on outgoing and Incoming SMS facilities.
- **Biometric Authentication:** Thumb Impression and Iris-based authentication in AADHAAR E-KYC, facial based biometric authentication is permitted.

Sanchar Saathi Portal:

- The "Sanchar Saathi " portal was launched on World Telecommunication Day (17 May 2023) under the Department of Telecommunication. The portal empowers the citizen by allowing them to identify connections issued in their name, report fraudulent registrations and report to trace/block lost or stolen mobile phone.

7 President Murmu Patys Tribute to Matangini Hazra & Kanaklata Barua

Why in News:

On the 15th of August India celebrated its 77th Independence Day and on this auspicious occasion, the President of India Draupadi Murmu mentioned the role women played in India's Independence. She mentioned two very special women, Matangini Hazra and Kanaklata Barua.

Matangini Hazra:

- She was born in 1869 in a village near Tamluk in West Bengal. She married at a young age and became a widow by 18. Later on, she devoted herself to social causes and emerged as a dedicated freedom fighter.
- During the Nationalist movement, Hazra earned the nickname "GANDHI BURI" in her Village for admiring Mahatma Gandhi's ideals.
- Hazra contributed to multiple protests like the Civil Disobedience Movement in 1942, the Salt March etc.
- At the age of 73, she led a procession of around 6,000 protesters that comprised mostly women, towards the Tamluk police station. During the ensuing clash with British authorities, she was shot and killed while chanting "VANDE MATARAM " and became a martyr in getting India's Independence.
- Hazra has been described as a passionate supporter of Independence and her contribution to the country's freedom, to which she dedicated her entire life, has not been forgotten. In 1977 the first statue of a woman revolutionary in Kolkata Maidan was named after her.
- Matangi Hazra was one of those women warriors from a humble background who left her footprints in the hearts of the citizens and annals of India's freedom struggle.

Kanak Lata Barua:

- Kanaklata Barua, a symbol of courage was a young martyr of the Quit India movement
- At the age of 17, years she led the MRITYU BAHINI procession in an attempt to unfurl the tricolour at the Gohpur police station in Assam On 20 Sep 1942.
- Despite the age limit of 18 and above for joining the MRITYU BAHINI, Barua's determination led her to be an exception. Just two days before joining she was the head of the procession, holding the tricolor.
- In a confrontation with the police, Barua refused to let go of the flag she was shot by the Police and fell holding the flag until another volunteer took it from her.
- Her heroic sacrifice inspired many during a time when women's involvement in the freedom struggle was rising.
- In her honor, in 2020 the Coast Guard named a Fast Patrol Vessel " ICGS Kanaklata Barua" after her as a tribute to her bravery.

Significance of Women in India Freedom Struggle:

- **Manikarnika Tambe-** Also known as the Rani Laxmi Bai of Jhansi, she opposed the annexation of Jhansi under the Doctrine of Lapse. In 1857 she fought at Jhansi and Gwalior against English forces and died at Gwalior
- **Aruna Asaf Ali-** Hoisted the tricolour at Gowalia Tank Maidan, Bombay, after the senior leader's arrest on the declaration of the Quit India Movement.
- **Begum Safia Abdul Wajid-** Lost her Government Lecturer job because she participated in the Quit India Movement.

Conclusion:

Women have made remarkable Contributions to India's Independence. Through forming their own political Association, founding newspapers and taking part in, political meetings and demonstrations, they demonstrated extreme valor and bravery that reminds the world again and again of the heights of Nari Shakti.

Practice Questions for Mains Exam

1. Digital technologies are changing the nature of life, society and businesses in all regions around the world. Examine the present relevance and challenges of digital health in this context.
2. India's Neighborhood First Policy makes India's role decisive in South Asia. Critically examine this statement in the light of India-Sri Lanka relations.
3. What is a self-help group? Evaluate its role in women empowerment.
4. Reviewing laws that have become obsolete and irrelevant from time to time is an essential requirement of a dynamic democracy. Justify the recent amendments in IPC and CRPC laws by the Central Government.
5. Recently the Supreme Court of India released the book `Handbook on Combating Gender Stereotypes'. How will this handbook play a role in eradicating deeply entrenched gender stereotypes within the judicial system and legal community?
6. Hydropower has an important role as the oldest and largest source of renewable energy on Earth. Discuss the potential and challenges of hydropower generation in India to tackle climate change.
7. Examine the need and efforts for modernization of the Indian Army in view of the changing nature of internal security and national security challenges.
8. There is an inevitable relationship between unemployment, poverty and inflation. Highlight the concerns and points related to youth unemployment in the context of the recent CSDS survey in India.
9. Along with economic importance, it is important for ASEAN and India to implement their Indo-Pacific strategy and balance China's influence. In the light of this statement, discuss the India-ASEAN relations.
10. What is Urea Gold? Explain its features and challenges arising out of excessive use of urea.
11. What is Sponge City? How will it be effective in solving the problem of urban floods here? Explain.
12. What is UDGAM Portal? Describe its functioning and benefits in detail.
13. Critically examine the possibilities and potential threats in the Arctic region for India with respect to the Northern Sea Route.
14. India's Aditya L1 mission will play an important role in the study of the Sun. In the light of this statement, throw light on the purpose and importance of Aditya L1 mission.
15. Transport operations will be a game changer for the Indian logistics industry sector. Mentioning the salient features of RSR transport, discuss its importance in the Indian context.

Graphene-Aurora Program

The 'Graphene-Aurora Programme' has been launched by the Ministry of Electronics and Information Technology (MeitY) at Maker Village Kochi, Kerala.

Key Features of the Program:

- This program is implemented with a total budget outlay of Rs 94.85 crore with joint funding from Digital University Kerala, Ministry of Electronics & Information Technology, Government of India, Government of Kerala and industry partners.
- Along with the startup products developed, the technologies and products also developed at research and development centers like India Innovation Centre Graphene (IICG), setup at Makers village, Kochi shall be considered for commercialization.
- This program will establish a link between commercialization of research and development by providing complete facilities to startups and industry.
- It will nurture a deep and emerging graphene technology and innovation ecosystem that can guide, develop, implement and support SMEs and startups to commercialize the developed graphene technologies for large-scale adoption.

Approval for Helicopter Routes from Churachandpur to Aizawl and Kangpokpi to Dimapur.

The Union Ministry of Home Affairs (MHA) has approved two inter-state routes for helicopter services, one from Mizoram's Churachandpur to Aizawl and the other from Nagaland's Kangpokpi to Dimapur.

Key Points of the news:

- This approval was given due to violence in the Imphal Valley which drove the Kuki-Zomi people, who were settled there, back to their hill districts while the Meitei people were sent back to the valley area. Thus one community was unable to use the roads to travel within the state due to fear of violence from the other community.
- Under this scheme, the passenger will have to pay a fee of Rs 2,000 for the journey, while the state and central governments will bear the remaining amount as a subsidy. In-principle approval has also been given for additional flights to add new routes.
- Under this scheme, there is a limit of 75% helicopter subsidy and 750 flying hours per year however, the state government can also make new proposals to increase this limit.

Windfall tax increased on Crude Oil and Diesel

The windfall tax imposed in the form of special additional excise duty on domestically produced crude oil has been increased from Rs 4,250 per tonne to Rs 7,100 per tonne.

More about the news:

- In this, Special Additional Excise Duty (SAED) on the export of diesel has been increased from Rs 1 per litre to Rs 5.50 per litre. A duty of Rs 2 per litre will be imposed on the export of jet fuel.
- Prior to the new tax, the export duty of Rs 6 per litre ($12 per barrel) was imposed on petrol and jet fuel while it was Rs 13 per litre ($26 per barrel) on diesel.
- A windfall profit tax of Rs 23,250 per tonne ($40 per barrel) was also imposed on crude oil produced by companies such as Oil and Natural Gas Corporation (ONGC).
- A windfall tax is imposed on domestic crude if global rates rise above $75 a barrel while a levy is applied on exports of diesel, ATF and petrol if the shortfall in production rises above $20 a barrel.

A new species of snake named after Harrison Ford

The German Society for Herpetology and Herpetoculture (DGHT) recently named 'Tachymenoides harrisonfordi' after the eco-friendly Hollywood actor Harrison Ford. It is a species of snake discovered by researchers from Germany, the United States and Peru.

Key Features:

- This species of snake is yellow-brown in color with scattered black spots over it. It is 16 inches (40.6 cm) in length and has a vertical line over the copper-coloured eye.
- This species of snake was discovered in the Otishi National Park (ONP) of Avireri-Vraem Biosphere Reserve in Peru, South America.
- Earlier an ant (Pheidole harrisonfordi) and a spider (Calponia harrisonfordi) were named after the actor. However, this is the first reptile to be named after him.

Milasha Joseph

Milasha Joseph, a young girl from Mararikulam in Alappuzha, Kerala state, is on an ambitious mission to climb the Seven Volcanic Summits and has scaled three mountains Kilimanjaro, Damavand and Elbrus in the past21 months.

Key facts about Joseph:

- She scaled Mount Kilimanjaro (5,895 m) in Tanzania, Mount Damavand (5,671 m) in Iran and Mount Elbrus (5,642 m) in Russia in November 2021, June 2022 and August 2023 respectively.
- Of the three mountains she climbed, Mount Kilimanjaro and Mount Elbrus are the highest mountains in Africa and Europe respectively and are a part of the Seven Summits.
- Some of her missions include climbing Ojos del Salado on the Argentina-Chile border, Pico de Orizaba in Mexico, Mount Giluwe in Papua New Guinea and Mount Sidley in Antarctica.

Former DRDO chief VS Arunachalam Passed Away

Recently, VS Arunachalam, the former Scientific Advisor to the Defense Minister and ex-chairman of the Defense Research Development Organization, passed away at the age of 87 in the Bay Area of California, USA.

About VS Arunachalam:

- Awarded with Padma Vibhushan, Arunachalam was the chief architect of several strategic programs like the Integrated Missile Development Program (IMDP) including Agni, Prithvi, Akash and Nag, Light Combat Aircraft 'Tejas' and Airborne Early Warning and Control System.
- He founded the Center for Study of Science, Technology and Policy (CSTEP), a think tank in Bangalore.
- In 2015, he was awarded DRDO's Lifetime Achievement Award for his outstanding contribution to the field of scientific research and technology.
- He was also awarded the Shanti Swarup Bhatnagar Award (1980), Padma Bhushan (1985) and Padma Vibhushan (1990) for his contribution to engineering science and technology.
- He launched three major programs, which include the Light Combat Aircraft program under the Aeronautical Development Agency (ADA), the Advanced Technology Vessel (ATV) program and the Integrated Guided Missile Development Program (IGMDP) to develop strategic and tactical guided missiles.

MCA Barge, Yard 76 (LSAM 8) Launched

The Superintendent of Warship Production, Ministry of Defense recently launched the 2nd Missile cum Ammunition (MCA) Barge, Yard 76 (LSAM 8) from Guttenadevi, East Godavari, Andhra Pradesh.

About MCA Barge, Yard 76:

- With all major and ancillary equipment systems sourced from indigenous manufacturers, the Barge is the proud flag bearer of the Make in India initiative of the Ministry of Defence.
- The Government of India under the 'Atmanirbhar Bharat' initiative partnered with M/s SECON Engineering Projects Pvt Ltd, Visakhapatnam, an MSME, for manufacturing 08 x MCA barges.
- The availability of this MCA barge will accelerate the IN's operational commitments by providing ammunition transport, embarkation and disembarkation facilities for IN (Indian Navy) ships both at the jetty and at the outlying port.

Ude Desh ka Aam Naagrik (UDAN) Scheme

The Civil Aviation Ministry will begin detailed assessment of routes under the government's regional connectivity initiative, known as the Ude Desh Ka Aam Nagrik (UDAN) scheme, which provides subsidized air connectivity to underserved or unserved destinations.

Key points related to the scheme:

- Data shows that 260 flights are operational under this scheme and out of 1,154 routes under it from Phase 1 to Phase 4, airlines have started flights on only 475 routes.
- Initially, the fare of the half-seats for journey of 500 km by fixed-wing aircraft for one hour and 30 minutes by helicopter was fixed at Rs 2,500, which also included proportionate pricing for routes of different distances.
- Under UDAN, the number of passengers travelling on regional routes will increase from approximately 263,000 in FY 2018 to 2.5 million in FY 2023.

Foundation stone laid for Datia Airport

The foundation stone of Datia Airport in Madhya Pradesh was recently laid by the Chief Minister of Madhya Pradesh and the Union Minister of Civil Aviation and Steel.

Key points:

- This airport is being developed at a cost of approximately Rs 50 crore and is expected to be completed by February 2024.
- Its development includes the renovation of an 1810-meter runway and the construction of an apron that can accommodate two nineteen-seater aircraft, a 750-square-meter terminal building and an ATC tower.
- Its terminal building will have the capacity to accommodate 100 passengers during peak hours.
- As soon as it starts, flights connecting Khajuraho and Bhopal will be operated. These routes have already been awarded under RCS UDAN.
- The development of Datia Airport will further enhance regional connectivity which will boost tourism in the region.

Exercise Malabar-23

The 27th edition of Exercise Malabar was concluded off the east coast of Sydney, Australia. The exercise saw participation of ships, submarines and aircraft from the Indian Navy (IN), Royal Australian Navy (RAN), Japan Maritime Self Defence Force (JMSDF) and the US Navy (USN).

About Exercise Malabar-23:

- Exercise Malabar 23 was conducted in two phases comprising a port phase and a sea phase.
- The Indian Navy was represented by the indigenously built destroyer INS Kolkata, frigate INS Sahyadri and P8I maritime patrol aircraft.
- The maritime phase of Malabar also included complex and high-intensity exercises in the air, surface and undersea, weapon firing and cross-deck helicopter operations.

Permanent change of the Parvanar River route

Nayveli Lignite Corporation India Limited (NLCIL) recently completed the Parvanar River Diversion Project, which will provide flood protection and agricultural prosperity in the region. This river posed a threat to the villages and agricultural lands in its path due to its temporary alignment around the cutting area of Mine-2.

Key points about the news:

- Completion of this project will control floods, boost agricultural efficiency and provide a means of irrigation to local farmers.
- The continuous flow of water in the Parvanar River will enrich the groundwater, providing an important and sustainable resource for the future of the region.
- Considering the importance of the protection of communities and agricultural resources, the estimated area for permanent diversion of this river for the total length of 12 kilometres is 18 hectares.

SVAMITVA Scheme Gets National Award for e-Governance 2023

Recently, the SVAMITVA (Survey of Villages Abadi and Mapping with Improvised Technology in Village Areas) Scheme of the Ministry of Panchayati Raj was awarded the prestigious National Award of e-Governance 2023 (Gold) for providing citizen-centric services and application of emerging technologies.

About SVAMITVA Scheme:

- The Svamitva scheme provides ownership to property owners in village-populated areas using the latest drone and GIS technology.
- The scheme facilitates the monetization of rural residential properties for bank loans and other financial benefits and also helps in the settlement of land-related disputes through the preparation of 5 cm accuracy maps.
- The scheme is implemented through collaborative efforts of the Survey of India, Technology Implementation Partners, Department of Revenue and Panchayati Raj and NIC-GIS.

Mera Bill Mera Adhikar

The Government of India, in collaboration with State Governments launched an 'Invoice Incentive Scheme' named 'Mera Bill Mera Adhikar' in September 2023 to encourage the culture of customers asking for invoices or bills for all purchases. Its objective is to bring about cultural and behavioural change among the general public by making the 'Ask for a Bill' their right.

Key points related to the scheme:

- This scheme will be started as a pilot project in Assam, Gujarat, Haryana and Union Territories of Puducherry, Dadra Nagar Haveli Daman and Diu.
- All residents of India will be eligible to participate in this scheme but only a maximum of 25 challans can be uploaded on this web portal in a month by a person for the lucky draw.
- All B2C invoices issued to consumers by GST-registered suppliers (registered in the states of Assam, Gujarat and Haryana and the Union Territories of Puducherry, Dadra Nagar Haveli and Daman and Diu) will be eligible for the scheme.

RBI Governor Shaktikanta Das gets an A+ rating in Global Finance Central Banker Report Card 2023

- Reserve Bank of India (RBI) Governor Shaktikanta Das has been given an A+ rating in the Global Finance Central Banker Report Card 2023. This rating has been given to three central bank governors, with Das at the top. The other two governors are Thomas J. Jordan of Switzerland and Nguyen Thi Hong of Vietnam.
- Global Finance magazine has been rating central bankers every year since 1994.
- The report covers 101 major countries, including the EU, the Eastern Caribbean Central Bank, the Bank of Central African States and the Central Bank of West African States. Global Finance magazine rates central banks around the world from A to F. Grading is given based on inflation control, economy growth target, currency stability and interest rate management. A grade is given for excellent performance, while an F grade is given for failure.

Current Affairs at a Glance

1. The Light Combat Aircraft (LCA) Tejas successfully fired the Astra indigenous Beyond Visual Range (BVR) air-to-air missile off the coast of Goa.
2. Justice Prakash Srivastava, former Chief Justice of Calcutta High Court, has been appointed Chairman of the National Green Tribunal (NGT).
3. Renowned mathematician and statistician Calyampudi Radhakrishna Rao, widely known as C R Rao, died at the age of 102. He had recently received the prestigious "International Prize in Statistics-2023", often referred to as the "statistics' equivalent of the Nobel Prize".
4. With the aim of promoting innovations in e-governance, the 26th National e-Governance Conference was organized in Indore. Under this, a total of 16 awards including 8 gold and 8 silver awards were given in recognition of excellence in various fields.
5. Union Minister of Youth Affairs and Sports has announced the renaming of Khelo India Women's League, which will now be known as 'Asmita Women's League'.
6. A postage stamp was released in the memory of Dadi Prakashmani, former head of the Brahma Kumaris at the Cultural Center of Rashtrapati Bhavan. This postage stamp was released under the 'My Stamp' initiative of the Department of Posts, Ministry of Communications, on the occasion of the 16th death anniversary of Dadi Prakashmani.
7. The President of Greece, Ms. Katerina Sakellaropoulou, awarded the Grand Cross of the Order of Honor to Prime Minister Shri Narendra Modi. It was established in 1975.
8. Union Minister of Civil Aviation & Steel Released book on AAI airports' terminal building architecture titled 'Traditional & Local Architecture on Elevation & Design of Upcoming New Terminal Buildings'.
9. REC will provide loan to Damodar Valley Corporation to set up a 1,320 MW thermal power project at Raghunathpur, West Bengal.
10. Under the One Week One Lab campaign, Kolkata-based CSIR-Central Glass and Ceramic Research Institute (CGCRI) organized a school outreach programme. Its objective is to promote scientific temper among school students and encourage them to pursue research in various scientific fields.
11. Indian Air Force (IAF) contingent will be participating in Exercise BRIGHT STAR-23, a biennial multilateral tri-service exercise scheduled to be held at Cairo (West) Air Base, Egypt, from August 27 to September 16, 2023. Contingents from the United States of America, Saudi Arabia, Greece, and Qatar will also participate.
12. Union Home and Cooperation Minister Shri Amit Shah chaired the 26th meeting of the Western Zonal Council in Gandhinagar, Gujarat. The regional councils discuss issues related to infrastructure, mining, water supply, environment and forests and state restructuring, as well as direct benefit transfers (DBT), spread of telecommunication and internet and general interests at the regional level.
13. The fifth annual defense dialogue between India and Bangladesh was held in Dhaka. The talks highlighted its importance in charting the future course of relations between the armed forces of the two countries.
14. City Official Language Implementation Committee (NARAKAS) organized half yearly meeting and prize distribution ceremony. In this program, SECI office was honored with the 'Shield Award' for the year 202223 for organizing the joint 'Official Language Festival' under the aegis of the Municipal Official Language Implementation Committee (NRACS), Delhi Undertaking-2, Department of Official Language, Ministry of Home Affairs, Government of India.
15. Golden boy Neeraj Chopra created history by winning gold in the final of World Athletics Championship 2023 in Budapest. He became the first Indian athlete to win gold in the World Championship.
16. The place on the lunar surface where Vikram Lander and Rover Pragyan landed will be named as 'Shiv Shakti' and the place where Chandrayaan-2 lander crashed will be known as Tiranga.
17. The Government of India has appointed Geetika Srivastava, Joint Secretary (Indo-Pacific) in the Ministry of External Affairs, as Charge d'Affaires in the High Commission of India in Islamabad.

Aditya-L1 Mission

Why In Broadcast

The Indian Space Research Organisation (ISRO) launched its solar mission, Aditya L1 on 2nd September, 2023 from Sriharikota in Andhra Pradesh.

About Aditya L1 Mission

- Aditya L1 is first Indian space based mission to study the Sun, observe solar activities and their effect on space weather in real time.
- The spacecraft, after traveling about 1.5 million km from the Earth over 125 days, is expected to be placed in a Halo orbit around the Lagrangian point L1 which is considered closest to the Sun.
- It carries seven payloads to observe the photosphere, chromosphere and the outermost layers of the Sun (the corona) using electromagnetic, particle and magnetic field detectors.
- The payloads comprise:
  - Visible Emission Line Coronagraph(VELC)
  - Solar Ultraviolet Imaging Telescope (SUIT)
  - Solar Low Energy X-ray Spectrometer (SoLEXS)
  - High Energy L1 Orbiting X-ray Spectrometer(HEL1OS
  - Aditya Solar Wind Particle Experiment(ASPEX)
  - Plasma Analyser Package For Aditya (PAPA)
  - Advanced Tri-axial High-Resolution Digital Magnetometers
- 4 payloads will carry out remote sensing of the Sun while 3 payloads will carry out in-situ studies of particles and fields at the Lagrange point L1.

Way Forward

- The recent success of Chandrayaan -3 embarked a major position to India in space world.
- Aditya L1 mission has the capability of further enhancing Indian position by placing it among the few nations that have successful sun mission.
- Through this mission India can contribute majorly in terms of understanding the space atmosphere, its effects and how the world can better adapt to these changes.

Visible Emission Line Coronagraph (VELC)

- It is one of the largest and one of primary payloads that would fly on Aditya L1 mission.
- It is capable of spectroscopy, simultaneous imaging, and spectro-polarimetry with help of coronograph, spectrograph, polarimetry module and detectors
- It would study the temperature, velocity and density of the corona, the processes that heat the corona and the acceleration of the solar winds.

Significance of Studying Sun

- The evolution of Earth or the exoplanets outside of the Solar System is controlled by the parent star.
- The earth weather systems are impacted by the solar weather and environment and thus understanding solar activities is essential.

Position of Aditya L1 Satellite

- The satellite will be placed in a halo orbit around the Lagrange point 1 (L1), which is about 1.5 million km from the Earth.
- L1 is one of five points in the orbital plane of the Earth-Sun system, where the gravitational force of a two-body system produce enhanced regions of attraction and repulsion.
- These points can be used by spacecraft to reduce fuel consumption needed to remain in position and continuously view the Sun without any occultation/eclipses.
- L1 point is also home to the Solar and Heliospheric Observatory Satellite (SOHO), an international collaboration project of NASA and the European Space Agency (ESA).

BRICS's Expansion

Why In Broadcast

The 15th BRICS summit was held from the 22nd to 24th August, 2023 at the Sandton Convention Centre, Johannesburg, South Africa.

Major Highlights

- This is the first in-person summit since 2019 and the COVID-19 pandemic and since the Russian invasion of Ukraine in 2022.
- **Theme:** "BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development and Inclusive Multilateralism"
- The summit declared expansion of the grouping by welcoming six new countries into the fold.

BRICS and New members

- The summit announced the joining of Iran, Saudi Arabia, Egypt, the UAE, Argentina and Ethiopia to BRICS, their membership will start from 1 January, 2024.
- BRICS currently represents around 40% of the world's population and more than a quarter of the world's GDP.
- By inclusion of these countries BRICS will represent almost half the world's population.

Way Forward

- The growth of BRICS to democratize global governance groupings is indeed a welcome step.
- The rapid expansion of members could dilute the original purpose of the BRICS grouping, especially if China is seen as taking a dominant position in the grouping
- It is crucial to ensure that BRICS does not lose its intrinsic value as a forum for emerging economies, into a platform for anti-western statements.

The China Perspective

- China is driving the expansion of the group by making expansion as its core agenda and trying to induct countries which share its Western-sceptic view of the world.
- A strong China-Russia imprint is exemplified by invitation to Iran, whose ties with the West are strained.
- China also happens to be the biggest buyer of Saudi Arabia's oil, and had recently brokered a peace deal between Tehran and Riyadh.

The Major Lacunae

- The BRICS countries still fall short in showing a coherence of purpose, and are still mired by inner contradictions.
- The conflict between India and China has hampered the purpose of the grouping in several ways.
- The addition of Iran and Saudi Arab, though they have for now decided to tone down their rivalry, might cause hurdles in the working of the organisation.
- Any overtly political, anti-western stance by BRICS will make India and other such member uncomfortable, who strive to create their own position by walking tight rope between the global powers.
- The new countries at BRICS, although prosperous at certain sectors, are not exactly thriving well economically. This shows a deviation of the group from mere agenda of economic cooperation.

Chandrayan-3

Why In Broadcast

India has become the first country to successfully land on the near side of southern lunar pole as Chandrayaan-3 successfully made a soft landing, on 23 August, 2023.

Important Announcements

- The point where the moon lander of Chandrayaan-3 landed will now be known as **'Shiv Shakti'**.
- The point where Chandrayaan 2 left its footprints will now be called **'Tiranga'**.
- 23rd August will be celebrated as the **National Space Day**.

Significance of Landing on Lunar South Pole

- Most of the moon landings were at the equatorial regions of the moon, since the terrain and the atmosphere here is benevolent due to adequate sunlight and smooth terrain
- China's Chang-4, though landed on the far side of the moon, i.e. the side of the moon that is not facing earth, still was near the equatorial region of the moon
- Lunar poles are considered difficult to explore due to their rugged terrain, presence of large craters and extreme temperatures.
- There have been evidences, (Chandrayaan-1 indicated) that these regions may have presence of ice in its deep craters.
- Since frozen in time, they could provide major insights for early solar system.

Way Forward

- If Chandrayaan-3 can lead the way in this challenging region, future astronauts, based on ISRO's pioneering work, will be able to collect core samples and volatiles from these regions.
- This could have a profound impact on the future of deep space exploration and eventual commercial activities.

Challenges

- Due to thin atmosphere of moon there is less friction and a propulsion system is required to slow down the spacecraft.
- This in turn requires lot of fuel, making the spacecraft even heavier.
- There is no precision in terms of landing location and spacecraft has to rely on the computer calculations and decisions to navigate through the terrains of moon.

Four Stages of Soft Landing

- **Rough Breaking Phase:** It includes reducing the lander's horizontal velocity from a range of 1.68 km/sec, at a height of 30 km from the lunar surface, to almost zero.
- **Attitude Hold Phase:** It starts at height of 7.42 km from the surface, lasting around 10 seconds. The lander should tilt from a horizontal to a vertical position while covering a distance of 3.48 km.
- **Fine Braking Phase:** It lasts around 175 seconds. The lander has move fully into a vertical position, traversing final 28.52 km to the landing site. The altitude will come down to 800-1,000 m, and it would reach a nominal speed of 0 m/sec.
- **Terminal descent** is the final stage, when the spacecraft is supposed to descend totally vertically onto the surface
- It was between Attitude Hold Phase and Fine Breaking Phase, where Chandrayaan-2 failed.

Global Water Stress

Why In

The World Resources Institute (WRI) has published Aqueduct Water Risk Atlas. It has revealed that around 25 countries, accounting for about 25% of the world's

Wide-Reaching Global Water Stress

- Globally, at least 50% of the world's population, approximately four billion people, experiences high water stress conditions for at least one month each year.
- Projections indicate that by 2050, this number could escalate to nearly 60% of the global population.
- Water stress arises when water demand surpasses available volume or when water quality hampers its use.

Highly Stressed Regions and Countries

- The 25 most water-stressed countries include Bahrain, Cyprus, Kuwait, Lebanon, Oman, Qatar, the United Arab Emirates, Saudi Arabia, Israel, Egypt, Libya, Yemen, Botswana, Iran, Jordan, Chile, San Marino, Belgium, Greece, Tunisia, Namibia, South Africa, Iraq, India and Syria.
- Most severe water stress is observed in West Asia, North Africa, and South Asia, where 83%, 83%, and 74% of the populations respectively face extreme water stress.

Challenges and Political Implications

- Rising water demand, coupled with less predictable water supplies, could lead to 100% of West Asia and North Africa facing extreme water stress by 2050.
- The issue extends beyond individual consumers and industries to political stability, highlighting its crucial significance.

Rising Water Demand in Sub-Saharan Africa

- The most substantial change in water demand by 2050 is anticipated in sub-Saharan Africa, with a projected 163% increase, driven mainly by irrigation and domestic water use.

Balancing Growth and Sustainability

While heightened water usage can spur economic expansion, it is accompanied by the risk of lowering the region's GDP by 6%, due to inefficient water use and unsustainable management practices.

Cost-Effective Solutions and Collaborative Efforts

- WRI's research highlights that addressing global water challenges is cost-effective, requiring only 1% of GDP or 29 cents per person per day from 2015 to 2030.
- Governments, communities, and businesses must collectively work towards building a water-secure future to mitigate the impending crisis and ensure a sustainable global water supply.

Economic Impact on Global GDP

- The data predicts that by 2050, high water stress could impact 31% of global GDP (around $70 trillion), compared to $15 trillion (24% of global GDP) in 2010.
- Four countries, namely India, Mexico, Egypt, and Turkey, are projected to account for over half of this exposed GDP.

GE-Mustard

Why In Broadcast

Indian scientists have developed the first ever low-pungent mustard that is also pest and disease resistant.

Research Institution

The research has been done by the scientists at the National Institute of Plant Genome Research (NIPGR) under the Department of Biotechnology (DBT).

About GE-Mustard Crop

- The scientists have "edited" 10 out of the 12 GTR genes in 'Varuna', a high-yielding Indian mustard variety.
- For this, they used CRISPR/Cas9 – a gene-editing tool deploying an enzyme, which acts as a "molecular scissors" to cut the DNA at precise targeted locations of the gene, and then letting the natural DNA repair process to take over.
- The genetic modifications encoded proteins, responsible for transport of the glucosinolates to the seeds, were rendered non-functional.

Need of GE- Mustard Crop

- The traditional kinds of mustard have high levels of Glucosinolates which results into pungency of oil and meal.
- **Glucosionlates-** Group of sulphur and nitrogen containing compounds.
- Rapeseed Meal (residual of seeds) is unpalatable to poultry and pigs.
- Glucosinolates also cause goiter (swelling of neck) and internal organ abnormalities in livestock.

What Needs to be Done?

- GM hybrid mustard and the new GE low-seed high leaf glucosinolate lines are major plant breeding advancements form Indian scientists can bring down the dependence on imported vegetable oils.
- Govt initiative like ISOPOM (Integrated Scheme of Oilseed, Pulses, Oilpalm and Maize), National Mission on Oilseed Production and Micro-irrigation method should be adopted to increase the productivity.

Why not GM-Mustard Crop?

- GM Mustard crop DMH-11 is indigenously developed transgenic mustard. It is genetically modified cross breed of Indian variety Varuna and East European 'Early Heera- 2' mustard.
- The commercial cultivation of GM Mustard has been stayed by the Supreme Court because it poses various biosafety threats and potential to increase pesticide and herbicide resistance.

Challenges Associated with Oilseed Production

- India meets its 60% of edible oil consumption demand via imports.
- The productivity of oil seeds cultivation is also meager in number.
- The 20% of total area under cultivation is mostly restricted to rainfed farming.
- Also the produced pungent mustard is not very attractive for consumption and fodder.

Fukushima Wastewater Release

Why In Broadcast

Recently, Japan began pumping more than a million metric tons of treated radioactive water from the destroyed Fukushima Daiichi nuclear power plant.

About Fukushima Disaster

- After the 2011 earthquake and tsunami, several reactors melted down at the Fukushima Daiichi nuclear power plant.
- To avert further disaster, scientists & technicians flooded the reactors with water, and that water quickly became highly contaminated.

Japan's Water Release Plan

- Tokyo Electric Power has been filtering the contaminated water to remove isotopes, leaving only tritium, a radioactive isotope of hydrogen that is hard to separate.
- Water will be diluted until tritium levels fall below regulatory limits before pumping it into the sea.
- Treated water will contain about 190 becquerels of tritium per litre, below the World Health Organisation drinking water limit of 10,000 becquerels per litre.
- Becquerel is a unit of radioactivity.
- The water disposal will take decades to complete alongside the planned decommissioning of the plant.
- The water will initially be released in smaller portions and with extra checks.

Way Forward

- Nuclear power plants worldwide have routinely discharged water containing tritium for over 60 years without harm to people or the environment.
- Tritium is considered to be relatively harmless because its radiation is not energetic enough to penetrate human skin.
- Japan will also test fishes in the waters near the plant, and make the test results available on the agriculture ministry's website.

Concerns

- Greenpeace said that the radiological and biological impacts of tritium, carbon-14, strontium-90 and iodine-129 to be released with the water have been ignored.
- Fishing unions in Fukushima have urged the government for years not to release the water, arguing that it would affect fisheries sector.
- China called Japan's plan irresponsible, unpopular and unilateral.
- China decided to ban Japanese seafood imports and expressed concern about the potential for radioactive contamination in Japan's food and agricultural products exported to China.

IAEA's Approval

- International Atomic Energy Agency (IAEA) safety review has concluded that Japan's plans to release treated water stored at the Fukushima Daiichi nuclear power station into the sea is consistent with IAEA Safety Standards.
- It further said that the discharge of the treated water would have a negligible radiological impact on people and the environment.

G20 Summit in Delhi

Why In Broadcast

The 18th G20 Heads of State and Government Summit will be held on September 9-10, 2023 at the Bharat Mandapam in New Delhi's Pragati Maidan.

The Declaration

On the second day, a G20 Leaders' Declaration will be adopted, which will reflect the priorities and commitments discussed in the various ministerial and working group meetings throughout the year.

Other steps taken

- As part of its preparations for the Summit, the Delhi government has ordered all government offices and educational bodies situated in the city to remain closed.
- Private offices which function on Saturday and Sunday have been asked to remain shut.
- Commercial and financial establishments (including shops and banks) situated within the jurisdiction of New Delhi Police District will remain closed during this period.

Theme

- The theme for India's G20 Presidency is 'Vasudhaiva Kutumbakam' or 'One Earth, One Family, One Future'.
- The phrase originates from the ancient Sanskrit text Hitopadesha.

About G20

- The G20 or the Group of Twenty comprises 19 countries and the European Union.
- 19 countries: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, and United States.
- It was formed in 1999 in the backdrop of the financial crisis of the late 1990s that hit East Asia and Southeast Asia in particular.
- It aims to secure global financial stability by involving middle-income countries.
- G20 members represent around 85% of the global GDP, over 75% of global trade, and about two-thirds of the world population.
- The G20 Presidency rotates annually among the members.
- The Presidency is responsible for bringing together the G20 agenda, organising its workings and hosting summits.
- India holds the Presidency from December 1, 2022 to November 30, 2023.
- After India, Brazil will take over the G20 presidency in 2024, followed by South Africa in 2025.

'Global South' in the Summit

- India has consistently been positioning itself as the "voice of the Global South" and putting its priorities on the global forum.
- At the Voice of Global South summit in January, Modi had said
  - "World is in a state of crisis" and had stressed that "your voice is India's voice" and "your priorities are India's priorities".
  - "India has always shared its developmental experience with our brothers of the Global South".
  - "As India begins its G20 Presidency this year, it is natural that our aim is to amplify the Voice of the Global South."

Mains Special: Case Study

Case Study -01

You are recently posted as district development officer of a district. Shortly thereafter you found that there is considerable tension in the rural areas of your district on the issue of sending girls to schools.

The elders of the village feel that many problems have come up because girls are being educated and they are stepping out of the safe environment of the household. They are the view that the girls should be quickly married off with minimum education. The girls are also competing for jobs after education, which have traditionally remained in boys' exclusive domain, adding to unemployment amongst male population.

The younger generation feels that in the present era, girls should have equal opportunities for education and employment, and other means of livelihood. The entire locality is divided between sexes in both generations. You come to know that in Panchayat or in other local bodies or even in busy crosswords, the issue is being
acrimoniously debated.

One day you are informed that an unpleasant incident has taken place. Some girls were molested, when they were en route to school. The incident led to clashes between several groups and a law and order problem has arisen. The elder after heated discussion have taken a joint decision not to allow girls to go to school and to socially boycott all such families, which do not follow their dictate.

a. What steps would you take to ensure girls' safety without disrupting their education?

b. How would you manage and mould patriarchic attitude of the village elders to ensure harmony in the inter- generational relations?

Ans (a) I am the District Development Officer in the given case study. I have to ensure equal opportunities of education for girls by restoring law and order. Values such as gender equality, responsibility, impartiality, objectivity, freedom and justice are implicit in this case.

- First of all I will ensure the arrest of the culprits by registering FIR against them. I would get the people arrested of different groups involved in mass quarrels and requesting the District Magistrzate to impose Section 144 in the area. This will restore law and order.
- I would contact to all girl's schools in the area and would provide the necessary security.
- Police would increase patrolling in the respective routes at the time of opening and closing of schools.
- Helpline no. would get be issued and ensure immediate assistance on receiving a complaint.
- I would motivate girls to use the main road and move in groups.
- By liaising with the management of girls' schools and with the help of women constables, girls would be ensured for ATM security.

This would ensure the safety of the girls.

Answer (b) Tomould the attitude of the elderly people

- I would contact the Principal of the schools and agree to felicitate them along with the senior members of the family if the girls achieve in any field.
- I would promote the achievements of local women through social media and local print media.
- With the help of self-help groups , a campaign for gender equality and girls' education would be conducted.
- With the help of young girls, boys and elderly women, we would do door to door campaign. By showing moral requests, social pressure, social boycott and fear of the law to the elders, they would agree to the education of girls. Still, if some people do not agree, would ask the police for necessary action.

Case Study -02

You are a young, aspiring and sincere employee in a Government office working as an assistant to the director of your department. Since you have joined recently, you need to lean and progress. Luckily your superior is very kind and ready to train you for your job. He is a very intelligent and well-informed person having knowledge of various departments. In short, you respect your boss and are looking forward to lean a lot from him. Since you have good tuning with the boss, he started depending on you. One day due to ill health he invited you at his place for finishing some urgent work.

You reached his house and before you could ring the bell you heard shouting noises. You waited for a while. After entering the house the boss greeted you and explained the work. But you were constantly disturbed by the crying of a woman. At last, you inquired with the boss but his answer did not satisfy you.

Next day, you were compelled to inquire further in the office and found out that his behavior is very bad at home with his wife. He also beats up bit wife. His wife is not well educated and is a simple

woman in comparison to her husband. you see that though your boss is a nice person in the office, he is engaged in domestic violence at home.
In such a situation, you are left with the following options. Analyse each option with its consequences.
a. Just ignore thinking about it because it is their personal matter.
b. Repost the case to the appropriate authority.
c. Your own innovative approach towards the situation.
Answer: In the given case study, I am a newly recruited young employee. I have to solve the problem of domestic violence which is being done by my superior officer. Values like empathy, compassion, objectivity, impartiality, responsibility, gender equality and justice are implicit in this case.
Answers of options with explanation-
(a) Just ignore thinking about it because it is their personal matter.
To do so would be compromising on our social responsibility. The woman is neither enough educated nor financially self-sufficient. Therefore, getting frustrated with the constant domestic violence, she may take a step like suicide in future. As a result of this, the senior officer may also face consequences and I would be feeling guilty
(b) refer the matter to the above authority
On coming to the notice of the appropriate authority, a departmental enquiry be constituted and the matter would be investigated. This committee would investigate the involvement of the senior officer in domestic violence. As a result, he would be suspended from thejob. he would also be punished after registration of an FIR in the local police station. In such a situation, senior officer would go to jail, but in reality it would have more impact on his wife. The wife is not educated enough and is not self-reliant. As such, she would not get financial support and would also have to vacate the government accommodation. The department would lose an honest and efficient officer. It would be a personal loss too as I would lose a kind, knowledgeable and helpful officer.
(c) Own innovative approach towards the situation.
(My officer is a kind and understanding person so he should get a chance to improve)
I would first approach an NGO working for women's rehabilitation and empowerment that has enough experience and expertise in this field. With the help of the experts of this institution, my senior officer and his wife would be advised. They would explain to the senior officer based on ethical request and legal consequences.
Moral request: Daily violence at home would harm their efficiency and health. His Wife would be in disappointment, which will affect the upbringing of the children. Violence against women is an indecent act. His happiness lies in the happiness of the family.
Fear of law: If a complaint is made, his crime would easily prove in the investigation, as a result, he may lose his job and maybe imprisoned.
Pension and gratuity can also be forfeited. Even after coming out of jail, he may not get a job.

Case Study -03

You are a senior officer, posted in ministry of Environment, Forest and Climate change, UP. I.C.M.R. has recently reported that 1.6 million people died in India in 2019 due to air pollution It has worried UP Government about pollution and depleting forest cover in the state. Government issued directions to the ministry of Environment, Forest and Climate change to work out a project to plant 7 crore saplings in a single day and set a new world record.

Ministry has entrusted you responsibility, to study the feasibility of the project and submit a detail report in three days, for consideration of the cabinet.
(a) Discuss the different issues involved in the case.
(b) Discuss your recommendations with their merits and demerits.
Ans- In the given case study I am a senior officer. I have to submit a study report on the feasibility of plantation drive to plant 7 crore saplings in a single day. Values like objectivity,
accountability, resource management and senstivity towards nature are involved in the case.
Ethical Issues:
Environment and pollution are very sensitive issues. They are directly related with our health and survival. Governments need to make serious efforts for conservation and
protection of nature. Linking such important project with a wish to set world record shows only careless attitude of Government. It shows that government is not serious and want only publicity and focus of media.

Such plantation drives need a lot of preparation and money. Market can not supply such huge amount of saplings in a short time. It can compromise the quality of saplings and nurture opportunities for corruption. In such case we import saplings from neighbour states, which accelerate the cost of project. Plants of other states

may not survice in local soil and climate. It may lead to hoarding, black marketing, fraud and other malpractices including price-like. Some time plant nurseries supply branches on the name of saplings, which dries up after some time. It all lead to wastage of public money and misutilization of resources.

My recommendations:

I will suggest government to conduct plantation drive as an on going process. I will recommend to develop necessary infrastructure in all blocks of all districts of state, to support regular plantation. We can sign a contract with local nurseries to supply saplings at daily basis and run plantation drive as a year long regular exercise, though we can speed up during monsoon with advance preparation. We can contract NGO's or self help groups with required knowledge and experience for plantation drive and fix their accountability for care of plants. We can develop a procedure to pay only 40% of the total amount at the time of plantation and remaining part in annual instatlments of 20% each. We should geotag all saplings and replace dried plants. We can provide incentive and rewards for better performance.

Merits: It will ensure quality of plantation and reduce pollution .

- Provide regular employment to people.
- Reduce financial burden of state.
- Local plants will easily survive.
- It will check corruption.

Demerits: We have to develop necessary infrastructure but it will benefit in long time.

Case Study -04

You are a senior officer, posted in ministry of Environment, Forest and Climate change, UP. I.C.M.R. has recently reported that 1.6 million people died in India in 2019 due to air pollution. It has worried UP Government about pollution and depleting forest cover in the state. Government issued directions to the ministry of Environment, Forest and Climate change to work out a project to plant 7 crore saplings in a single day and set a new world record.

Ministry has entrusted you responsibility, to study the feasibility of the project and submit a detail report in three days, for consideration of the cabinet.

(a) Discuss the different issues involved in the case.

(b) Discuss your recommendations with their merits and demerits.

Ans- In the given case study I am a senior officer. I have to submit a study report on the feasibility of plantation drive to plant 7 crore saplings in a single day. Values like objectivity, accountability, resource management and senstivity towards nature are involved in the case.

Ethical Issues:

Environment and pollution are very sensitive issues. They are directly related with our health and survival. Governments need to make serious efforts for conservation and
protection of nature. Linking such important project with a wish to set world record shows only careless attitude of Government. It shows that government is not serious and want only publicity and focus of media.

Such plantation drives need a lot of preparation and money. Market can not supply such huge amount of saplings in a short time. It can compromise the quality of saplings and nurture opportunities for corruption. In such case we import saplings from neighbour states, which accelerate the cost of project. Plants of other states may not survice in local soil and climate. It may lead to hoarding, black marketing, fraud and other malpractices including price-like. Some time plant nurseries supply branches on the name of saplings, which dries up after some time. It all lead to wastage of public money and misutilization of resources.

My recommendations:

I will suggest government to conduct plantation drive as an on going process. I will recommend to develop necessary infrastructure in all blocks of all districts of state, to support regular plantation. We can sign a contract with local nurseries to supply saplings at daily basis and run plantation drive as a year long regular exercise, though we can speed up during monsoon with advance preparation. We can contract NGO's or self help groups with required knowledge and experience for plantation drive and fix their accountability for care of plants. We can develop a procedure to pay only 40% of the total amount at the time of plantation and remaining part in annual instatlments of 20% each. We should geotag all saplings and replace dried plants. We can provide incentive and rewards for better performance.

Merits: It will ensure quality of plantation and reduce pollution .

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- Reduce financial burden of state.
- Local plants will easily survive.
- It will check corruption.

Demerits: We have to develop necessary

infrastructure but it will benefit in long time.

Case Study -05

You are district magistrate of Kolkata. Recently an Indian pharmaceutical company has developed a vaccine against corona. It has passed all stages of testing with a success rate of 92%. This vaccine is cost effecfive and does not shown any side effects. Government has permitted its use. Luckily your district has been chosen for vaccination in the very it's round. Government issued instructions to vaccinate only elederly people (more than 60 years) in ist round.

But in the mean time some people have spread rumours regarding side effects of this vaccine. Fake videos have been posted in social media from foreign countries claiming that vaccine can damage vital human organs.

These rumours created panic among elderly people. So they refused from taking vaccine.

(a) What are the options available to you?

(b) Evaluate each of these options and choose the option which you would adopt, giving reasons. In the given case study, I am District Magistrate of Kolkata. I have to convince elderly people for taking corona vaccine. Values like objectivity, impartiality, compassion and spirit of service are involved in the case.

(a) Pass on the opportunity of vaccination to young people of the district.

Merits: Young people are well educated. They use logic and reasoning so its easy to convince them. Once they initiate the process, elderly people can be easily convinced in IInd round of vaccination.

Demerits: Government may not approve my request to vaccinate young people against his guide lines. Some elderly people can get infected with corona and loose their life.

(b) Pass on opportunity to some other district:

Merits: Our fellow citizens of other district will get benefit.

Demerits: Elderly people can get infected with corona. It is loss of opportunity. It may have negative effects on the confidence of citizens of other district.

(c) Use force to vaccinate elederly people.

Merits: It will save them from corona.

Demerits: Using force against elderly people is completely unethical. It will only strength their will, to not vaccinate. They can also approach judiciary.

(d) I will request Chief Secretary to instruct, cyber cell to remove such fake videos from internet. Next I will ask pharmaceutial company to post the list of people with their name address and contact number, who a took vaccine in second and third trial, on its website. I will contact some of them and invite them in our district. We will organise public meetings (with social distance) in whole district with these people and ask them to share their experience and solve the doubt of people. We will shoot video of such meetings and post them in social media. I will appoint medical counsellors in each ward and village who will visit each house and convince people and their family. Beside this I will collaborate with media to spread awareness among people. I will also establish a help-line to solve the doubts of public. These efforts will create a positive atmosphere. Finally I will personally take vaccine (with prior permission of authorities) in a public gathering (organised according to corona guidelines). It will boost courage of elderly people and they will take vaccine.

It will pacify all doubts of public and successfully complete vaccination drive. Elderly people will get required safety cover. I will choose this last option.

Case Study -06

You are a district magistrate posted in a remote district of Andhra Pradesh. Government of India is working on a project to establish a huge nuclear power plant in your district. It will help to meet rising needs of electricity and create necessary infrastructure to support foreign investment. It is obvious that it will boost industrialisation and create large numbers of employment.

Project has been developed using barren lands quite away from population. It is based on energy efficient technology. It will have little effect on environment unlike thermal power plants, which create a lot of air pollution. Appropriate safeguards have been taken to check nuclear radiations.

As soon as media reported about the project, a popular N.G.O. started protest in your district. It spread rumours about nuclear radiations and declared project, a threat for the environment and health of people. It circulated several videos of nuclear power plant's explosions (occured in past) in social media and asked government to cancel this project. Several people joined the protest and it transformed into a huge movement.

In the mean time Intelligence agencies have reported that, this N.G.O. received huge funds from Government of foreign countries to check development activities, in
India.

(a) Bring out and discuss the ethical issues involved in the above case.

(b) Now, what would by your course of action?

Answer (a): In the given case study I am D.M. posted in Andhra Pradesh. I have to convince people about safety of nuclear reactor. Values like trust, sustainable development, objectivity and partiotism are involved in the case

Ethical Issues:

In the given case study an N.G.O. exploit democratic framework of county for its vested interest. It confused people about safety meausures of a nuclar power plant and created breach of trust between public and government. The NGO provoked public for protest. Irony of the situation is that, public is protesting to check it's own development. NGO misuse fundamental rights 19(1) freedom of speech and expression, freedom to form association and right to protest, against his own country. It also shows meanness of foreign countries who neither provide necessary technology nor funds to devoloping countries, in their fight to curb pollution and global warming but indulge in such heinous acts to check their development. Actually these countries fear that India can use it's nuclear reactor for enrichment of uranium to make atom bomb.

Answer (b): My course of action:

Firstly I will request government to ask Enforcement Directorate to investigate accounts and financial transaction of the NGO. Next I will collaborate with electronic and print media, to educate public about latest technology which minimise risk substantially. We will help them to understand, need of development along with conservation of nature. We will also inform them about developed countries (like France) who produce more than 90% of their electricity using nuclear power. We will broadcast programs based on comprative study of thermal power plant and nuclear power plant. It will help them to realise verious benefits of nuclear energy over fossil fuels.

After that we will shoot a video about safeguards taken in the nuclear power plant, with comments of scientists and experts and circulate them in social media. It will convince people about their safety. After some time Enforcement Directorate will publish its report and expose hidden motive of the NGO. It will completely solve the problem.

Case Study -07

Due to bumper harvest of onions in Madhya Pradesh. It's market price slashed to rupees 500 per quintal. Government fixed M.S.P. at 1000 rupees per quintal to help farmers and issued orders to all onion procurement centres to purchase onions of farmers.

Due to huge gap in market price and M.S.P. a number of brokers development nexus with employees of procurement centres. They help businessmen in selling their last years stock of onions at procurement centres.

Farmers of Indore district are facing a lot of problems in selling their onions. They wait for several days with their onions loaded in rented trolleys, which increase their cost. Being month of July, the climate is hot and humid. Frequent rain followed by sunlight often spoil their onions.

After getting frustrated, farmers blocked the national highway with their tractors and trolleys. It stopped movement of vehicles and transportation of goods. Citizens of Indore are also facing a lot of hardships.

After getting information of the whole issue, Government immediately transferred district magistrate of Indore and send you to take charge of the district and solve the problems.

(a) Discuss the different ethical issues involved in the case.

(b) What would be your course of action?

Answer (a) In the given case study I have been just appointed District Magistrate of Indore. I have to ensure availability of MSP to farmers and restore normalcy. Values like integrity, impartiality, compassion and justice are involved in the case.

Ethical Issues:

Given case study highlight the plight of farmers. Government has hiked the MSP to help farmers but brokers, employees of procurement centres and businessmen formed a nexus to cheat farmers. After independence Government took many steps in the interest of farmers. Due to green-revolution, application of technology and hardwork of farmers. Per-hectare production of cereals increased manifold but farmers are still poor. Even bumper crops and MSP not help them. On the other hand chemical fertilizers, weedicides, pesticides and mechanization of agriculture have increased their cost.

Happy and satisfied farmers, who are backbone of our economy, agitating just for payments of their produce. Such agitgation also harm business and disturb life of cities. If not addressed properly agitation can turn violent. Poverty anywhere is a threat to prosperity everywhere. Declaration of MSP is not enough. We must develop a fair system to ensure availability of MSP to farmers.

Answer (b) Course of action :

I will immediately raid procurement centre with necessary force and arrest all brokers and businessmen present there. We will also cease

their vehicles and onions. I will take all related documents in my custody and stop payments of onions purchased in this season till completion of enquiry. I will issue new guidelines to purchase onions only from farmers after verifying their identity and ban purchase of last year's onions. Then we will start purchasing of farmer's onion with new guide lines. I will convince procurement centre to open more counters for speedy purchase and introduce token system to save farmer's time and money. New guide lines will permit payment only through bank accounts. Keeping records of farmers and their vehicles will be mandatory.

Next I will form a committee under a SDM to verify the allegations of farmers and role of employees of procurement centre with in 5 days. After that I will meet farmers and announce compensation for onion, spoiled at procurement centre in rain. I will provide them telephone number of my office and promise them necessary help in future also. It will ensure their trust in administration. Now I will convince them to open road and visit procurement centre to sell their produce. Once SDM will submit his report, I will take disciplinary action against guilty employees. It will ensure justice for farmers and work as deterrent for future.

Case Study -08

You have been recently appointed C.E.O. of Gujrat Maritime Board. You notice that labours are living their life in very pitiable conditions. They are migrant workers who come from states like Uttar Pradesh, Bihar and West Bengal. Most of them are engaged in dismantling ships. They work without proper training and safeguards. These labours have not access to even potable water. They often come in contact with hazardous chemicals (like asbestos) and develop different diseases like skin cancer, lung cancer, tuberculosis etc. Some time they fall from ships and break their limbs. Verious units which are engaged in dismantling ships, pay huge tax to government (like 15% custom duty and 16% excise duty) but labours not get much required support from Government. When you discuss these problems with your seniors, they advise you to ignore all of these things, but your conscience not allow you to overlook their basic needs.

(a) What are the options available to you?

(b) Evaluate each of these options and choose the option which you would adopt, giving reasons.

Answer (a)

In the given case study I am CEO of Gujrat Maritime Board, where I have to solve different problems of labour. Values like responsibility, accountability spirit of service, compassion and justice are involved in this case.

Options:

(a) Ignore problems of labours.

Merits : It will save my time and energy from making extra efforts.

Demerits: Labours will keep on suffering I will feel guilt conscience.

(b) Ask labours to take proper training before goining job and arrange safeguards for them.

Merits: It will ensure better health and reduce casualty among labours.

Demerits : It will put extra burden on labours income. They may not be able to afford it.

(c) Take transfer from Maritime Board.

Merits : I may be free from guilt conscience.

Demerits : It is an act of cowardice and not solve labour's problems.

(d) With the help of an NGO I will conduct a survey among labours, talk with their representatives and make a detail report of their problems. I will support it with relevant labour laws, decisions of Supreme Court and attach my recommendations for necessary reforms. I will send one copy each to Secretary and Cabinet Minister of my department.

Answer (b)

Government reforms may take times, so I will select a popular NGO with enough experience in labour welfare. I will ask him to make arrangements to provide necessary training and knowledge to all workers, working in different units at Mary Time Board. Next I will contact CEO's of different freight /passenger ship companies and other major companies working in our country. I will inform them about our initiative and convince them to donate this NGO from their CSR funds. With this money we will provide training to all labours and install enough water coolers to solve problem of potable water.

After that we will arrange meetings with heads of different units and convince them to provide necesary safeguards to their workers as it will improve productivity of labours and these units will earn more profits.

Next we will educate and motivate eligible labours, to enrol themselves under Ayushman Bharat Yozana. It will provide them necessary health cover.

1. Consider the following statements with reference to Floodwatch Mobile App:

1. Through this, users can get the necessary information about the flood situation in the entire country.
2. The application will forecast based on 328 flood monitoring points out of 1543 spread over 24 river basins.
3. This app can be downloaded for free from Google Play Store.

How many of the above statements is/are correct?

A. 1 and 2 B. Only 2
C. All three D. None of the above

2. Recently the Reserve Bank of India (RBI) has issued new guidelines to ensure transparency in disclosure of penal charges; interest rates in loan accounts, in this context consider the following statements:

1. If penalty is levied for non-compliance of important terms and conditions of the loan agreement by the borrower, the same shall be treated as 'Penal Fee'.
2. This will not affect the normal processes of interest and compound interest on the loan account.
3. Under this, Regulated Entities (REs) can make suitable amendments in their policy framework.

Which of the above statements is/are correct?

A. Only 1 B. Only 2
C. All three D. None of the above

3. Consider the following statements regarding the launch of a much awaited Bharat New Car Assessment Program by the Union Ministry of Road Transport and Highways:

1. It aims to improve road safety standards of motor vehicles up to 3.5 tonnes.
2. This is a voluntary program in which the base variant of the given model will be tested.
3. Based on the performance of the car in this test, the vehicle will be awarded a star rating on a scale of 0-5 for Adult Occupants (AOP) and Child Occupants (COP).

With the help of the above statements, choose the correct statement-

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

4. With reference to the UDGAM portal, consider the following statements:

1. This portal is developed by the Reserve Bank of India to help the public to search for their deposits in multiple banks at one place.
2. It was announced on 6th April, 2023 as a centralized web portal.
3. This portal has been developed in association with Reserve Bank Information Technology Pvt Ltd (REBIT), Indian Institute of Financial Technology & Allied Services (IFTAS) and Banks.

Which of the above statements are correct?

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

5. Consider the following statements regarding 69th National Film Awards

1. The Best Film award was given to R Madhavan's 'Rocketry: The Nambi Effect' and Best Actress award was given to Alia Bhatt and Kriti Sanon for Gangubai Kathiawadi, Mimi respectively.
2. Best Actor Award went to Allu Arjun for the film 'Pushpa'.
3. Best Supporting Actress award was given to Pallavi Joshi for 'The Kashmir Files'.

Which of the above statements is/are incorrect?

A. 1 only B. 2 only
C. Both D. None

6. With reference to the draft document of National Curriculum Framework (NCF), consider the following statements:

1. According to the document, students of class 9 and 10 will now compulsorily have to study three languages including two Indian languages.
2. It states that in class 12, students will be assessed on a maximum of seven subjects.
3. The State Governments and respective school boards have been given the freedom to decide the R1, R2 and R3 language.

Which of the above statements is correct?

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

7. Recently UGC has constituted a committee for the study of manuscripts, consider the following statements regarding this:

1. It will be a committee for standardization of Post Graduate and Diploma courses in

Manuscriptology.
2. Under this, philosophy, science, literature, religion and miscellaneous subjects have also been included in Indian languages, manuscripts.
3. Manuscriptology is the study of sociology through handwritten documents.
Which of the above option(s) is/are correct?
A. Only 1 B. 1 and 2
C. 1, 2 and 3 D. None

8. Recently, during a bird survey in the Corbett Tiger Reserve of Nainital, the number of bird species has been counted, in the context of this, consider the following statements:
1. About 275 bird species including two critically endangered, four vulnerable and two endangered species were counted under it.
2. During this survey researchers have also counted four endangered species including Pallas fish eagle, Egyptian vulture.
3. Two species, namely the white-tailed vulture and the red-headed vulture, which are listed as critically endangered by the International Union for Conservation of Nature (IUCN), have also been mentioned in this survey.
Which of the above option(s) is/are correct?
A. Only 1 B. 1 and 3
C. 1, 2 and 3 D. None

9. Consider the following statements with reference to the books Kuvi and Desiya:
1. Union Minister for Education, Skill Development and Entrepreneurship and Union Minister for Finance and Corporate Affairs launched Kuvi and Desiya books in Bhubaneswar.
2. It is a collaborative effort with Central University of Odisha, Koraput, Department of Posts and NCERT.
3. The Kuvi and Desiya books will provide a strong and educational foundation to the tribal community of Uttar Pradesh and preserve the cultural, linguistic heritage and identity.
Which of the above option(s) is/are correct?
A. Only 1 B. 1 and 3
C. 1 and 2 D. None

10. Consider the following statements with reference to Jim Corbett National Park:
1. Jim Corbett National Park established in 1936 as Hailey National Park is the oldest and most prestigious national park in India.
2. It was named after the famous naturalist and conservationist Jim Corbett.
3. Corbett National Park is spread over a total area of 520.8 sq km, which includes river belt, marshy depression, grasslands and a large lake.
Which of the above statement/s is/are correct?
A. Only 1 B. 1 and 3
C. 1 and 2 D. All

11. Consider the following statements:
1. The Rajapakshi government did the joint allocation for the Colombo East Container Terminal Project.
2. This cooperation program was organised by Vivekananda International Foundation, Pathfinder, Natstrat, and the Confederation of Indian Industries.
3. Sri Lanka has a strategically important place in India's Neighborhood First Policy and Sagar Vision Project as well as in the entire Indian Ocean region.
4. The Sri Lanka port authority will have the entire ownership of the East Container Terminal Project.
Select the correct answer using the codes given below.
A. Only 1 B. Only 2
C. 3 and 4 only D. Only 2, 3 and 4

12. Consider the following statements.
1. The Sulina Channel belongs to Romania.
2. Romania is a member of NATO.
3. The Danube River is the second largest river in Europe, which originates in the Black Forest Mountains.
4. Ukraine is called the Bread Basket of Europe.
Which of the above statements is correct?
A. Only 1 B. Only 2 and 3
C. 1,2,3 and 4 D. None of these

13. Consider the following statements regarding the recently signed MoU between the Indian and Suriname governments:
1. This MoU is signed to collaborate in the field of medicine regulation.
2. It allows Indian Pharmacopeia as a book of standards for medicines in Suriname.
3. Indian Pharmacopeia is already officially recognized by Afghanistan, Ghana, Nepal and

Mauritius.
4. The Department of Health Research is entrusted with the responsibility to publish and update Indian Pharmacopeia.
Which of the given statement/s is/are correct?
A. Only 3 B. Only 2
C. Only 1 D. Only 4

14. Consider the following statements regarding Alzheimer's Disease:
1. It is a progressive neurological disorder which majorly affects individuals above the age of 60.
2. It is believed to be caused by the abnormal build-up of amyloid protein in the brain.
3. Imaging tests like MRI and Biomarker tests are conducted to diagnose this disease.
4. American companies have successfully developed medicines like Donanemab and Aducanumab for their treatment.
Which of the given statements are correct?
A. Only two B. Only Three
C. Only One D. All of the above

15. Consider the following statements:
1. The first international law on the Continental Shelf came in 1958.
2. Europe looking at other energy supply options after the North Stream gas pipeline was disrupted.
3. The North Sea is the area connected by the Dover Strait and the English Channel.
Which of the above statements is correct?
A. Only 1 B. Only 1 and 2
C. Only 2 and 3 D. Only 1, 2 and 3

16. Consider the correct statement from the following.
1. India is the second nation to establish political relations with Samoa
2. Samoa is an island country in the Polynesia region.
3. India Pacific Island Cooperation Forum was commenced by India in 2014 and there are a total of 14 countries that are part of it.
4. Samoa will host CHOGM, a meeting of Commonwealth Heads of Government.
A. Only 1 and 2 B. Only 2 and 3
C. Only 3 and 4 D. All

17. What are the major geographical and geological features of the Hawaiian Islands?
1. Mauna Kea, one of the island's volcanoes, is the highest point in the state of Hawaii.
2. The Hawaiian Islands are located in the southwest of the South Pacific Ocean
Which of the following statements is/are true?
A. Only 1 B. Only 2
C. Both 1 and 2 D. Neither 1 nor 2

18. Consider the following statements?
1. The Indian Space Research Organisation launched its solar mission, Aditya L1 on 2nd September, 2023 from Sriharikota in A.P.
2. L1 is one of five points in the orbital plane of the Earth-Sun system, where the gravitational force of a two-body system produce enhanced regions of attraction and repulsion.
Which of the above statements is/are true
A. Only 1 B. Only 2
C.Both 1 and 2 D. Neither 1 nor 2

19. Consider the following statement:
1. INS Vindhyagiri is named after a mountain range in Kerala.
2. This is the sixth of seven ships being built for the Navy under 'Project 17 Alpha'.
3. First stealth ship launched under Project 17A was Nilgiri in 2019.
Which of the above statements is/are true
A. 1 and 2 B. 2 and 3
C. 1,2 and 3 D. 1 and 3

20. How did scientists identify SARS-CoV-2 as the causative agent of COVID-19?
1. By using traditional microbiology methods.
2. By conducting metagenome sequencing.
Which of the above statements is/are not true.
A. Only 1 B. Only 2
C. Both 1 and 2 D. Neither 1 nor 2

21. Consider the recently discussed Advisory Board on Banking and Financial Frauds (ABBFF):
1. It has been formed by the RBI.
2. It was empowered to investigate frauds involving Rs. 3 crore and above.
3. There will be a chairman and five other members.
Which of the above is/are correct?
A. Only 1 and 2 B. Only 2
C. Only 2 and 3 D. Only 1 and 3

22. What is the primary purpose of the Rail-Sea-Rail (RSR) transportation initiative promoted by the Ministry of Coal?

1. To increase carbon emissions from coal transportation.
2. To decrease coal production in India by 7.7%.

Which of the above statements is/are not true

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

23. Who was known as the Gandhi Buri?

A. Usha Mehta
B. Kanaklata Barua
C. Annie Besant
D. Matangini Hazra `

24. Consider the following statements regarding India's Arctic scientific missions-

1. IndARC is the first underwater moored observatory deployed in 2014 to study the Arctic climate and its influence on the monsoon.
2. The Indian Arctic research base Himadri was located in Svalbard, Norway.
3. India is a member of the Arctic Council and also the signatory of the Svalbard Treaty of 1920.
4. The Ministry of Environment, Forest and Climate Change has unveiled an Arctic Policy titled 'India and the Arctic: Building a Partnership for sustainable development' in 2022.

Which of the above given statements are not correct-

A. 1, 2 and 3 B. 2 and 4
C. 3 and 4 D. 1, 2, 3, and 4

25. Consider the following Statements concerning the respiratory syncytial virus (RSV) reference.

1. It includes symptoms like coughing, fever etc.
2. It is a double-stranded DNA Virus.
3. An Antiviral drug called, palivizumab is available to prevent RSV Infection.

Which of the statements are correct?

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

26. Consider the following statements:

1. The 27th edition of Exercise Malabar was concluded off the east coast of Sydney, Australia.
2. In this exercise navies of india, Russia, China & Vietnam participated.

Which of the above statements is/are not true.

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

27. Which of the following given statement/s is/are not correct regarding with ASEAN grouping?

1. The motto of ASEAN is "Free and Open Indo-Pacific".
2. The ASEAN countries collectively have a total population of more the 650 million and a combined GDP of $3.2 trillion as of 2022.
3. The Indonesia, Malaysia, Philippines, Singapore and Thailand are the founding fathers of the Bangkok Declaration- 1967.
4. The fundamental principles of ASEAN do not include the use of force or renunciation of the threat.

Select the correct option

A. Only two B. Only three
C. Only one D. None

28. Consider the following statements regarding GE-mustard, which is in news recently

1. The research related to GE-mustard has been done by the scientists of National Institute of Plant Genome Research (NIPGR) under Department of Biotechnology (DBT).
2. The commercial cultivation of GM mustard has been banned by the Supreme Court as it poses various biosecurity hazards and is likely to increase insecticide and herbicide resistance.

Which of the above statement/s is/are true?

A. Only 1 B. Only 2
C. Both D. None

Answer

1. **C**	5. **D**	9. **C**	13. **A**	17. **A**	21. **B**	25. **A**
2. **C**	6. **C**	10. **D**	14. **B**	18. **C**	22. **D**	26. **A**
3. **C**	7. **B**	11. **D**	15. **D**	19. **B**	23. **D**	27. **A**
4. **C**	8. **B**	12. **C**	16. **D**	20. **A**	24. **C**	28. **C**

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