

PERFECT

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



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Role, Challenges & Prospects of the G20 in the International Dispensation

Aditya L1 Mission: Next Step in India's Space Program

Assam Rifles' Unprecedented Role in Stopping Drug Smuggling in NE India

Rationale of 'One Nation One Election' in India's Parliamentary Democratic System

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+91 9369227134
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Message



Vinay Singh
Founder
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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



In This Issue

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Managing Director	: Q.H. Khan
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Co-Editor	: Ashutosh Mishra
	: Saurabh Chakraborty
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Important Issues

5-18

1. **Rationale of 'One Nation One Election' in India's Parliamentary Democratic System**
2. **Assam Rifles' Unprecedented Role in Stopping Drug Smuggling in NE India**
3. **Role, Challenges & Prospects of the G20 in the International Dispensation**
4. **Aditya L1 Mission: Next Step in India's Space Program**
5. **Strategies for the Development of Renewable Energy Sector & Reduction of Carbon Emissions in India**
6. **India's Growing Reputation in the Field of Traditional Medicine**
7. **Rising Trend of Suicide Among Youth: Challenges & Solutions**

National	19-23
International	24-28
Environmental	29-32
Science and Tech	33-37
Economy	38-42
Miscellaneous	43-46
Practice Questions for Mains Exam	47

News of National and International Importance ..	48-52
Current Affairs at a Glance	53
Brain Boosters	54-60
MCQs based on Preliminary Exam	61-66
MCQ Based on Current Affairs	67-70

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

For Next Issue

- **Strengthening of India-ASEAN's partnership: Essential for India's interests**
- **Nari Shakti Vandan Adhiniyam: Historic step towards increasing the women representation in legislature**
- **Governments becoming aware towards protection of farmers' rights: Aspects of farmer protection in India**
- **Expansion of Internet services in rural India: Related Initiatives & Actions**
- **India's strategy to strengthen e-commerce export ecosystem: Challenges & opportunities**
- **Action by government towards heritage conservation**
- **Evaluation of the role of Indian Coast Guard towards maritime security**

Rationale of 'One Nation One Election' in India's Parliamentary Democratic System

Why in News:

The Central government has recently constituted a committee headed by former president Ram Nath Kovind to explore the feasibility of 'One Nation, One Election'.

About One Nation One Election:

- 'One Nation, One Election' is a proposal under consideration by the government to synchronize elections for the Lok Sabha and State Assemblies.
- The concept of simultaneous elections in India dates back to 1983 when it was first proposed by the Election Commission.
- India initially conducted simultaneous elections to both the Lok Sabha and State Legislative Assemblies in 1951-52, and this practice continued in the subsequent General Elections of 1957, 1962, and 1967.
- Unfortunately, the cycle of simultaneous Elections were disrupted due to the premature dissolution of some Legislative Assemblies in 1968 and 1969.
- Frequent premature dissolutions and extensions in the terms of the Lok Sabha and State Legislative Assemblies led to separate elections.
- **Current Scenario:** Presently, only specific States such as Arunachal Pradesh, Sikkim, Andhra Pradesh, and Odisha conduct their assembly polls concurrently with the Lok Sabha elections.

Advantages of One Nation One Election:

- **Control Over Election Expenses:** It can help regulate election and party expenses. In 2019, the Lok Sabha elections saw 610 political parties, around 9,000 candidates, and an estimated poll expenditure of 60,000 crore rupees (as declared by ADR).
- **Cost Savings:** Implementing this concept would save public funds and alleviate the burden on administrative structures and security forces. It would ensure the timely execution of government policies and enable the administrative machinery to focus on development rather than election-related tasks.
- **Informed Voting:** Voters would have the opportunity to assess the policies and performance of both state and central governments more effectively. This would make it easier for voters to compare political parties' promises with their actual implementation.
- **Improved Administrative Efficiency:** Elections require the entire state machinery to concentrate on ensuring a fair voting process, which can disrupt daily administration as officials are occupied with polling responsibilities. The 'One Nation One Election' idea would enhance the efficiency of the administrative system.
- **Reduced Duration of the 'Model Code of Conduct':**

Frequent imposition of the Model Code of Conduct (MCC) during elections halts development activities. This will decrease the 'policy paralysis' caused by the MCC during election periods.

- **Reduction of Populist Measures:** Having elections often makes politicians think about short-term wins instead of long-term plans, which affects how they govern and make policies. Holding elections at the same time would decrease these short-term actions.
- **Increase in Voter Turnout:** More people are likely to vote if elections are held at the same time, as it will be simpler for them to cast multiple votes, according to the Law Commission.
- **Preparation Time:** Conducting elections once every five years would provide more preparation time for all stakeholders, including political parties, the Election Commission of India (ECI), paramilitary forces, and civilians. Overall, "One Nation One Election" holds the potential to streamline the electoral process, improve governance and optimize resource utilization.
- **Reduced use of 'Black Money':** Elections require candidates to spend a lot of money, much of which comes from undisclosed sources. The 'One Nation One Election' concept will lessen the flow of undisclosed money in the economy.
- **Improvement of Internal Security:** Regularly sending security forces for elections uses up a significant portion of armed police resources, which could be used more effectively to handle internal security issues such as Naxalism.

Challenges:

- **Synchronization of Terms:** To hold simultaneous elections, the terms of both the Lok Sabha and State Legislative Assemblies must align. Currently, some state assemblies have elections at different times, leading to variations in their terms.
- **Constitutional Amendments:** Modifying the terms of legislative bodies necessitates changes in key constitutional articles, such as Article 83 (Lok Sabha term), Article 85 (Lok Sabha dissolution), Article 172 (State Legislative Assembly term), Article 174 (State Legislative Assembly dissolution), and Article 356 (President's Rule).
- Additionally, amendments to the Representation of the People Act and related parliamentary procedures would be essential.
- **Parliamentary Form of Government:** India's parliamentary system mandates that the government is accountable to the Lower House (Lok Sabha or Legislative Assembly). If the government falls before completing its term, elections are imperative. Achieving "One Nation One Election" must address this inherent feature

of the parliamentary form of government.

- **Political Consensus:** Convincing all political parties to support “One Nation One Election” is a formidable challenge. Different parties may have varying interests and concerns, making securing consensus on this significant electoral reform challenging.
- **Federalism and Conceptual Incompatibility:** One Nation One Election seems to conflict with the federal structure, contradicting the idea of India as a Union of States (Article 1). Altering this balance might affect the autonomy and authority of state governments.
- **Cost Misconceptions:** While the Central government highlights the substantial costs of frequent elections, critics argue that the actual expenses are not as massive. The analysis questions whether the Election Commission's expenditure of Rs. 8,000 crore over five years, amounting to Rs. 1,500 crore annually or Rs. 27 per voter per year, is a significant expense for maintaining India's democratic pride.
- **Increased EVM and VVPAT Requirements:** Currently, a single voting machine is used at each polling station. To conduct simultaneous elections, the ECI would need to double the supply of Electronic Voting Machines (EVMs) and Voter Verified Paper Audit Trails (VVPATs) because each polling station would require two sets – one for the Legislative Assembly election and another for the Lok Sabha election.
- **Additional Polling Staff:** Conducting simultaneous elections would necessitate a larger pool of polling staff to manage both sets of elections simultaneously. This poses a recruitment and training challenge for the ECI.
- **Logistics of Material Transport:** Coordinating the transportation of election materials to polling stations, including EVMs, VVPATs, and other equipment, becomes more complex with simultaneous elections. Ensuring timely delivery and distribution to the right polling stations is critical.
- **Enhanced Security Needs:** Simultaneous elections would require heightened security measures, including an increase in Central Police Forces to maintain law and order at polling stations. Adequate security arrangements must be made to manage the dual electoral process effectively.
- **Storage Challenges:** The ECI already faces difficulties in storing EVMs after elections. With the need for a larger inventory of machines due to simultaneous elections, finding secure and suitable storage facilities becomes more pressing.

Recommendations:

- The Law Commission headed by Justice B P

Jeevan Reddy in its 170th Report had stated: “The cycle of elections every year, and in the out of season, should be put an end to. We must go back to when the elections to the Lok Sabha and all the Legislative Assemblies were held at once.

- The 79th report of the Parliamentary Standing Committee on Law and Justice recommended a two-phase election schedule – one concurrent with Lok Sabha elections, the second in the mid-term of the Lok Sabha.
- The Election Commission has also extended its in-principle support for the simultaneous elections.
- A report co-authored by Bibek Debroy, chairman of the PM's Economic Advisory Council and member of NITI Aayog, stated that simultaneous elections would cut the expenditure to a significant extent.

Way Forward:

- **Alternative Leadership Selection:** In the parliamentary system, if the government falls before completing its term, one solution is to invite the second or third leading person in the house or the leader of a political party to form the government. Alternatively, the House could be given the opportunity to elect its leader in such circumstances.
- **Fixed Election Dates:** Emulate the American model of fixed election dates for the President, Vice President, House of Representatives, and Senate. These fixed dates could be legally mandated, ensuring that elections occur at scheduled intervals, regardless of the parliamentary form of government.
- **Constitutional Amendment for Term Alignment:** Amend the Constitution to align the terms of state legislative assemblies with that of the Lok Sabha elections. This would ensure that elections for both entities occur simultaneously.
- **Presidential Form of Government:** One radical solution is transitioning to a Presidential form of government, where the President is not accountable to the House. In such a system, fixed election dates, similar to the United States, could be established for presidential and legislative elections, minimizing synchronization challenges.

Conclusion:

The proposal for One Nation, One Election envisions synchronizing Lok Sabha and State Assembly elections to curtail the frequency of polls. The Indian democracy's complex dynamics and diverse contexts warrant a comprehensive assessment before implementing such a transformative change.

Assam Rifles' Unprecedented Role in Stopping Drug Smuggling in NE India

The Government of India is running the Drug-free India campaign in the country under the aegis of the Home Ministry and following this, the action against illegal drug smuggling has been intensified in the states of North-East India. In this regard, the actions of Assam Rifles, which play a significant role in internal security management in North-East India and India-Myanmar border management, have been in the news in recent times.

- The Director General of Assam Rifles, India's premier paramilitary force, has said that till now in the year 2023, illegal drugs worth Rs 1135 crore have been seized by it. In the last four years alone, Assam Rifles has seized drugs worth about Rs 4200 crore.
- DG Assam Rifles has stated that along with protecting the border, Assam Rifles is also running a campaign against drugs and illegal weapons. It seized illegal drugs worth Rs 875 crore in the year 2020, drugs worth Rs 1402 crore have been seized in 2021 and drugs worth Rs 855 crore were seized in 2022. The difference between the amount of drugs seized in 2021 and 2022 can be due to the ongoing civil war in Myanmar, where the Myanmar army is fighting with the People's Defense Force and the CNA and therefore the drug supply is rather curbed. Assam Rifles, in a recent joint operation with the Excise and Narcotics Department, has seized heroin worth more than Rs 5 crore from Bethelweng area of Champhai district of Mizoram. A Myanmar national was arrested during the seizure. These drugs were brought hidden in soap boxes and the value of this heroin was estimated at Rs 5.96 crore.
- Under the Nasha Mukht Bharat Abhiyan, action has been intensified in North-East India. According to Home Ministry, about 40,000 kg of narcotics were destroyed across Northeast India last year under the special operation against narcotics. The Government of India has adopted a policy of zero tolerance to thwart every attempt by narcotics, dirty money from drug trafficking and organized mafia who intend to harm the country's economy and national security.
- In 2022, the Indian Home Minister in Guwahati, Assam chaired a meeting with Chief Ministers, Chief Secretaries and Director Generals of Police of all North Eastern States on 'Drug Trafficking and National Security'.
- Drug trafficking is a borderless crime and combating it requires better coordination and coordination among all drug law enforcement and intelligence agencies as well as border districts of all the North Eastern states. Home Minister stated that to deal with narcotics crimes, every state should have a forensic science laboratory and for this the central government will provide 50 percent financial assistance. A regional office of Narcotics Control Bureau has been established in Guwahati and the Ministry of Home Affairs has proposed to set up new regional offices at Agartala in Tripura and Pasighat/Lower Siang in Arunachal Pradesh. It is also proposed to start a zonal office in New Jalpaiguri for better coverage of the area adjoining Sikkim.
- To enable Assam Rifles to function effectively in keeping the North East safe from internal security challenges and especially from drug smuggling, some significant efforts have been made and the requirements and resources of Assam Rifles have been met. Modern weapons have been procured to strengthen Assam Rifles which include thermal imagers, night vision devices, bulletproof jackets, lightweight bulletproof helmets, drones, anti-landmine vehicles among others. These purchases have been made only in the last two or three years.

Drug trafficking in North East India:

- India is located in the middle of two major illicit opium production areas in the world, the Golden Crescent (Iran-Afghanistan-Pakistan) in the west and the Golden Triangle (South-East Asia) in the east. Because of Golden Triangle, drug smuggling get support in North-East India. The Golden Triangle Narcotics Zone includes Myanmar, Thailand and Laos. These three countries are known for drug smuggling as well as human trafficking and illegal arms smuggling. Myanmar shares borders with the Indian states of Arunachal, Nagaland, Manipur and Mizoram. Due to this, the challenge of drug smuggling increases in the entire North-East India. The money generated out of drug trafficking is used in terror funding, insurgency funding, and funding of separatist movements. The activities of the Karen, and Kachin militants of Myanmar and the Kuki Chin militants of the Chittagong Hills of Bangladesh have major impact on the North East in this context.
- The Assam Rifles is India's oldest paramilitary force, formed in 1835 in British India. It was formed during the British colonial rule as an

Background of formation of Assam Rifles:

- The Assam Rifles is India's oldest paramilitary force, formed in 1835 in British India. It was formed during the British colonial rule as an

auxiliary force (militia) by the name of Cachar Levy to protect the tea plantations of Assam. In 1838, another similar organization, Jorhat Militia, also known as Shan Militia, was formed by the British in Assam. Its objective was also to protect the tea gardens and border areas of Assam. Myanmar, which was then known as Burma, had a Shan community living in the Shan Hill region of Jorhat Militia. There were a large number of people recruited from this community and hence the organisation got its name Shan Militia. After some time, the Jorhat Militia was merged into the Cachar Levy by the British and its nomenclature was changed from time to time. It was renamed Frontier Police in 1883, Assam Military Police in 1891, Eastern Bengal and Assam Military Police in 1913 and Assam Rifles in 1917. It has been known by this name since 1917 to the present time.

the India-Pakistan War of 1965 and 1971 and was part of the Indian Peace keeping force sent by India under Operation Pawan in Sri Lanka. It also conducted Operation Jericho to deal with the insurgent incidents in North-Eastern India and played an important role in Operation Rhino and Operation Bajrang against ULFA militants in Assam. In 1995, Assam Rifles also successfully conducted Operation Golden Bird against militants on the India-Myanmar border. In the year 2019, Assam Rifles jointly conducted Operation Sunrise with the Myanmar Army against anti-India militant camps established on Myanmar soil

Functions of Assam Rifles:

- The main function of Assam Rifles is to protect the 1640 km long India-Myanmar border. It has also been given the responsibility to deal with internal unrest, insurgency and extremist and separatist activities in North Eastern India. For the role played in the states of North Eastern India, it has been called the Friend of the North East and the Sentinel of the North East. Assam Rifles, through its 46 battalions, is active in protecting the international borders of the North Eastern Indian states. Currently, it employs 65,000 soldier and 80 percent of the officers in the paramilitary force are appointed from the Indian Army.

- It is noteworthy that along with terrorist and separatist activities on the India-Myanmar border, the challenge of drug smuggling has also existed. An attempt has been made to disrupt the peace and order of the north-eastern states through the

A force like no other

A look at the Assam Rifles, India's oldest armed force



Role of Assam Rifles before 2000:

- As per the policy adopted for the North East Frontier Agency (NEFA) before 1965, the Assam Rifles functioned under the Ministry of External Affairs of India. However, in 1965, its administrative control was transferred to the Ministry of Home Affairs, Government of India while the authority of its operational control was given to the Indian Army. Assam Rifles played an active role in the India-China War of 1962,

alliance of various extremist groups. Assam Rifles has been given important responsibility to deal with these issues. Civic Action Program is run by the soldiers of Assam Rifles to instil a sense of security in the minds of the local people living in the villages situated on the India-Myanmar border. Assam Rifles soldiers are sent to UN peacekeeping missions and even in the anti-terrorism operations.

Role, Challenges & Prospects of the G20 in the International Dispensation

- As the world's fastest emerging market economy, India presented the Delhi Declaration, 2023 while hosting the G20 Leaders' Summit. In the meetings held on 9th to 10th September, India made its vision clear to the world community. The G20 New Delhi leaders' declaration states that the present era cannot be of wars. By stating this, India has made it clear that whether it is a war between Russia and Ukraine or the threat given by China to Taiwan, or it is a war between Israel and Palestine, it is neither acceptable nor desirable. India has tried to make countries with geopolitical rivalries realize their global responsibility. By talking about respecting territorial integrity and sovereignty at all costs, India indirectly gave a message to China and Pakistan on the issues of Arunachal, Ladakh and Pakistan Occupied Kashmir (PoK). India has said at the G20 Summit that terrorism of any form and nature is not acceptable. In this way, India has shown its zero-tolerance policy in the G20 manifesto.
- G20 includes all 5 permanent members of the UNSC, who have been in the role of global policymakers and policy implementers. These countries and their partner now realise the fact that India is a key player in world politics, society, and culture and it can play a big role in bringing a better change in the world economy.

Major Developments during G-20 Summit 2023:

Inclusion of African Union:

- India has been showing special faith in global institutional values, which was exemplified at the G20 Summit through its initiative to make the African Union a permanent member of the G20. There are several benefits for India from membership of the African Union, which comprises 55 countries. It is said about the African Union that while the last century belonged to Asia, the upcoming century will belong to the African continent. Africa's reserves of natural gas, oil, minerals, uranium, and hydrocarbons, its large market and the role of African countries in the security of the Indian Ocean have enabled them to get a special place in global politics. By advocating the African Union's joining the G-20, India has proved that its claim of leading the developing countries called the Global South, is not wrong. India along with China, Russia, Turkey and USA have made a lot of investments across Africa. These countries have been competing for their influence in the African continent.

India-Middle East-Europe Economic Corridor:

- On the first day of the G20 summit, a very important agreement was reached on the India-Middle East-Europe Economic Corridor. This corridor will act as an effective medium for economic integration between India, West Asia and Europe in the future and will provide sustainable direction to connectivity and development across the world. It is also being considered the answer to China's Belt and Road Initiative (BRI).
- The India-Middle East-Europe Economic Corridor will be the first of its kind and will include India, UAE, Saudi Arabia, the European Union, France, Italy, Germany and the USA. Through this corridor, a historic initiative has been taken on connectivity and basic infrastructure which includes shipping and railway links.

Other Important Initiatives:

- With the announcement of launching the Global Biofuel Alliance, India necessitated the need to work towards promoting renewable energy to deal with climate change and global warming.
- To promote circular economy globally, the "Resource Efficiency and Circular Economy Industry Coalition" was also launched.
- Furthermore, an initiative to form the Green Hydrogen Innovation Center led by the International Solar Alliance was also crucial in this regard.
- In recent times, China has been trying to weaken the USA and India in the Middle East region by increasing its influence in the United Arab Emirates and Saudi Arabia. However, the Saudi Crown Prince has once again hinted towards joining the USA's side. This is an important development because, after the Corona period, China's economy is weakening.

Ukraine issue:

- India has faith in the UN Charter. India's Delhi Declaration calls for a 'Comprehensive, Just and Lasting Peace in Ukraine'. It urges G20 member countries to refrain from 'using force to occupy territories' or acting against the territorial integrity of any country. Recalling the discussions held in Bali regarding the war in Ukraine, it was emphasised that all States should act in accordance with the purposes and principles of the United Nations. They must refrain from the threat or use of force or the acquisition of territory contrary to territorial integrity. It was stressed that the sovereignty or

political independence of any state should not be undermined and that the use of or threats of use of nuclear weapons will not be accepted. Furthermore, there was a call to avoid the threat of nuclear weapons.

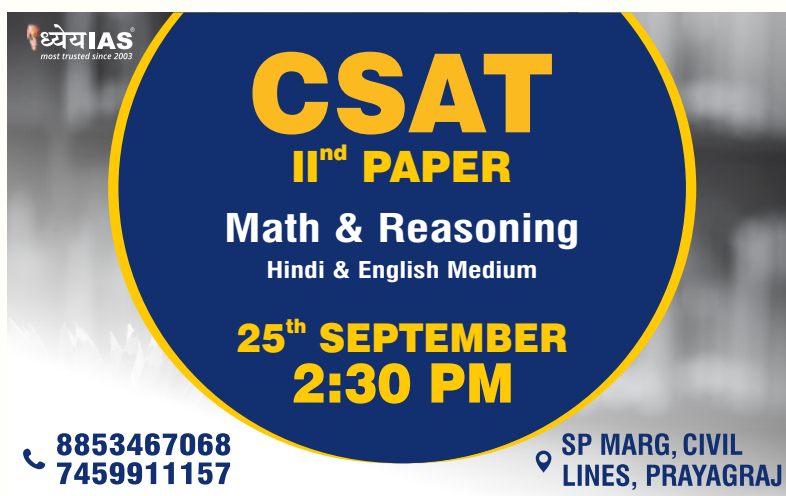
Background of G20:

- G20 is an organization of the 20 most industrialized countries of the world. It was formed in the year 1999 by the G7 member countries. It was formed as a forum for economic dialogue between countries, emerging market economies and developing countries.
- It is an informal business group which has neither permanent headquarters, nor a secretariat, nor permanent staff. The Asian financial crisis in 1997 badly affected trade, commerce and investment in the region. It also had its repercussions on the trade of developed countries. Southeast Asian countries, known as 'Tiger Economies', were badly affected by this Asian financial crisis. This forum hence was developed as an important organization to deal with the slowdown in the global economy, imbalance in regional trade and other economic challenges.
- G20 formulates strategies to deal with the challenges that the global economy faces such as economic recession, global poverty and unemployment, inflation, food insecurity, black money, money laundering, economic crimes etc. G20 focuses on the Base Erosion and Profit Shifting project to combat black money and money laundering. It has, from time to time, appealed to nations for reforms required in international tax administration. The G20 also sets an agenda to combat tax evasion and serious economic crimes by companies globally. Along with this, it talks about United Nations

reform, reform of the World Trade Organization and the development of the blue economy.

Significance of G-20:

- The share of G20 countries in global GDP is 85 percent while its share in global trade is 75 percent. Two-thirds of the world's population lives in G20 member countries. The European Union is a permanent member of the G20 Summit. Representatives of the IMF, World Bank and EU participate in its meeting.
- Several situations are badly affecting the global economy such as the challenges arising from the Covid pandemic, fuel, food, and fertilizer inflation issues with global supply chain global financial challenges, inflation, rising petroleum oil prices, devaluation of the rupee, the economic crisis in many parts of the world, displacement of refugees, the Rohingya refugee crisis, many nations facing balance of payments crisis, global unemployment and poverty, food insecurity, malnutrition, human and wildlife trafficking, global warming, etc.
- In such a situation, the responsibility of the top 20 industrialized nations of the world increases to ensure global financial stability. While India assumed the presidency of G20 for 2023, with the conclusion of this summit its presidency has been handed over to Brazil, which is another emerging developing market economy. With the formal conclusion of the G20 Summit, a vote of thanks was given to various engagement groups such as B20, S20, SAI 20, Startup 20, T20, U20, P20 and L20.
- G20 member countries have sensitively discussed many issues like global warming, climate change, desertification, degradation of biodiversity, development of the ocean economy, strengthening Blue Economy partnership, etc.



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Aditya L1 Mission: Next Step in India's Space Program

The Sun has inspired us since ancient times. It's central to mythology and religion in cultures around the world including the India and the ancient Egypt. One of the major unsolved problems in the field of solar physics is that the upper atmosphere of the Sun has a temperature of around 1,000,000 °C whereas the lower atmosphere is just 5,730 °C. In addition, it is not understood exactly how the Sun's radiation affects the dynamics of the Earth's atmosphere. The mission will obtain near-simultaneous images of the different layers of the Sun's atmosphere, which will reveal the ways in which energy is channeled and transferred from one layer to another. Thus, the Aditya-L1 mission will enable a comprehensive understanding of the dynamical processes of the Sun and address some of the outstanding problems in solar physics and heliophysics.

Why in News:

The Indian Space Research Organisation (ISRO) launched Aditya L-1, its first space-based mission to study the Sun, from the Satish Dhawan Space Centre in Sriharikota aboard the PSLV C57 at 11:50 IST on 2 September 2023, ten days after the successful landing of ISRO's moon mission, Chandrayaan 3. The PSLV will initially place the Aditya L-1 in a low Earth orbit. Subsequently, the spacecraft's orbit around the Earth will be raised multiple times before it is put on a path to a halo orbit around the L1 Lagrange point.

What is the Aditya L-1 mission?

- Aditya-L1 is a solar observatory operated by the Indian Space Research Organisation (ISRO). It has a launch mass 1,475 kilograms. It is a cube-shaped satellite with a honeycomb sandwich structure. The L1 suffix in the mission's name refers to the location, while "Aditya" means "the sun" in Sanskrit.
- The solar observatory will monitor the sun with seven specially designed distinct scientific payloads, five of which have been developed by the ISRO. It will do so from its position at a gravitationally stable point in the Earth-sun system called Lagrange point 1 around 1.5 million kilometers away from Earth — where a spacecraft can remain stable in relation to both bodies.
- The Aditya-L1 spacecraft will not come any closer to the sun than this, studying our star from this distance, around 1% of the total space between the Earth and the sun, for the duration of its mission, which is estimated to be around 5.2 years. Placement at L1 will allow the spacecraft a view of the sun that is uninterrupted by eclipses.

What is a halo orbit?

- A spacecraft can orbit about an unstable Lagrange point with a minimum use of thrust. Such an orbit is known as a halo orbit. A halo orbit, however, isn't the usual orbit because the unstable Lagrange point doesn't exert any attractive force on its own.

What are the payloads?

- There are seven payloads on the Aditya L-1.
- The main one is the Visible Emission Line

Coronagraph (VLEC) to study the solar corona from the lowermost part upwards.

- The Solar Ultraviolet Imaging Telescope (SUIT) will capture the UV image of the solar photosphere and chromosphere. It will examine the variation in light energy emitted.
- Meanwhile, the Solar Low Energy X-ray Spectrometer (SoLEXS) and High Energy L1 Orbiting X-ray Spectrometer (HEL1OS) will analyse X-ray flares. The Aditya Solar wind Particle Experiment (ASPEX) and Plasma Analyser Package for Aditya (PAPA) have been built to study the solar wind and energetic ions.

What are the Lagrange points?

- There are five Lagrange points, L1 to L5, between any two-celestial body system. At these positions, the gravitational pull of the celestial bodies equals the centripetal force required to keep a smaller third body in orbit. In simpler words, the forces acting on the third body cancel each other out.
- The points can be used as 'parking spots' for spacecraft in space to remain in a fixed position with minimal fuel consumption. They have been named after Italian-French mathematician Joseph-Louis Lagrange (1736-1813), who was the first one to find the positions.
- So, between the Earth and the Sun, a satellite can occupy any of five Lagrangian points. Of the five Lagrange points, three are unstable and two are stable. The unstable Lagrange points – L1, L2, and L3 – lie along the line connecting the two large masses. The stable Lagrange points are L4 and L5. The L4 and L5 are also called Trojan points and celestial bodies like asteroids are found here.

What is Polar Satellite Launch Vehicle:

- The Aditya L-1 was carried into space by the Polar Satellite Launch Vehicle (PSLV) in 'XL' configuration. PSLV is one of the most reliable and versatile workhorse rockets of ISRO. Previous missions like Chandrayaan-1 in 2008 and Mangalyaan in 2013 were also launched using PSLV. The rocket is most powerful in the 'XL' configuration as it is equipped with six extended strap-on boosters which can carry

heavier payloads.

- PSLV-XL can lift 1,750 kg of payloads to the sun-synchronous polar orbit, and 3,800 kg to a low Earth orbit. As Aditya L-1 weighs 1,472 kg, it was launched aboard PSLV. (Notably, Chandrayaan-3 took off aboard LVM3, the most powerful rocket of ISRO, because it was more than two times heavier than the solar probe.)

What does Aditya L1's orbit raising manoeuvre mean?

- An orbital manoeuvre, also called as burn, is a regular protocol during a spaceflight. During this exercise, the orbit of the satellite or spacecraft, is increased by using propulsion systems. This process will include rockets firing and also adjustment of angles.

What are the objectives of the Aditya L-1?

- The mission's main objective is to expand our knowledge of the Sun, and how its radiation, heat, flow of particles, and magnetic fields affect us.
- To study the upper atmospheric layers of the Sun called chromosphere and corona. While the corona is the outermost layer, the chromosphere is just below it.
- To examine coronal mass ejections (CMEs), which are large expulsions of plasma and magnetic fields from the Sun's corona.
- To analyse the corona's magnetic field and the driver of the space weather.
- To understand why the Sun's not-so-bright corona is a million degree Celsius hot when the temperature on the surface of the Sun is just about 5,500 degree Celsius.
- To help scientists know the reasons behind the acceleration of particles on the Sun, which leads to the solar wind — the constant flow of particles from the Sun.

International Collaboration:

- The European Space Agency (ESA) which had provided crucial support to ISRO to monitor the Chandrayaan-3's health, has also provided support to Aditya-L1, providing deep space communication services to the mission. ESA's

global network of deep space tracking stations and use of internationally recognised technical standards allows ISRO to track, command and receive data from spacecraft almost anywhere in the solar system.

Other Countries which have launched solar missions:

- **Japan:** Japan's space agency JAXA's first solar observation satellite was named Hinotori (ASTRO-A). The country has since put out multiple solar exploratory missions- the Yohkoh (SOLAR-A) in 1991, Transient Region and Coronal Explorer (TRACE) with NASA in 1998 and Hinode (SOLAR-B) in 2006.
- **United States:** NASA launched the SOHO mission in collaboration with the European Space Agency (ESA) and JAXA in 1995, the Solar Dynamics Observatory in 2010, and the Interface Region Imaging Spectrograph (IRIS) in 2013. NASA launched the Parker Solar Probe in 2018. Three years after its take off, it became the first spacecraft to 'touch' the Sun. The objective of the Parker Solar Probe was to study solar coronas.
- **Europe:** The ESA managed the Ulysses mission in 1990, which was tasked with the study of the environment above and below the poles of the Sun. Apart from that, the space agency was responsible for the Project for On-Board Autonomy-2 (Proba-2) mission in 2001.

Way Forward:

Even though sun is the closest to the earth and has been and continues to be observed by scientists, it still holds many secrets. Some of them are simply waiting to be discovered. Considering how the solar wind affects space weather and in turn the digital components of spacecraft, Aditya-L1's findings could inform future space missions as well.

The Aditya L-1 is currently undergoing a series of manoeuvres to raise its orbit as well as velocity till it can finally be slingshot towards the Sun. Once injected to the path towards the Sun, the spacecraft will take nearly four months to travel the 1.5 million kilometre distance to the L1 point that provides an unobstructed 24×7 view of the Sun.



Strategies for the Development of Renewable Energy Sector & Reduction of Carbon Emissions in India

India's largest power utility, NTPC, and the second-largest national oil and gas company, Oil India Limited, have teamed up to focus on renewable energy, green hydrogen, and reducing carbon emissions. They signed an MoU on August 31, 2023, to share expertise and knowledge in these areas, along with carbon sequestration. With NTPC's 73,024 MW capacity and Oil India's oil and gas experience, this partnership aims to help India achieve its net-zero carbon emissions goal by 2070. NTPC generates power, while Oil India explores and produces crude oil and natural gas.

The need for developing renewable energy resources:

- India, with its rapidly growing economy and increasing energy demands, faces the dual challenge of achieving sustainable development and mitigating the adverse impacts of climate change.
- The primary objective for deploying renewable energy in India is to advance economic development, improve energy security, improve access to energy, and mitigate climate change.
- Today, India is the world's third-largest producer of renewable energy, with 40% of its installed electricity capacity coming from non-fossil fuel sources.
- India is implementing one of the largest renewable energy expansion programmes with a target of achieving 175 GW of renewable energy capacity by 2022 and later up to 450 GW.

unelectrified villages.

- **FAME India (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India):** FAME India promotes the adoption of electric and hybrid vehicles to reduce carbon emissions from the transportation sector. It provides incentives and subsidies for the purchase of electric vehicles and the development of charging infrastructure.
- **UJALA (Unnat Jyoti by Affordable LEDs for All):** This scheme encourages the use of energy-efficient LED bulbs, tube lights, and fans to reduce electricity consumption and carbon emissions. It offers LED bulbs at subsidized rates.
- **National Wind-Solar Hybrid Policy:** This policy encourages the development of hybrid projects that combine wind and solar energy generation to improve energy reliability and efficiency.
- **Green Energy Corridors:** This initiative focuses on

Installed capacity of Renewable sources of Energy in India (July, 2023)

Solar	Wind	Small Hydro	Large Hydro	Biomass
67.07 GW	42.8 GW	4.94 GW	46.85 GW	10.2 GW

Government initiatives for development of Renewable Energy:

The significant steps taken by the Government of India in promoting renewable energy and reducing carbon emissions, with a focus on key policies, initiatives, and their implications are:

- **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM KUSUM):** This scheme aims to promote the use of solar power among farmers by providing them with financial support for setting up solar pumps, solarization of existing grid-connected agriculture pumps, and installation of solar power plants on barren lands.
- **National Solar Mission:** Launched in 2010, this mission sets ambitious targets for the deployment of solar energy in India, with the goal of achieving 100 GW of solar capacity by 2022. It offers various incentives and subsidies to promote solar energy adoption.
- **Atal Jyoti Yojana (AJAY):** This scheme aims to illuminate rural areas using solar energy by providing solar streetlights in off-grid and

strengthening the transmission infrastructure for renewable energy, reducing transmission losses, and efficiently integrating renewable energy into the grid.

- **Solar Charkha Mission:** It promotes the use of solar energy for rural employment generation by providing solar-powered charkhas (spinning wheels) to artisans.
- **National Biofuel Policy:** This policy promotes the production and use of biofuels, including ethanol and biodiesel, as a means of reducing carbon emissions from the transportation sector.
- **National Mission for Enhanced Energy Efficiency (NMEEE):** NMEEE includes programs such as Perform, Achieve, and Trade (PAT) and Standards & Labelling to improve energy efficiency in industries and appliances, thereby reducing carbon emissions.
- **National Mission on Sustainable Agriculture (NMSA):** NMSA encourages the adoption of sustainable agricultural practices, including the use of renewable energy for irrigation and agro-

processing, to reduce the carbon footprint of agriculture.

- Developing renewable energy is undoubtedly a crucial step for India's sustainable future. However, it alone cannot suffice. India must also focus on decarbonizing its economy. While renewables reduce emissions, sectors like heavy industry and agriculture continue to produce substantial carbon emissions. Decarbonization involves transitioning these sectors to cleaner technologies, enhancing energy efficiency, and promoting sustainable practices.

Decarbonising the Indian economy:

- The Union Finance Minister, Nirmala Sitharaman in her Budget speech said "The risks of climate change are the strongest negative externalities that affect India and other countries."
- India's per capita CO₂ emissions – at 1.8 tonnes per person in 2015 – is around a ninth of those in the USA and around a third of the global average of 4.8 tonnes per person. However, overall, India is now the planet's third-largest emitter of CO₂, behind China and the USA.
- With more than 17% of the global population India has contributed only around 4% of the global cumulative greenhouse gas emissions between 1850 and 2019.
- While contributing minimally to global warming, the country aims to achieve net-zero carbon emissions by 2070.
- Recently, India updated its climate commitments, which include:
 - » Generating 50% of its electricity from non-fossil sources by 2030.
 - » Reducing the intensity of carbon emissions in relation to economic growth by 45% below 2005 levels by 2030.
 - » Promoting a sustainable way of living, based on conservation and moderation, through initiatives like "LiFE" (Lifestyle for Environment) to combat climate change.

Strategies for Decarbonisation

Decarbonisation is the process under which carbon dioxide emissions (or its equivalents) are reduced to achieve a lower output of greenhouse gasses. As per the Paris Agreement, reducing the amount of carbon dioxide from transport and power generation is essential to meet global temperature standards. Some of the strategies adopted by the government for decarbonisation are:

- **Renewable Energy Expansion:** India is aggressively expanding its renewable energy capacity, with targets of 175 GW by 2022 and 450 GW in the long term. This includes substantial growth in solar and wind energy installations.
- **Transition to Non-Fossil Energy:** The country is

increasing the share of non-fossil sources in its electricity generation, which accounted for 38.18% of capacity by November 2020. Renewable energy generation has doubled between 2014-15 and 2018-19, driven by policies such as the "must run" status for renewables.

- **Carbon Capture, Utilization, and Storage (CCUS):** NITI AYOJ has recently released a report recognizing the importance of CCUS as an emissions reduction strategy, especially in hard-to-abate sectors. It aims to utilize CCUS to transform captured CO₂ into valuable products, contributing to a circular economy.
- **Legislation for Non-Fossil Energy Adoption:** The government has put forth the Energy Conservation (Amendment) Bill, 2022, requiring designated consumers, including industries and the transport sector, to adopt non-fossil energy sources. This is expected to boost the demand for renewable energy.
- **Carbon Sinks:** India has expanded its forest and tree cover, acting as carbon sinks, and has seen increased carbon sequestration. Forests and tree cover sequestered a significant amount of CO₂ emissions, equivalent to 15% of India's total emissions.
- **International Initiatives:** India is actively involved in international climate initiatives such as the International Solar Alliance and the Coalition for Disaster Resilient Infrastructure. These initiatives promote clean energy and sustainable infrastructure development.
- **Leadership Group for Industry Transition:** India co-leads this group, focusing on low-carbon transitions in hard-to-abate industrial sectors.
- **Climate Action Plans:** India's National Action Plan on Climate Change (NAPCC) and State Action Plans on Climate Change (SAPCCs) in 33 states provide a framework for climate action, including mitigation efforts.

Conclusion:

The development of renewable energy and the adoption of carbon emission reduction strategies in India are pivotal to addressing the twin challenges of energy security and environmental sustainability. The government's proactive policies and initiatives, such as FDI promotion, RPO commitments, and Carbon Capture, Utilisation, and Storage (CCUS) implementation, demonstrate India's commitment to a greener and more self-reliant future. Through these efforts, India can secure a brighter and more environmentally responsible future while contributing to global climate mitigation goals.

India's Growing Reputation in the Field of Traditional Medicine

“Sarve bhavantu sukhinah; Sarve santu nairaamaya- May all be happy, all be free from diseases”. This has always been India's belief, in line with it's philosophy of Vasudhiva Kutumbakam, the world is one family. Our traditional medicines are not just systems of healing, but are vital building block of our healthcare system.

For centuries, traditional and complementary medicine has played a pivotal role in promoting personal and community health. Even in modern times, the demand for natural and herbal-based pharmaceuticals and cosmetics underscores the enduring significance of traditional healing practices. Traditional Medicine can play a huge role in honouring cultural diversity, empowering communities, and celebrating our shared heritage, while at the same time improving health and well-being globally. Traditional Medicine is as old as humanity itself, people in all nations have used traditional healing practices at some point in their lives.

Why in News:

- Dr. Tedros Adhanom Ghebreyesus, Director-General, World Health Organization, inaugurated the WHO's first ever Global Summit for Traditional Medicine in Gandhinagar, Gujarat from 17th to 19th August, 2023. This summit was co-hosted by the Ministry of Ayush, and was part of the G20 Health Ministers' Meeting.
- This summit with the theme “Towards Health and Well-being for All”, explored the role of traditional, complimentary and integrative medicine in addressing pressing health challenges and driving progress in global health and sustainable development.
- Gujarat Declaration, the outcome of this summit, will integrate use of traditional medicines in national health systems, and help unlock the power of traditional medicine through science.

What is Traditional Medicine?

- Traditional medicine, as defined by the World Health Organization, is the sum total of the knowledge, skills, and practices based on the beliefs, and experiences indigenous to different cultures, used in the maintenance of health as well as in the prevention, diagnosis, improvement, or treatment of physical and mental illness.
- Traditional medicine is not antithetical, rather it is complementary to modern medicine.

Benefits of WHO Global Centre for Traditional Medicine:

- Position AYUSH systems across the globe.
- Provide leadership on global health matters pertaining to traditional medicine.
- Ensure quality, safety and efficacy, accessibility and rational use of traditional medicine.

India and Traditional Medicine Systems:

- India has a rich history of traditional system of medicine based upon six systems, out of which Ayurveda stands to be the most ancient, most widely accepted, practiced and flourished indigenous system of medicine. The other allied systems of medicine in India are Unani, Siddha, Homeopathy, Yoga and Naturopathy. The

practice of Ayurveda is based upon the knowledge gained from the Vedas. Knowledge of traditional medicine was compiled and edited by Charaka and some other scholars and is presently called as “Charaka Samhita”. Charaka Samhita describes all aspects of Ayurvedic medicine and Sushruta Samhita describes the Science of Surgery. Both these legendary compilations are still used by practitioners of traditional medicine

Steps taken by the Government of India to Promote the Indian System of Medicines:

- In an effort to expand the scope and work of Indian Systems of Traditional Medicine, India has entered into a bilateral collaboration with five countries Nepal, Cuba, Malaysia, Venezuela, and Qatar to share best practices in the field.
- To promote the education of Indian System of Medicines and Ayurveda globally, Ministry of AYUSH has signed 13 MoUs for setting up AYUSH Academic Chairs with foreign Universities under which AYUSH experts are deputed in reputed Universities to undertake teaching/ training / research activities.
- The Ministry of AYUSH has launched a scheme for Voluntary Certification of Yoga Professionals which aims at certifying the competence level of Yoga professionals through certification process and promoting authentic Yoga as a preventive and health promoting drugless therapy.
- Yoga Certification Board (YCB) has been established with the objectives to bring synergy, quality and uniformity in knowledge and skills of Yoga professionals across the world through certification programs.
- Keeping in view the mythological and historical importance of Indian systems of Medicine, Ayurveda Day, Unani Day and Siddha Day are celebrated in the country every year.
- Government of India is implementing Centrally Sponsored Scheme of National AYUSH Mission (NAM) in the country through State and UT governments for promotion and development of AYUSH systems.
- Under the concept of AYUSH Gram, AYUSH

based lifestyles are promoted through behavioral change communication, training of village health workers towards identification and use of local medicinal herbs and provision of AYUSH health services.

- Under Central Sector Scheme for promotion of Information, Education and Communication (IEC) in AYUSH, the Ministry of AYUSH undertakes promotional activities like organization of AROGYA fairs at State and National level; multimedia campaigns; preparation and distribution of publicity material including audio visual material, etc.
- Under Central Sector Scheme for promotion of International Cooperation, (IC Scheme), the Ministry of AYUSH undertakes various steps to promote and publicize AYUSH systems of medicine including Ayurveda across the globe.
- Incentives are provided to AYUSH drug manufacturers, entrepreneurs, AYUSH institutions, etc. for:
 - » Participating in International exhibitions, conferences, workshops, trade fairs, etc. for generating awareness amongst the public about the AYUSH systems of medicine.
 - » Registration of AYUSH products with regulatory authorities of the foreign countries.
- 33 AYUSH Information Cell have been set up in 31 countries to disseminate authentic information about AYUSH systems. .
- An Advisory Committee on formulation of Integrative Health Policy has been constituted by the NITI Aayog to propose framework of comprehensive integrative health policy to achieve an inclusive, affordable, evidence based healthcare based on modern and traditional integrative approaches.
- The Indian government unveiled a new category of visa, called the Ayush visa, specifically designed for foreign nationals seeking treatment under Indian systems of medicine. Ayush visa will facilitate global access to Indian traditional medicine systems and will usher in a new era of comprehensive healthcare.

Role of WHO in promoting Traditional Medicine:

- The WHO traditional medicine strategy 2014–2023 was developed and launched in response to the World Health Assembly resolution on traditional medicine. The strategy aims to support Member States in developing proactive policies and implementing action plans that will strengthen the role traditional medicine plays in keeping populations healthy.
- In response to this increased global interest and demand, WHO, with the support of the

Government of India, established the WHO Global Centre for Traditional Medicine as a knowledge hub with a mission to catalyse ancient wisdom and modern science for the health and well-being of people and the planet in March 2022.

- The WHO Traditional Medicine Centre scales up WHO's existing capacity in traditional medicine and supplements the core WHO functions of governance, norms and country support carried out across the six regional Offices and Headquarters. Global Centre on Traditional Medicines in Jamnagar, Gujarat, established by the WHO, is the first such centre in a developing country.

Relevance of Traditional Medicines in Current Scenario:

- For centuries, traditional and complementary medicine has been an integral resource for health in households and communities. Around 40% of pharmaceutical products today have a natural product basis, and landmark drugs derived from traditional medicine, including aspirin etc. New research, including on genomics and artificial intelligence are entering the field, and there are growing industries for herbal medicines, natural products, health, wellness and related travel. Currently, 170 Member States reported to WHO on the use of traditional medicine and have requested evidence and data to inform policies, standards and regulation for its safe, cost-effective and equitable use. The pharmaceutical industry has come to consider traditional medicine as a source for identification of bio-active agents that can be used in the preparation of synthetic medicine.

Way Forward:

- The first ever Global Summit for Traditional Medicine holds immense significance as it goes beyond borders, unites mind for future of healthcare, and signifies the dawn of a new era in healthcare globally.
- Work on traditional medicine systems is ongoing in multiple directions on multiple platforms. Along with mainstream health care, evidence-based research is being done in the field of AYUSH today in dealing with diseases like cancer, TB, communicable diseases and women and child health with scientific approach.
- By embracing ancient wisdom and modern science, we can collectively work towards achieving the health-related Sustainable Development Goals while fostering a 'One Earth, One Family, One Future' ethos. Traditional Medicine can play a huge role in honouring cultural diversity, empowering communities, and celebrating our shared heritage.

Rising Trend of Suicide Among Youth: Challenges & Solutions

India is called the country of youth since the human capital here is youth-centric. The role of youth as a productive force in the working population of the country is very important. According to the International Labour Organization, India has the largest youth population in the entire world. About 66 percent of the country's total population (808 million) is under 35 years of age. However, the increasing tendency of suicide among the youth in India has emerged as a serious problem.

- Several questions have been raised recently as young students studying in various educational institutions have committed suicide in the country. In a country where the right to life has been made a fundamental right, attempting suicide has been made a punishable offence precisely because it is a violation of the right to life. Those who commit suicide include not only students but also labourers and people associated with good professions.
- The incidents of suicide committed by the students of Kota, Rajasthan, have been in the news recently. When looking at the numbers, of the 25 students who committed suicide in Kota this year, more than half were minors and 12 students committed suicide within six months of reaching Kota. The case of suicide of a 16-year-old girl from Ranchi, Jharkhand, who was preparing for NEET in Kota, Rajasthan, has come to light. It was the 25th suicide case this year. Kota is considered the bastion of engineering and medical coaching. Every year thousands of children come here for coaching for engineering and medical entrance exams. However, due to various reasons, an attitude of migration towards life has developed among the students and in their struggle with stress, depression and the burden of expectations, they are ending their lives.
- The NCRB report, 2022, states that the total number of suicide cases in the country in the year 2021 was 1,64,033. There has been an increase of 7.2 percent in the total suicides recorded in the year 2021 which is extremely worrying. Recently, World Suicide Prevention Day was celebrated on 10th September and on this occasion, talks were also organized at the national and international level to tackle this challenge.
- In the exam". The year 2021 saw the highest number of student deaths due to suicide in the country since 1995, while the figure of students committing suicide in the last 25 years is around 2 lakh.
- In 2017, 9,905 students died due to suicide, since then there has been an increase of 32.15% student deaths due to suicide. Maharashtra had the highest number of student suicides in the year 2021 with 1,834 cases, followed by Madhya Pradesh and Tamil Nadu. The report also showed that the percentage of suicides by female students was at a five-year low at 43.49%, while suicides by male students accounted for 56.51% of the total student suicides. In 2017, 4,711 girl students committed suicide, while in the year 2021, the number of such deaths increased to 5,693.
- According to the Education Ministry, 122 students from IITs, NITs, central universities and other central institutions committed suicide in the year 2014-21. Among these, 68 belonged to Scheduled Caste, Scheduled Tribe or Other Backward Class.
- Suicides are a growing concern in Kota, India, a well-known preparation centre for engineering and medical entrance exams. Till January 2023, 22 students have died in Kota since 2022 and about 121 have died since 2011.

Reasons for suicide:

NCRB report on suicide by students:

- The National Crime Records Bureau's 'Accidental Deaths and Suicide in India' report clearly shows that there was a huge increase in suicides by students during the COVID-19 pandemic in the year 2020 and 2021 and it has been continuously increasing for the last five years. The National Crime Records Bureau reported that more than 13,000 students died at an average of more than 35 per day in India by 2021, an increase of 4.5% from 12,526 deaths in 2020, with 864 of the 10,732 suicides attributed to "failure in the exam".
- Every individual has different reasons for committing suicide. Experts believe that the tendency to commit suicide is increasing due to depression or stress. Sometimes there is a medical reason as well. Apart from this, when a person has no way out of their problem, they commit suicide. NCRB has also highlighted the reasons for committing suicide in its report. As per its report the people who are fed up with family problems and diseases (AIDS, cancer etc.), commit suicide the most. Last year, 33% of suicides occurred due to family problems and 19% due to illness. Nonetheless, it did not mention the reasons for which the man and woman committed suicide. The NCRB report stated that more than 57 percent of the men who committed suicide were either daily wage labourers, had independent work or were unemployed. That is, the reason for their suicide may have been a financial crisis.

- In a research in 2011, an attempt was made to find out why men commit suicide more than women. The research revealed that men are often considered powerful and strong in society and since they are unable to share their depression or suicidal thoughts with others, they finally get tired and take the extreme step.
- Reasons like academic pressure, isolation and loneliness, mental health issues, financial worries, drug abuse, cyberbullying, relationship problems, and lack of support have played an important role in promoting suicide.

Action points for implementation

There are some action points that the Ministry of Health & Family Welfare will have to consider:



Steps taken to deal with suicide:

- **Mental Health Care Act, 2017:** The purpose of this Act 2017 is to provide mental health services for persons with mental illness.
- **National Suicide Prevention Strategy:** The National Suicide Prevention Strategy, announced in 2023, is the first of its kind in the country to reduce suicide mortality by 10 percent by 2030. The note issued regarding the suicide prevention strategy said, 'Health is our priority, we now need to do more to stop the increasing cases of suicide in the country. Suicide affects all sections of society. Keeping this in mind, concerted and collaborative efforts are required on a large scale. We are taking the initiative to plan in this direction at the national level through the Suicide Prevention Strategy.'
- The announcement of the country's first 'Suicide Prevention Strategy' aims to establish an effective monitoring mechanism for suicide prevention within the next three years. Apart from this, within the next five years, under the District Mental Health Program in all the districts, it

has been aimed to increase awareness among the people regarding suicide prevention and integrated efforts regarding the mental health welfare of people suffering from mental illness.

- In this announcement, the government has also aimed to include suicide prevention in the curriculum. Under the plan, suicide prevention will be included in the curriculum in all educational institutions within the next eight years, so that children can be educated about it at the primary level. As per the aim, a plan will also be made to formulate guidelines for responsible media reporting of suicide cases and restricting access to means of suicide.
- According to experts, it is important to check how serious the suicidal thoughts are in a person and for this one should seek help from a mental health counselling helpline or consult a doctor. Family support is the most important aspect for people with mental disorders. Family members should also not jump to any conclusions. Mental disorders and suicidal thoughts should also be discussed with teenagers and there should not be any hesitation regarding that. Suicidal thoughts can be avoided by keeping negative thoughts away with counselling, positive thinking and medical help.
- Medical experts believe that Electro-Convulsive Therapy (ECT) is very effective in this regard. It is commonly called Shock Therapy although no electric shock is given in it and recovery is also faster.
- According to the World Health Organization (WHO), 36 percent of people suffer from severe depression, so we have to first take steps to mitigate depression. Along with economic prosperity, emphasis will have to be laid on being mentally healthy. At the same time, cases of suicide have increased among teenagers due to study pressure. Regarding this, parents and society will have to think afresh. Children will have to be motivated right from the beginning to face the storms of life along with the career of their choice.
- **Kiran:** This is a toll-free helpline. The Ministry of Social Justice and Empowerment has launched a 24/7 toll-free helpline "Kiran" to provide support to people suffering from anxiety, stress, depression, suicidal thoughts and other mental health concerns.
- **Manodarpan Initiative:** Manodarpan is an initiative of the Ministry of Education under the Aatmanirbhar Bharat campaign. It aims to provide psychosocial support to students, family members and teachers for their mental health and well-being during COVID-19.



National Issue

1 Self Respect Marriages

Why in News:

The Supreme Court in a judgement has said that there is no absolute ban on advocates conducting self-respect marriages ('suyamariyathai') under Section 7(A) of the Hindu Marriage Act 1955.

Supreme Court order on validity of self-respect marriage:

- The Supreme Court overruled the 2014 decision of the Madras High Court wherein it was held that marriages performed by advocates are invalid.
- The Apex Court was hearing an appeal against a Madras High Court order rejecting habeas corpus of the appellant to present his wife. He claimed that his wife was in the illegal custody of her parents who were refusing to accept suyamariyathai marriage certificate issued by advocate. (Ilavarasan vs Superintendent of Police)

Legal Aspects of Self Respect Marriage:

- When C N Annadurai became the Chief Minister of Tamil Nadu in 1967, he passed the Hindu Marriage (Tamil Nadu Amendment) Act 1968.
- This amendment added Section 7(A) to the Hindu Marriage Act of 1955.
- Under this law marriages between two Hindus will be solemnized between relatives, friends or other persons and which is also called Suyamariyathai/Seerthiruththa marriage in Tamil Nadu.
- Each party to the marriage declares one another to be husband or wife in a language they understand.
- In such marriage each party puts garland or ring on the finger or thali or mangalsutra to each other.
- However such marriages are also compulsorily required to be registered as per the law.

Social Significance of Self-Respect Marriage in Tamil Nadu:

- The Self-Respect Marriage Act had its roots in the Dravidian movement of South India.
- The aim of this movement was to promote women's rights, rationality and oppose rituals, bigotry and casteism. This movement promoted self-respecting marriage.

Conclusion:

The initial intent of introducing the Section 7(A) by the Tamil Nadu Government was to do away with the bigotry and irrational rituals that were

associated with the Marriage. The Supreme Court has upheld the validity of this section, overruling the Madras High Court judgement and validating the Self respect marriages.

2 GREAT Scheme

Why in News:

The Centre has approved the startup. Guidelines for Technical Textiles- GREAT Scheme.

About GREAT scheme:

- The scheme falls under the Ministry of Textiles.
- Recently, the Startup Guidelines for Technical Textiles - Grant for Research and Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) has been approved for providing grant-in-aid of up to Rs 50 lakh for up to 18 months to the incubators IITs, NITs, Textiles Research Associations, and Centres of Excellence.

Aim:

- It aims to promote innovation and entrepreneurship within the technical textiles sector. It promotes the development of the technical textiles startup ecosystem in India, especially in niche sub-segments like bio-degradable and sustainable textiles, high-performance and specialty fibers, smart textiles etc.

Key Features:

- The textile ministry will additionally provide 10% of the total grant-in-aid to incubators.
- A minimum of 10% contribution has to be made by the incubatee.
- The scheme is aligned with the National Technical Textiles Mission (NTTM). The mission aims to position India as a global leader in Technical Textiles. It will have four components:
 - » Research, Innovation and Development
 - » Promotion and Market Development
 - » Export Promotion
 - » Education, Training, Skill Development
- There will be an online application portal to streamline the application process and selection of potential beneficiaries.

Significance:

- The GREAT scheme empowers startups by offering more than just financial support. The startups can gain access to expertise and mentorship.
- **Economic Growth-** Startups will generate new job opportunities across various sectors of the economy which will impact the growth and GDP

of the country.

- **Niche development-** The initiative ensures that startups align their efforts with emerging trends and unique market needs, leading to the creation of products that cater to niche sectors.

Way Forward:

There is a need to improve the training programs and collaboration with academic institutions and industry experts. The intellectual property protection regime has to be strengthened. The government should work on enhancing IP laws, regulations, enforcement mechanisms to ensure that innovators are rewarded and protected for their contributions. Investments in infrastructure are essential to facilitate innovative research and development. Government needs to allocate higher budgets dedicated to research and development in the technical textile sector. This initiative has the potential to catalyze a new wave of entrepreneurship and innovation within the textile sector and ultimately economic growth.

3 Indigenous ASTRA Missile Fired from Tejas

Why In News:

The Indian Light Combat Aircraft (LCA), Tejas, has successfully conducted a test firing of the indigenous ASTRA Beyond Visual Range (BVR) air-to-air missile off the coast of Goa.

What Is ASTRA?

- ASTRA is an indigenous Beyond Visual Range (BVR) air-to-air missile developed by India.
- It is designed for engaging and destroying highly maneuvering supersonic aerial targets.
- It was developed by the Defence Research and Development Laboratory (DRDL), Research Centre Imarat (RCI), and other laboratories of the Defence Research and Development Organisation (DRDO) in India.
- The test launch was monitored by various agencies, including the Aeronautical Development Agency (ADA), DRDO, Hindustan Aeronautics Limited (HAL), Centre for Military Airworthiness and Certification (CEMILAC), Directorate General of Aeronautical Quality Assurance (DG-AQA), and a Chase Tejas twin-seater aircraft.

About LCA (TEJAS):

- LCA Tejas is a 4.5-generation, all-weather, multi-role fighter aircraft.
- It is designed for offensive air support, close combat, ground attack and ground maritime operations.

- **Variants:** Single-seater fighters for both the Air Force and Navy, as well as twin-seater trainer versions.
- LCA Mk1A is the most advanced version with features like AESA Radar, EW suite, Digital Map Generator, Smart Multi-function Displays.

Technical Specifications:

- Length: 13.2 m
- Width: 8.2 m
- Height: 4.4 m
- Max Takeoff Mass: 13,500 Kgs
- Engine: GE F404 -IN20
- Engine Thrust (A/B): 85KN
- Max Speed: 1.6 Mach
- Service Ceiling: 50,000 feet
- No of Hard Points: 09

Key Characteristics:

- The smallest and lightest aircraft in its class which uses composite structures for weight reduction.
- Excellent flight safety record with no accidents.
- Compound Tail-Less Delta is designed for carrying a wide range of weapons.
- In-flight refuelling (IFR) capability for extended range.
- Open Architecture-based Mission Computer for interoperability and scalability.
- Quadruplex-Redundant Fly-By-Wire flight control system.
- AESA RADAR with a low probability of interception.
- It can carry various weapons, including long-range BVR and WVR missiles and precision bombs.

Way Forward:

This successful test of the ASTRA missile from the LCA Tejas represents a significant step in India's efforts to enhance its indigenous defense capabilities and reduce its reliance on imported weaponry. It also highlights the collaborative approach among various agencies and stakeholders in achieving this goal.

4 6th Census Report On Minor Irrigation

Why in News:

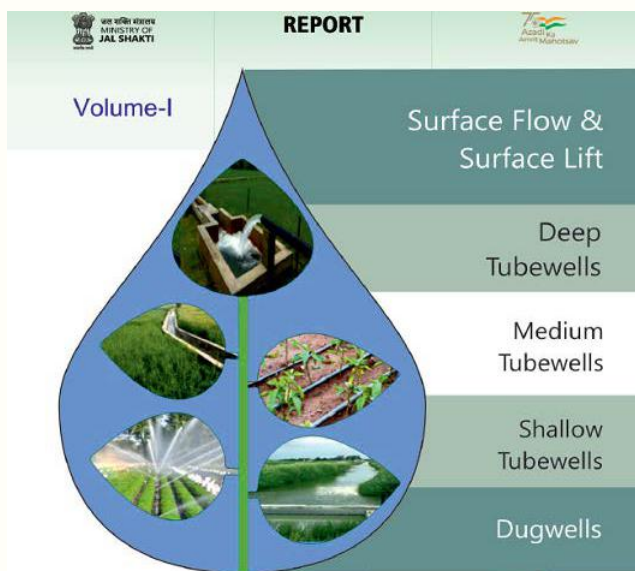
The Ministry of Jal Shakti has released the 6th Census Report on Minor Irrigation (MI) Schemes, revealing that there are 23.14 million MI schemes in India.

What is the Minor Irrigation (MI) Scheme?

- A minor irrigation scheme typically refers to small-scale water management system

designed to support agriculture and provide water resources for cultivation.

- These schemes tap into underground water sources like wells and tube wells.
- These schemes utilize surface water sources like rivers, canals, and ponds.
- A majority of minor irrigation schemes are under private ownership.
- The minor irrigation schemes provide the farmers with controlled and timely irrigation which the new high yielding varieties of seeds demand.



What are the Main Feature of the Report?

Total MI Schemes:

- 23.14 million MI schemes reported in the country.

Types of MI Schemes:

- 94.8% are Ground Water (GW) schemes.
- 5.2% are Surface Water (SW) schemes.

Leading States in MI Schemes:

- Uttar Pradesh possesses the largest number of MI schemes followed by Maharashtra, Madhya Pradesh, and Tamil Nadu.

Leading States in GW Schemes:

- Uttar Pradesh, Maharashtra, Madhya Pradesh, Tamil Nadu, and Telangana.

Leading States in SW Schemes:

- Maharashtra, Karnataka, Telangana, Odisha, and Jharkhand.

Types of GW Schemes:

- Includes dugwells, shallow tube wells, medium tube wells, and deep tube wells.

Types of SW Schemes:

- Comprise surface flow and surface lift schemes.

Increase in MI Schemes:

- 1.42 million increase in MI schemes during the 6th MI census compared to the 5th census.
- GW schemes increased by 6.9%.
- SW schemes increased by 1.2% at the national level.

Dominant MI Schemes:

- Dug-wells have the highest share, followed by shallow tube-wells, medium tube-wells, and deep tube-wells.

Usage of MI Schemes:

- 97.0% of MI schemes reported as 'in use.'
- 2.1% are 'temporarily not in use.'
- 0.9% are 'permanently not in use.'

Ownership:

- Majority (96.6%) of MI schemes are under private ownership.
- In GW schemes, private entities own 98.3%.
- In SW schemes, the ownership share is 64.2%.

Gender Ownership:

- For individually owned schemes, 18.1% are owned by women.

Financing:

- 60.2% of schemes have a single source of finance.
- 39.8% have more than one source of finance, with 79.5% being financed by the individual farmer's savings.

Way Forward:

This report will be useful for planners, policy makers, researcher scholars, agricultural and ground water scientists, administrators & all concerned with development of irrigation and agricultural economy of the country.

5

Greater Autonomy for Hill Councils in Manipur

Why in News:

To resolve the ongoing Kuki-Meitai conflict in Manipur and pacify the Kukis, the state has proposed to the Center to grant greater autonomy to the existing Autonomous Hill Councils.

Reason for conflict in Manipur:

- Violent communal clashes have erupted in Manipur after the Manipur High Court (HC) directed the state to go ahead with its 10-year-old recommendation to grant Scheduled Tribe (ST) status to the non-tribal Meitei community.

What are Autonomous Hill Councils?

- In December 1971, Parliament passed the Manipur (Hill Areas) District Council Act, paving the way for the creation of ADCs in the hilly areas of Manipur.

- The stated purpose of the Autonomous Hill Council was to give the hill people the opportunity to self-governance, protect their identity and culture, and give them authority over the management of their resources.
- Those elected to this council have to make laws on taxation, maintenance of properties, land allotment, management of forests, regulation of farming and marriage, inheritance, social customs and matters.

Reasons for Demand of More Autonomy:

- The law behind the Manipur ADC was inspired by the Sixth Schedule, however, it lacks in terms of power. While other ADCs derive their power from the Constitution, Manipur ADCs are dependent on the State Assembly as per the provisions of the Act.
- Under the Sixth Schedule, the ADC has wide legislative powers in many matters of governance, whereas in Manipur, they are limited to personal matters of marriage, divorce and social customs. The former requires only the assent of the Governor for its proposals to become law.

Role of the Centre:

- The Central Government officials are continuously trying to reach a consensus by discussing with all the stakeholders involved. At the same time, they are also paying attention to the fact that the ADC has never completed any systematic work till date. The budgetary allocation by the state has at times been so low that some ADCs are not even able to pay salaries. For all practical purposes, ADCs in Manipur are non-functional.

Way Forward:

There is a need for public dialogue to work out controversial issues and maintain law and order, taking lessons from past experiences. The government should promote the participation of the people of the area in the decision-making process to create a sense of ownership and belonging.

6

Basic Facilities for Women Prisoners

Why in News:

Recently, the Justice Amitava Roy Committee report has highlighted the need for prison reforms to make the correctional justice system more inclusive for female prisoners.

Key Points of the Report:

- According to the committee, less than 40% of prisons across the country provide sanitary napkins for female prisoners.
- 75% of women within prisons are forced to share kitchens and daily facilities with their male counterparts.
- Women prisoners face far more hardships during their imprisonment than their male counterparts, particularly in terms of access to basic amenities such as medical care, legal aid, counseling, paid labor, and recreational facility.
- The report states that the number of female prisoners in Indian prisons has increased by 11.7% during the period from 2014 to 2019. However, as of 2019, women constitute only 4.2% of the total prison population, with only 18% of female prisoners are allotted exclusive women's prison facilities.
- Only prisons in Goa, Delhi, and Puducherry allow female prisoners to meet their children without any bars or glass separation.
- Only 15 states and union territories have functional women's prisons. All categories of women prisoners are lodged in the same wards and barracks, whether they are undertrials or convicts.

Suggestions made by the committee:

- The committee recommended introducing telemedicine facilities such as remote diagnosis and virtual consultation for the treatment of prisoners, strengthening vocational training and education programs, and replacing imprisonment for minor offenses with community service and proper counseling for prisoners with psychological disorders.

About the Committee:

- The Committee on Prison Reforms was formed in 2018 under the chairmanship of former Supreme Court Judge Amitava Roy.
- The objective of this committee is to examine the prisons and correctional homes, recommend remedial measures, provide legal aid and advice, grant remission, parole and measures to prevent unnatural deaths due to violence in prisons and reformatory homes and assessing the availability of medical facilities in correctional homes, etc.

Way Forward:

The committee has recommended improvements in the lack of separate medical and psychiatric wards for female offenders, infrastructure for childbirth, and shortage of health care personnel to cater to the gender-specific health needs of female prisoners.

7 Amendment in Press and Registration of Books Act

Why in News:

The Jan Vishwas (Amendment of Provisions) Act, 2023, has amended some sections in the Press & Registration of Books Act, 1867. This Act regulates the printing press and news paper in India. It provides registration of books and newspapers and interestingly, electronic media is outside the purview of this Act. Under this act, only DM can cancel or suspend the press.

Necessity of the amendment:

- To simplify the registration process of the newspaper.
- To cover the digital media in its ambit.
- To simplify the quantum of punishment and reduce the compliances.
- To increase the role and power of the press registrar general.

The main Provisions of the new act:

- The Bill aims to simplify the registration process for Newspapers.
- The Bill will make it mandatory for digital news platforms to do "one-time registration" to operate.
- The Bill empowers the press registrar to suspend/cancel registration.
- According to the new bill, a person who has been convicted by any court for an offense involving a terrorist act or unlawful activity or for doing anything against the security of the state will not be allowed to publish a periodical.
- The Bill also seeks to eliminate two provisions that required publishers and printers to file

declarations before the DM.

- This weakens the provision (of the PRB Act) for prosecution and imprisonment against publishers for improper declaration of information.
- The provision of punishment of imprisonment up to six months has been made only in cases where:
 - » A magazine is published without a registration certificate.
 - » The publisher fails to stop printing such publications even after six months of instructions to this effect being issued by the PRG.
- The new Bill also provides for an appellate authority. The Appellate Board (Press and Registration Appellate Board) will consist of the Chairman of the Press Council of India (PCI) and two members of the PCI which will hear appeals against:
 - » Refusal to register.
 - » Imposition of any penalty or suspension/cancellation of registration by the PRG.

Way Forward:

The unprecedented increment of digital media has led to misinformation and fake news which ultimately has weakened the democracy of India and increased the incident of communal tension and hatred among people. To ease this situation, the new act seeks to regulate digital media which is currently outside the ambit of the old act. The bill also brings transparency and ease of doing business by providing a simple process that will help small and medium publishers.

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International Issue

1 India and Greece Relations

Why in News:

The Indian Prime Minister recently visited Greece to strengthen bilateral ties.

Relations Between India and Greece:

Historical Relationship:

- The expedition of Alexander the Great brought contact between the two countries.
- Diplomatic, Commercial and Cultural relations were established by Ashoka and Maurya kings with Greek kingdoms.

Political Relationship:

- Greece opened its embassy in 1950 while India opened its embassy in 1978.
- Greece supports the expansion of the United Nations Security Council by giving India a permanent membership.



Trade Relationship:

- Current bilateral trade between the two countries is US\$2 billion.
- In 2019, India participated as an honoured country in Greece's largest International Trade Fair.

Defense Relationship:

- Defense cooperation between the two countries

began in the year 1998.

- In the year 2023, the Multinational Air Force Exercise INIOCHOS-23 was organized.

Recent Strategic Partnership Agreements:

Defense and Security:

- Both countries have agreed to establish a dialogue mechanism between the National Security Advisors.
- They have agreed to increase cooperation in Maritime Security, Counter-Terrorism, Cyber Security and the Defense Industry.

Trade and Investment:

- Both countries have agreed to double bilateral trade by 2030.
- Cooperate in concluding negotiations for the India-EU trade dialogue on the Connectivity Partnership.

Culture and Tourism:

- Both sides have agreed to exchange Artefacts.
- They will help in strengthening cooperation within UNESCO for the conservation of ancient sites.

Free Migration:

- Skilled migration between countries will facilitate the free movement of the workforce.

Challenges Faced by Both Nations:

- There are concerns about maintaining Maritime free movement security.
- Greece has established a triangular alliance with Israel and Cyprus. India can join this alliance and counter Turkey on the issue of Kashmir.

Way Forward:

During this visit, the President of Greece awarded "The Grand Cross of the Order of Honour" to the Prime Minister of India. The Prime Minister of India paid tribute at the "Tomb of Unknown Soldier" and both countries reiterated their commitment to the new strategic relationship, which remained neglected for the last 40 years.

2 Bhutan and China Agree to Implement Three-Step Roadmap

Why in News:

China and Bhutan recently held boundary talks to expedite efforts to resolve their disputed border issues. The 11th Expert Group Meeting was held in China's Kunming city.

What is the China- Bhutan Border Dispute?

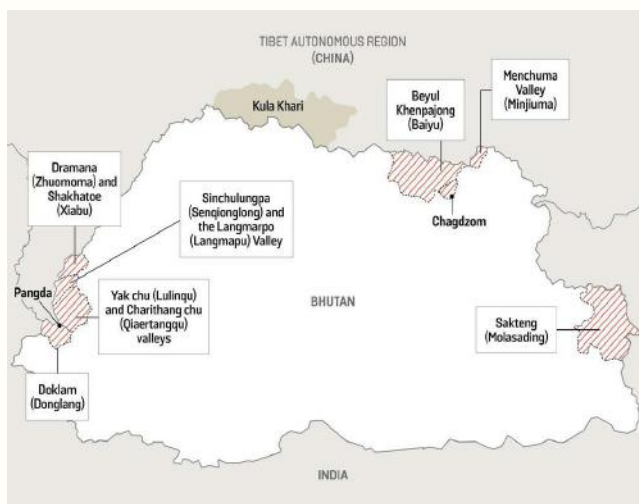
- Bhutan shares a 477 km border with China, which claims certain territories of Bhutan.
- **In the North** - Pasamlung and Jakarlung valley -

both are culturally important for Bhutan

- **In the West** - Doklam, Dramana and Shakhatoe, Yak Chu, Sinchulungpa and Langmarpo valleys. These locations are pasture-rich and strategically located in the Bhutan-India-China trijunction.
- In 2020, China made new claims in the Sakteng sanctuary, lying on Bhutan's east and close to the border of Arunachal Pradesh.

How do the recent developments concern India?

- It could affect India's strategic interests, especially in the Doklam trijunction.
- China's claim to Sakteng sanctuary could be seen as a pressure tactic to force Bhutan to accept its terms on the boundary issue, as well as to challenge India's sovereignty over Arunachal Pradesh.



Significance of solving the border dispute between China and Bhutan:

- The Bhutan-China border dispute is not a bilateral issue, but it also includes the trijunction areas with India.
- Increasing Chinese expansion in the Western disputed regions.
- China is keen on establishing diplomatic relations with Bhutan. It will increase further with China's increasing tension with the US and India.
- **Growing Power imbalance:** India sees itself as the net security provider in South Asia and the Indian Ocean Region, and China is challenging India's position. Also with its investments and growing relationship with India's neighbors.

Way Forward:

Encouraging transparent communication between China, India and Bhutan. India and Bhutan could establish a joint committee to collaboratively

formulate sustainable policies that balance economic interests with ecological and cultural preservation. Better understanding of each other's regional initiatives through open dialogue is important to build trust. Acknowledgment of India's multilateral aspirations by China can allow both to collaborate on emerging issues like climate change and support Bhutan in this.

3

Global Pressure to Criminalize Ecocide

Why in News:

Mexico's Maya Train project which aims to build a 1525 km long route connecting historic Maya sites with tourists is being called the project of ecological destruction or the pharaonic project.

What is Ecocide?

- Ecocide is a word derived from Greek and Latin, which means destroying someone's home or environment. Environmental biologist Arthur Galston was the first person to establish this term in the category of international crime in the year 1970.

Criminalizing Ecocide:

- Ecocide needs to be criminalised to realise the objective of a sustainable and safe earth for the coming generations and to curb indiscriminate harvesting and use of fossil fuels.
- Till now 11 countries have considered ecocide as a crime, whereas 27 countries are considering introducing this type of law.
- Small island countries such as Bermuda and Vanuatu are recommending the International Criminal Court (ICC) to classify this as an environmental crime.



Arguments Against criminalising Ecocide:

- By intensifying the debate of development versus environmental protection in developing

countries, their development process will be hindered.

- National sovereignty will be interfered with by criminalizing ecocide.
- Developed countries will put immense pressure on developing countries to protect the environment. Although they are ones who should share more of this responsibility.
- Developed countries often rescind their commitments to provide technology transfer and funds to developing countries for environmental protection.

India's Stance:

- The term ecocide has been used by some Indian courts. Such words were used by the Madras High Court in Chandra CFS and Terminal Operator vs. Commissioner of Customs 2015 and by the Supreme Court in TN Godavarman vs. Union of India 1995. However, no such concept has been given legal recognition by the government.

Way Forward:

Whether ecocide should be classified as an international law crime or not is an issue that can be debated. However, it is important that different countries discharge their environmental ethical duties on their own, which will be favorable for this planet in future.

4 India-ASEAN Summit

Why in News:

The Prime Minister of India participated in the 20th India-ASEAN Summit and the 18th East-Asia Summit in Jakarta on 7 September 2023.



What is the ASEAN and East Asia Summit (EAS)?

- The ASEAN-led grouping established the EAS in

2005.

- Fundamentally, the East Asia Summit operates on the principles of openness, inclusiveness, respect for international law and ASEAN centrality.
- There are 10 member countries of ASEAN and 18 member countries of EAS.

The 12-Point Proposal by India to Strengthen India-ASEAN Cooperation:

- Establishing multi-model connectivity and economic corridor which connects South East Asia-India, West Asia-Europe.
- Sharing India's digital public infrastructure stack with ASEAN countries.
- ASEAN India Fund for Digital Future was announced.
- The support for the Economic Research Institute of ASEAN and East Asia as a knowledge partner was announced.
- Raising the issue of the Global South in multilateral fora of the world.
- Inviting ASEAN countries to join the Global Center for Traditional Medicine, established by WHO in India.
- Call for working together on Mission LiFE.
- Sharing the experience of Jan Aushadhi medicines of India.
- To fight collectively against terrorism, and cybercrime.
- ASEAN countries join the Coalition for Disaster Resilient Infrastructure.
- To cooperate in disaster management.
- To contribute towards awareness of maritime safety.

18th East Asia Summit:

- The Prime Minister reiterated the importance of the EAS mechanism and emphasized the significance of ASEAN and East Asia as the centre point of the Quad's vision.
- He called for a collaborative approach to deal with global challenges including terrorism, climate change, resilient supply chains, energy security.
- Further, the prime Minister highlighted India's efforts in the field of climate change and its initiatives like ISA, CDRI, LIFE, OSOWOS.

Way Forward:

The overarching strategy of India and ASEAN to further strengthen the partnership is by strengthening the Indo-Pacific Ocean Initiative (IPOI) and the ASEAN Outlook on the Indo-Pacific (AOPI). The need to complete the review of Indian ASEAN FTA (AITIGA) in a time bound manner was also stressed.

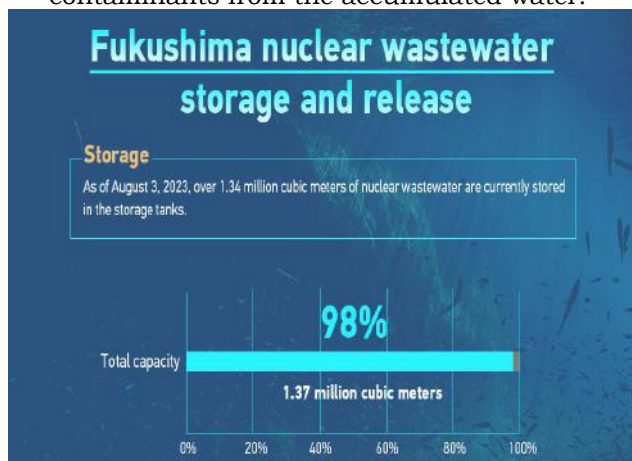
5 Fukushima Waste Water Release

Why in News:

In South Korea, protesters gathered to demand government action against Japan's release of treated radioactive water from the Fukushima nuclear plant into the sea.

Reasons behind Japan releasing Fukushima water?

- **Nuclear Decommissioning Progress:** The Fukushima Daiichi nuclear power plant suffered a catastrophic meltdown in 2011.
- **Water Storage Limitations:** The plant has accumulated a massive amount of contaminated water due to the need of continuously cooling the damaged reactors.
- **Water Treatment:** Over the years, Tokyo Electric Power Company (TEPCO), the operator of the Fukushima plant, has developed advanced water treatment systems to remove most radioactive contaminants from the accumulated water.



- **Consultation with International Experts:** Japan has engaged with international organizations and experts, including the International Atomic Energy Agency (IAEA), to assess the safety and environmental impact of releasing the treated water.
- **Dilution and Monitoring:** The treated water will be diluted before release to further reduce the concentration of radioactive substances. Continuous monitoring and surveillance of the ocean and marine life will be conducted to ensure safety.

Threats due to discharge of waste water:

- **Increased cancer risk:** Radiation exposure can raise the risk of cancer and other health impacts for those exposed to the contaminated water.
- **Poisonous to aquatic life:** Radioactive materials can be harmful to marine ecosystems, including fish and other aquatic organisms, potentially

causing ecological disruptions.

- **Health risks for nearby residents:** People living in proximity to the discharge point may face health risks from exposure to radioactive contaminants in the water or through the food chain.
- **Difficulty in removing tritium:** Tritium, a radioactive isotope, is challenging to remove from the water, making it a persistent threat to the environment and living creatures.
- **Rapid distribution in living organisms:** Tritium can be readily absorbed by the bodies of living creatures and distributed quickly via the bloodstream, increasing the potential for harm.
- **Livelihood:** Fishermen in the area rely on the ocean for their livelihoods. They are concerned that the release of radioactive water could harm their businesses.

Way Forward:

Japan and scientific organizations assert that the release of treated water is safe, there are differing opinions and concerns from various groups, including neighboring countries and local communities. There is a need by the Japanese government to address concerns and build trust among its citizens, particularly fishermen, regarding the safety of the water release plan.

6 Unaffordability of Nutritional Diet in India

Why in News:

The Food and Agricultural Organisation (FAO) published its report titled 'State of Food Security and Nutrition in the World 2023'. It highlighted the concerns related to the unaffordability of nutritional diets in India, due to low purchasing power parity and stagnant income levels.

About State of Food Security and Nutrition in the World 2023:

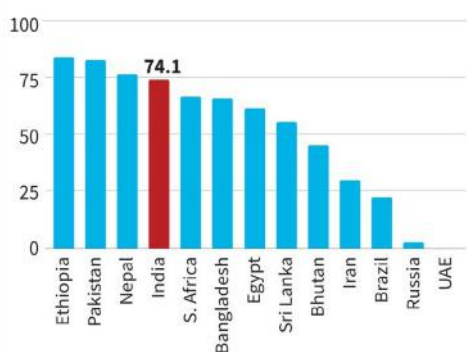
- It is an annual flagship report jointly prepared by FAO and other fellow United Nations agencies like IFAD, UNICEF, WFP & WHO.
- This report presents the headline number of undernourished people around the world and also suggests redressal policies against malnourishment and hunger.

Highlights of Report:

- This report shows that while the cost of a healthy diet is increasing consistently but share of people who can afford a healthy diet is still low.
- The Mumbai Case study reported that the cost of meals increased by 65% in five years while the average salaries/wages increased by just

28%-37%.

- Another key finding of the report shows that India has the cheapest cost of diet among the BRICS nations. In India, the cost of a healthy diet is measured at 3.066 PPP dollars per person per day. [PPP- Purchasing Power Parity]
- As per the report, in India, almost 74% were not able to afford a healthy diet (the fourth highest in the list)
- **South Asia and Africa's Struggle-** The report shows that between 2019 and 2021, Asia and Africa recorded the highest growth in the number of



people who cannot afford a healthy diet. In Asia, South Asia has the highest number of people

(1.4 billion) and the highest share (72%) that are unable to afford a healthy diet.

- In Africa, the Eastern and Western parts were particularly affected as 85% of the population was unable to afford a healthy diet.
- The impact of COVID-19 has also worsened the consequences of the cost of a healthy diet.
- Expansion of Urbanization also poses challenges to the traditional agrifood system of countries with rising costs of nutritious food. The challenges also include increased demand and supply of convenience, ready-to-eat fast foods, and loss of income opportunities for small farmers.

Way Forward:

The problem of malnutrition and hunger is a major hurdle for the development of any country. This not only increases the percentage of dependent sections in society but also increases their susceptibility to violence. Therefore effective implementation of targeted policies is needed with active coordination between the Center and State agencies.

7 Laicite: The French Idea of Secularism

Why in News:

The French government has announced that the practice of wearing Amaya would be banned in

state-run schools as it violates the principle of Laicite, which is the French idea of secularism. The move was met with criticism by many, people were calling this step amounting to a policing of teenagers' clothing (public schools in France do not have a uniform).

About Laicite:

- This is the constitutional principle of secularism in France. It involves the complete removal of religious values from the public sphere and their replacement with secular values such as liberty, equality, and fraternity. The state must play an important role in ensuring that the affairs are run according to the principle of Laicite.
- It took a concrete shape in the form of the Law of 1905 in the Third Republic when state-run secular schools were established. The Law of 1905 guarantees freedom of conscience and freedom of worship, except when it clashes with public order. It states that the Republic would neither pay for nor subsidize any form of worship.

Demographical Changes:

- In the 1950s and 1960s, large-scale decolonization in North Africa led to an influx of immigrants from predominantly Muslim countries such as Tunisia, Morocco, and Algeria. The change in demographics caused episodic tensions. Laicite was not seen as problematic for the most of the 20th century because France was largely homogenous. In the 50s and 60s, however, there was a large influx of Muslim immigrants from North Africa, which led to episodic tension.
- France passed a law in 2004 prohibiting the wearing of ostentatious symbols that have a clear religious meaning in public spaces. The debate has increasingly moved to Muslim practices in the last few decades. In 2011, France banned face-covering veils in public places.

Difference between India and France's Secularism:

- INDIA, there is equal respect for all religions. It allows religious symbols in public spaces. All communities have their laws.
- FRANCE, there is a complete separation of religion from public life and also faced controversy over its policies regarding religious symbols. There is a uniform civil code (UCC).

Way Forward:

Providing religious freedom should be the best approach to maintaining secularism in the public sphere while the state should have the responsibility to maintain neutrality in the religious matter. It will lead towards a good future for the public mainly the youth population.



Environmental Issue



1 Sand Extraction Causing Damage to Marine life

Why in News:

According to a data platform, marine sand watch, benthic life is being irreparably damaged by the extraction of nearly six billion tonnes of sand each year from the bottom of the world's oceans. The platform has been developed by GRID- Geneva, a part of an environment programme.

Main Features:

- Will track and monitor dredging activities of sand, mud, silt, gravel, and rock in marine environments, including hotspots such as the North Sea, Southeast Asia, and the East Coast of the United States.
- It will provide information on areas of sand extraction (sand concessions), areas of capital and maintenance dredging, sand trading ports/hubs, number of ships and extraction of sediment and other types of activities by countries with economic zones.
- It will use Automatic Identification System signals from vessels and Artificial Intelligence to identify the operations of dredging vessel.
- Every year four to eight billion tonnes of sand is being extracted from the seabed. This number is expected to increase to 10 to 16 billion tons per year.

Impact on marine life due to sand extraction:

- Extraction of sand increases the turbidity of water. This changes the availability of nutrients and causes noise pollution, which greatly affects marine life.
- Sand and gravel mining is central to various construction activities. This poses a threat to coastal communities exposed to rising sea levels and storm, as seamarinesand will be needed to create coastal defenses and support offshore energy infrastructure such as wind or wave turbines.
- Coastal or near-shore extraction can also lead to salinization of aquifers and may impact future tourist development.

Way Forward:

UNEP plans to further refine the data and develop a new version of the platform to move towards real-time monitoring and improved detection capability closer to 100% of dredging vessels.

2 Climate Change and Health Hub in New Delhi

Why in News:

After bagging the first WHO Center for Global Traditional Medicine to be set up in Gujarat, India will now set up a Climate Change and Health Hub in New Delhi in partnership with the Asian Development Bank (ADB).

Objectives:

- The new Center for Climate Change and Health Hub will facilitate knowledge sharing, promote partnerships and innovations.

Benefits of establishing Climate Change and Health Hub:

- Climate change will affect everyone and it will provide us with an opportunity to discuss on this important issue with different partners and learn from each other.
- Climate change will lead to health emergencies, including the emergence and re-emergence of infectious diseases and increased severity and frequency of natural disasters, which may adversely impact the health systems' ability to deliver essential services.
- Commit to prioritizing the development of climate-resilient health systems, sustainable and low greenhouse gas (GHG) emission health systems, building health care supply chains that deliver high quality health care.

Dealing with contagious diseases:

- The G-20 Health Ministers meeting had expressed concerns about the increasing cases of zoonotic spillover and the resulting emerging and re-emerging diseases.
- India and other countries have stressed the need to strengthen existing infectious disease surveillance systems, using science and a risk-based approach.

Way Forward:

The Center for Climate Change and Health Hub will facilitate the systematic strengthening of capacity and collaboration among various stakeholders globally, thereby enhancing public health information and improving decision-making.

3 Bird Species Plummeting in India

Why In News:

A recent report from the State of India's Birds (SoIB), revealed that a significant number of bird

species are declining due to various threats, like climate change, urbanization, and monoculture plantations. Of the 942 bird species assessed, 142 are diminishing, while only 28 are increasing. The above threats disrupt bird habitats, affect their behavior, and present unfavourable condition for survival and reproduction.

Major Threats to Birds in India

- **Climate Change:** Rising global temperatures disrupt bird reproduction and survival by causing phenological mismatches, where the timing of annual events like breeding, nesting, and migration becomes out of sync. High temperatures also force birds to adapt rapidly, affecting their behavior and energy expenditure.
- **Urbanization:** Urban areas in India have fewer bird species due to the loss of natural habitat, increased air pollution, and high temperatures. Noise and light pollution in cities disorient birds and cause them to abandon their habitat. Lack of food supplies in urban areas also homogenizes bird communities.
- **Monocultures:** The expansion of monoculture plantations, such as rubber, coffee, tea, and oil palm, reduces bird diversity compared to natural forests. These plantations provide limited habitat and food sources for birds.
- **Energy Infrastructure:** The installation of wind turbines for renewable energy generation can disrupt bird habitats in various landscapes, including coastal areas, mountains, arid lands, and grasslands.
- **Environmental Pollutants:** Pollution from various sources, including industrial emissions and agricultural runoff, can have detrimental effects on bird populations by contaminating water and food sources.
- **Infrastructure Development:** The development of infrastructure, such as roads and buildings, can lead to habitat destruction and fragmentation, making it difficult for birds to find suitable nesting and foraging sites.

Way Forward:

- Protecting natural habitats and creating green spaces within urban areas to provide sanctuaries for birds.
- Encouraging sustainable farming practices that minimize the impact of monocultures on bird populations.
- Implementing bird-friendly designs and technologies in energy infrastructure to reduce collisions and electrocutions.
- Taking measures to mitigate climate change and protect vulnerable bird species from its effects.
- Raising awareness among the public and policymakers about the importance of bird

conservation and the role individuals and communities can play in it.

4 IPBES Report on Invasive Alien Species

Why in News:

At the 10th plenary session of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services its report titled "Assessment Report on Invasive Alien Species and their Control" was released.

What are Invasive Alien Species and why it needs to be controlled?

- Alien species are animals, plants and microbes that have been introduced to new regions or ecosystems outside of their native range and have established self-sustaining populations. They disturb the native ecosystem and cause economic and environmental harm.

Key Findings of the report:

- **Rapid Expansion of Invasive Alien Species:** The report has quantified that almost 3,500 out of 37,000 alien species are Invasive Alien Species (IAS). These are the key factors behind the biodiversity loss.
- **Inadequate Govt. measures:** The report also noted that almost 80% of countries have targets to manage IAS but only 17% of them implement them effectively under their respective National Biodiversity Laws.
- Most of the countries do not allocate financial resources for the management of biological invasions.
- **Mass Extinction of native species:** Invasive alien species are responsible for the large-scale native animal and plant extinction at the global level. It is almost at the rate of 60% and 16 % respectively.
- **Economic and Environmental Enemies:** The report has estimated that IAS has led to a loss of more than \$423 billion in 2019 alone and is also among the five top drivers of biodiversity loss, climate change and Pollution.
- 34% of the impacts of biological invasions were reported from the Americas, 31% from Europe and Central Asia, 25% from Asia and the Pacific and about 7% from Africa.

International Initiative on Invasion Species:

- Kunming-Montreal Global Biodiversity Framework (2022) targeted to reduce invasive alien species by at least 50% by 2030.
- The report also suggested it can be controlled through effective management, preparedness, early detection and rapid response.

Way Forward:

Most of the invasive alien species are intentionally introduced in many sectors like forestry and agriculture etc. without considering their negative impacts. Therefore an integrated and context-specific approach is required at the global level including stakeholders from various sectors and it will have far-reaching benefits for people and nature.

5 Kampala Declaration on Climate Change and Migration

Why in News:

48 African countries have agreed to adopt the Kampala Ministerial Declaration on Migration, Environment and Climate Change. This declaration was originally signed in July 2023 by 15 African states.

About the Declaration:

- The Kampala Ministerial Declaration on Migration, Environment and Climate Change was signed in Kampala, Uganda. The other new 48 African states have opted to adopt this declaration at a Conference of States co-hosted by Kenya and Uganda.
- This declaration is the first comprehensive, action-oriented framework led by Member states to address climate-induced mobility more practically and effectively.
- This initiative is supported by the International Organisation for Migration (IOM) and the UN Framework Convention on Climate Change (UNFCCC).

Challenges for Africa:

- Africa is highly vulnerable to climate change's impacts and if necessary steps aren't taken it is expected that as many as 105 million people could become internal migrants within the African continent.
- As per the Internal Displacement Monitoring Centre, over 7.5 million people faced internal displacement due to disasters in the past year alone.
- The reasons for extreme vulnerabilities against Climate Change include lack of Disaster preparedness, absence of high-class and strong infrastructure and high dependence on naturally controlled economic activities.
- The severe disasters in Africa cause environmental degradation, food scarcity and livelihood loss. This compels people to migrate either internally or outside of the country in search of safety, better living conditions and livelihood.

Advantages of Kampala Declaration:

- This declaration will provide African states with a unified position for the upcoming Africa Climate Summit and the Conference of Parties (COP28).
- It also provides a comprehensive framework to develop and implement policies and strategies addressing climate-induced migration.
- This will allow regulators to take into consideration policy formulation and prioritize the voices of vulnerable groups like women and children who are affected most by migration.

International Organisation for Migration:

- IOM is the leading intergovernmental Organisation in the field of migration. This principal UN agency, established in 1951, has headquarters in Geneva, Switzerland.
- This agency also publishes the World Migration Report every two years.

Way Forward:

Addressing human mobility in the context of climate and environmental change is a need of global importance. The Kampala Ministerial Declaration on Migration, Environment and Climate Change gives the continent an unprecedented opportunity to leverage migration for sustainable development while supporting Member State priorities in addressing the challenges.

6 Amended Forest (Conservation) Act Imperils the Northeast

Why in News:

On August 22, the Mizoram Assembly unanimously passed a resolution opposing the Forest (Conservation) Amendment Act, 2023, "to protect the rights and interests of the people of Mizoram".

About Forest Conservation Act (FCA):

- The Forest (Conservation) Act, 1980, is an important Central statute for the conservation of forests in the country. It provides that the de-reservation of reserved forests, use of forest land for non-forest purposes, assigning forest land by way of lease or otherwise to private entities and clearing of naturally grown trees for reforestation requires prior permission of the Central Government.

Amendment made in FCA:

- The amendment allows the diversion of forest land for roads, railway lines or "strategic linear projects of national importance and concerning national security" within 100 km of India's international borders or lines of control, without a forest clearance under the Forest (Conservation) Act (FCA) 1980.

Concerns raised by Northeast states against the

amendment:

- The amendment allows forest land diversion within 100km of borders for national borders without forest clearance, affecting the environment and tribal rights in Northeast India.
- Concerns about its impact on tribal and customary laws.
- Forest areas which are not officially classified as Reserved Forests in the government record, will not be protected from commercial exploitation or diversion.

Central Government's Argument:

- The amendment is to build forest carbon stock by raising plantations
- The government seeks to make land available for developers to meet their legal obligations towards compensatory afforestation, in place of forest land diverted for development projects.
- Freeing up land that is currently not recorded as forests.

Mechanisms for Protection of Forests in North-east India:

- Article 371A (Nagaland), 371G (Mizoram) in the constitution - to safeguard tribal customary laws, land ownership and transfer rights.
- Forest Right Act (FRA) 2006- recognizes traditional forest rights and gives additional protection to tribal communities.

Way Forward:

States must establish proper framework and legal measures to ensure mandatory fulfilment of FRA before recommending a forest division proposal. The consent of the Gram Sabha to the proposal must be ensured before forest land is handed over.

7**Red Sand Boa****Why in News:**

A report titled 'Illegal Trade of Red Sand Boa in India 2016-2021' by the Wildlife Conservation Society (WCS)-India has pointed out 172 incidents of seizures of red sand boa (*Eryx johnii*) between the years 2016-2021.

About Red Sand Boa:

- The Red Sand Boa, commonly called the Indian Sand Boa, is the largest of the sand boa in the world. It is nocturnal and spends the majority of its time under the ground.
- It is primarily a reddish-brown, non-venomous and thick-set snake that grows to an average length of 75 cm. Since its tail is almost as thick as the body, the reptile appears to be "double-

headed".

- The Red Sand Boa is found almost in the entire region of India except the North-east states and North Bengal. It is also absent in Indian islands.
- The red sand boa is now acknowledged as one of the most traded reptile species in the illegal trade market, due to its demand in the pet trade, as well as for use in black magic

Status of Red Sand Boa:

- IUCN Red List: Near Threatened
- CITES: Appendix II.
- Indian Wildlife (Protection) Act of 1972: Schedule IV.

The key points highlighted in the report:

- As per the report, the incidents of illegal sand boa trade were documented in 18 States and one Union Territory, covering 87 districts across India.
- The highest number of incidents recorded was in Maharashtra (59), while the second highest number was recorded in Uttar Pradesh (33).
- The study further highlights the role of social media in the illegal trade of the species, saying that up to 200 videos advertising sand boas for sale on YouTube were retrieved during 2021.
- The report suggested that local and international conservation organisations should conduct formative research to better understand the situation of the illegal reptile trade and demand, particularly in Maharashtra and Uttar Pradesh.

Conclusion:

The report attempts to shed light on the illegal trade of red sand boas, especially online trade. It strives to develop a better understanding that might help prevent the illegal collection and sale of the species. A well-researched and impactful media coverage of the illegal wildlife trade can reduce misinformation on wildlife consumption and improve awareness of this issue, which in turn will aid conservation efforts.





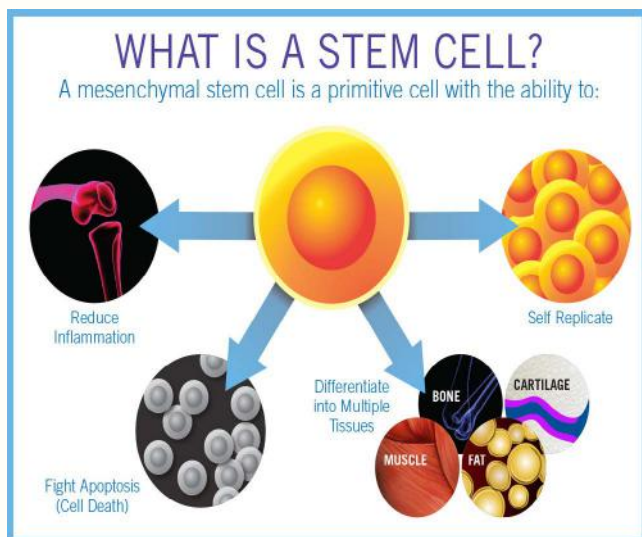
1 Stem Cell Therapy

Why in News:

The Delhi High Court allowed two children with Autism Spectrum Disorder (ASD) to continue their ongoing stem cell therapy, despite a previous recommendation by the Ethics and Medical Registration Board (EMRB) of the National Medical Commission (NMC) against the use of stem cell for the treatment of ASD.

What are stem cells?

- Stem cells are cells that can give rise to other cells with specialized functions in the body.
- There are two main types of stem cells: pluripotent stem cells (found in embryos) and adult stem cells (organ-specific).
- Pluripotent stem cells can be reprogrammed from mature human adult cells, known as induced pluripotent stem cells (iPSCs).
- Stem cell therapy is commonly used as medicine for conditions like leukemia through hematopoietic stem cell transplantation, where healthy stem cells are introduced to replace damaged ones.
- Adult stem cells have limited dividing capacity once removed from the body, which is a limitation of current stem cell therapies.



How are stem cells used in medicine?

- Used to treat conditions like leukemia and lymphoma.
- They are employed to repair or regenerate damaged tissues and organs.

- Stem cells play a role in cancer research by studying cancer stem cells, which are implicated in tumor growth and recurrence.
- They can be used to test the safety and efficacy of new drugs.
- They are explored for treating neurodegenerative diseases such as Parkinson's and Alzheimer's.

What is an autism spectrum disorder and how is it treated?

- Autism spectrum disorder (ASD) is a neurological and developmental disorder.
- It affects how people interact with others, communicate, learn, and behave.
- People with ASD often have difficulty with communication and interaction.
- They may exhibit restricted interests and repetitive behaviors.
- Symptoms of ASD can affect one's ability to function in school, work, and daily life.
- There is currently no cure for ASD.

Can stem cell treatment be used for ASD?

- The EMRB (Ethics and Medical Research Board) has made recommendations against its use due to the lack of evidence and concerns about "predatory marketing" giving false hope to parents and caregivers.
- There is no established protocol for using stem cell therapy to treat autism.

Way Forward:

Stem cell therapy and regenerative medicine have the potential to revolutionize healthcare by offering new treatment options for various medical conditions, and ongoing research continues to uncover their therapeutic potential.

2 COVID-19 Variant Pirola

Why in News:

Recently Yale Medicine Review published a note about the rise of Covid-19 infections in multiple countries. It is driven by a new Corona virus variant called BA.2.86. It is formally called 'Pirola'.

What is Pirola?

- A new coronavirus called BA.2.86, informally called 'Pirola', has seen a surge in COVID-19 infections.
- The report said it has more than 30 mutations in its spike protein compared to XBB.1.5, a variant of Omicron, and was the cause of the major crisis in the United States.

How does the virus mutate?

- Once a virus enters the human body, its genetic material RNA or DNA enters the cells and starts making copies of itself which can infect other cells.
- However, a mutation sometimes occur when genetic mistakes made while replicating prove beneficial for the virus. They help the virus replicate itself or enter human cells more easily.
- When a virus circulates widely in a population, the more it spreads and replicates, the more likely it will mutate.
- It has been detected in surveillance laboratories in Israel, Denmark England, South Africa, and the United States.

Precautions towards new variants:

- The US Centers for Disease Control and Prevention (CDC) reports that there is not enough evidence yet to conclude that Pirola can cause more serious illness, death, or hospitalization.
- The CDC recommends the following preventive measures:
 - » Get COVID-19 vaccination as recommended.
 - » Stay home if you are sick.
 - » Get tested for COVID-19, if required.
 - » Get treatment if you have COVID-19 and are at risk of becoming very sick.

Way Forward:

The Pirola variant appears to be much milder than the COVID-19 strain, which soon mutated into the 'deadly delta variant' and killed millions during the first and second wave of the pandemic.

3 Smishing Scams

Why in News?

The Indian government has issued a warning about a new scam known as 'Smishing,' which is a combination of SMS and phishing.

What is Smishing?

- Smishing refers to a type of cybersecurity attack known as SMS phishing, conducted through mobile text messaging. It is a variation of phishing where individuals are tricked into providing confidential data to an attacker in disguise.

How it is done?

- **Initial Contact-** Cybercriminals use urgent or enticing content to prompt victims to click malicious links, call provided numbers, or share sensitive data.
- **Deceptive links-** Once engaged, victims are directed to fake websites or phone lines

resembling legitimate sources.

- **Data Collection-** When the victim enters sensitive information like username, password, credit card numbers and other personal details, the attackers harvest it, leading to potential data theft or malware installation.

Impact:

- **Privacy violation-** The information gathered from Smishing attack can be misused in various harmful ways. Eg. harassment using victims private information.
- **Identity theft-** The personal information once stolen, enables the attackers to use the victim's name. Eg. for applying for loans, opening new lines of credit, indulging in other fraudulent activities.
- **Financial Loss-** Stolen credit card numbers or banking credentials can be used to make purchases or transfers, without the victim's consent.

Steps taken by India:

- **Awareness campaign-** It is important to educate people about the risks posed by Smishing and other cyber threats. Cybersecurity awareness campaigns provide information on how Smishing attacks work, common tactics used by attackers and preventive measures.
- **Cybercrime Portal-** It guides how to report cybercrime incidents, and steps to follow after falling into cybercrime.
- **Reporting Financial Fraud-** An online dedicated phone number like 1930, a centralized reporting mechanism that encourages victims to report incidents promptly.

Way Forward:

- **Digital Literacy Programs-** India contributes 34% of illiterates in the world. Also, there is a huge Digital divide. There is a need to integrate cybersecurity education into school curricula, and educational institutions to empower the children and the youth.
- **Strengthening cybercrime laws and regulations-** A clear legal framework can ensure that justice is served.
- **Collaborations with various stakeholders-** Cyber threats are global. They pose challenges to the nations and institutions. So sharing information and best practices is the need of the hour.

4 Flex-Fuel Prototype Vehicle

Why in News:

Toyota unveiled a flex-fuel prototype called the

Innova Hycross in India, claiming it to be the world's first BS6 Stage II-compliant flex-fuel vehicle.

What is flex –fuel vehicle?

- Flexible fuel vehicles (FFVs) have an internal combustion engine and are capable of operating on gasoline and any blend of gasoline and ethanol up to 83%.

Characteristics of FFVs:

- **Internal Combustion Engine (ICE):** Flex-fuel vehicles typically have an internal combustion engine (ICE) similar to regular petrol vehicles.
- **Ethanol and Methanol:** Common flex-fuel versions use a blend of petrol and alternative fuels like ethanol or methanol. The Hycross prototype can run on petrol with more than 20% ethanol blending.
- **Ethanol Blending:** Flex-fuel vehicles can run on higher ethanol blends than standard petrol vehicles, such as blends exceeding the standard 20% mix (E20).
- **Environmental Benefits:** Flex-fuel vehicles can contribute to lower carbon emissions, especially when running on biofuels like ethanol.
- **Promoting Sustainable Transportation:** Flex-fuel vehicles are seen as a step towards more environmentally friendly transportation options and reducing greenhouse gas emissions.

How does Flex Fuel Works?

- **Fuel Compatibility:** Flex-fuel vehicles are designed to accept a range of fuels, primarily petrol and ethanol, or a mixture of these fuels.
- **Specialized Components:** Some components in a flex-fuel vehicle are adapted or specialized to work with ethanol or methanol, including modifications to the fuel pump and fuel injection system.
- **ECM Calibration:** The Engine Control Module (ECM) is calibrated to account for the higher oxygen content in ethanol. It adjusts engine parameters based on the detected fuel mixture.
- **Engine Modifications:** In hybrid engines, such as the one in the Toyota Hycross, certain engine components may be modified, including separate spark plugs, piston ring tops, and valves, to make them more corrosion-resistant when using ethanol-based fuels.

What are the benefit of flex fuel vehicle?

- **Reduced Harmful Pollutants:** Ethanol blending in flex-fuel vehicles significantly lowers harmful pollutants such as carbon monoxide, sulfur, and carbon and nitrogen oxides, contributing to cleaner air quality.
- **Reduced Oil Imports:** Ethanol blending helps reduce a country's reliance on imported oil,

enhancing energy security and reducing the trade deficit.

Challenges with flex fuel vehicle:

- **Reduced Fuel Efficiency:** Flex-fuel vehicles typically experience a 4-8% reduction in fuel efficiency when using ethanol as a fuel source compared to gasoline.
- **Engine Optimization:** Most engines are optimized for gasoline, making them less efficient when running on higher ethanol blends.

Way Forward:

The development of flex-fuel vehicles has spurred innovation in vehicle technology, leading to the introduction of electrified flex-fuel vehicles that combine the benefits of both flex-fuel engines and electric powertrains.

5

Prediction of Preeclampsia Using Blood-Derived Biomarkers

Why in News:

A study recently published in Nature Medicine suggested that a liquid biopsy approach that measures DNA-methylation levels in the blood may improve the detection of pregnancies at risk of developing preeclampsia at an early stage.

What is Preeclampsia?

- Preeclampsia is persistent high blood pressure that develops during pregnancy or the postpartum period.
- Its early onset occurs before 34 weeks of gestation and is associated with a high risk of serious illness and fetal death.
- This is a rare mutation occurring in 5% of cases but early detection can lead to good outcomes.
- It is one of the reasons for maternal mortality.

Treatment of Preeclampsia:

- Low-dose aspirin may reduce the risk of preeclampsia early in the disease, i.e. before 16 weeks of pregnancy.
- Researchers have developed a method of liquid biopsy that measures the level of DNA methylation in the blood. It will detect pregnancies at risk of developing preeclampsia at an early stage.

About Liquid Biopsy:

- Liquid biopsy is a promising tool for non-invasive diagnosis that can be used to detect disease and monitor progress and response to treatment.

Risks from Preeclampsia:

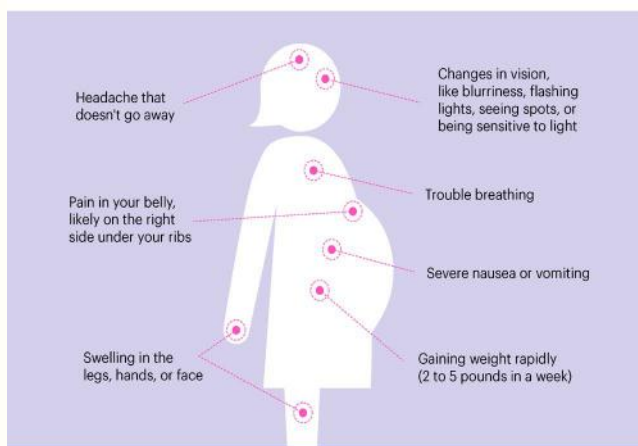
- According to the Spanish Society of Hypertension, it increases the stress levels of women by 7-10% during pregnancy.
- It increases blood pressure in women from the

20th week of pregnancy and also causes protein loss in urine.

- Researchers profiled blood DNA methylation data from 498 pregnant women, nearly a third of whom had symptoms of preeclampsia.

Signs and symptoms of preeclampsia

Preeclampsia is a serious condition that can happen after the 20th week of pregnancy or after giving birth (called postpartum preeclampsia). In addition to causing high blood pressure, it can cause organs, like the kidneys and liver, to not work normally.



Way Forward:

Cell-free DNA methylation profiling will serve as a valuable tool to assess the risk of preeclampsia in the presymptomatic phase and has the potential to enhance treatment strategies and post-diagnosis monitoring in the obstetric clinic.

6 Complete Sequencing of Y-Chromosome

Why in News:

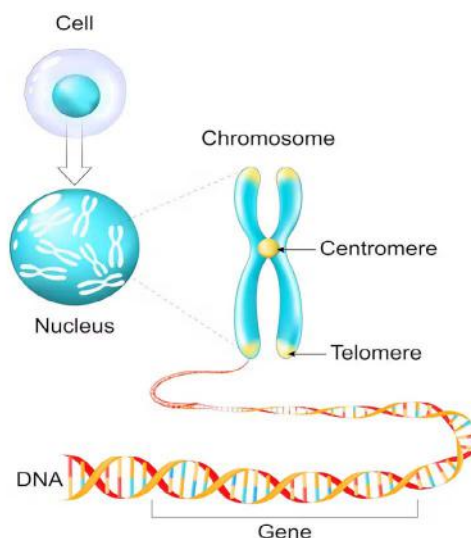
Scientists have successfully decoded the Y chromosome, which contains important genetic information related to male infertility and other health issues. This achievement comes two decades after the first attempt to understand our genetic code. Recently, a group of 100 scientists known as the Telomere-to-Telomere (T2T) Consortium filled in the missing parts of all 23 pairs of human chromosomes, bringing us closer to a complete genetic understanding.

Cracking the Y chromosome code:

- Recent research has unveiled that genes residing

on the Y chromosome have a broader influence on human biology.

- These genes are implicated in cancer risk and severity, expanding the significance of the Y chromosome far beyond its role in sexual differentiation.
- Sequencing the Y chromosome presented significant challenges due to its repetitive molecular patterns. However, the collaboration harnessed cutting-edge technology and advanced bioinformatics algorithms to overcome these hurdles.
- The result is a comprehensive sequence of the Y chromosome, adding a staggering 30 million new bases to the human genome reference.



Revealing New Insights:

- The completion of the Y chromosome sequencing has uncovered 41 additional protein-coding genes previously unknown. These genes may hold the key to pivotal insights into human reproduction.
- Moreover, the innovative sequencing method pinpointed the precise locations of inversions within palindromic sequences, shedding light on complex genetic structures governing sperm regulation.
- With the Y chromosome now 100% sequenced, researchers are poised to identify and investigate numerous genetic variations that could impact various human traits and diseases.
- This achievement opens up exciting avenues for exploring the genetic underpinnings of human diversity and health.

Conclusion:

The successful sequencing of the Y chromosome marks a significant milestone in the field of genetics.

Beyond its role in sexual development, this complex chromosome's influence on human biology, including cancer risk, is becoming increasingly apparent. As scientists delve into the newly revealed genetic data, we can anticipate breakthroughs in understanding and addressing a wide range of human health and reproductive issues, offering hope for more targeted treatments and interventions.

7 Human Embryo Without Sperm or Egg

Why in News:

The Israeli scientists have successfully grown a "human embryo" in the lab without using an egg or sperm.

What is an Embryo?

- An embryo represents the initial phase of growth in a multicellular organism.
- In the context of sexual reproduction, embryonic development marks the stage of the life cycle that commences immediately following the union of the female egg cell and the male sperm cell.
- The embryo can be defined as an organism in the early stages of development. It undergoes multiple stages of development to develop into a new organism.

How was the embryo model created?

- Israeli researchers employed a combination of stem cells and chemicals.
- A portion of these components are autonomously organized into various cell types, including those forming the fetus, those supplying nutrients, cells guiding body development, and those constructing structures like the placenta and umbilical cord to support the fetus.

Why are embryo models important?

- Synthetic embryology achieved a significant milestone by successfully creating the first synthetic human embryos.
- It seeks to offer an ethical perspective on comprehending the initial stages of our existence.
- Diagnostic precision is essential in this research because it pertains to the critical period when most miscarriages and birth defects manifest during the early stages of embryo development.
- Investigating typical embryo development, ensuring the correct preservation of genetic information, and achieving optimal womb implantation may enhance the success rates of in vitro fertilization (IVF).
- These models have aided scientists in comprehending the origins of errors during DNA duplication. The models reveal that these

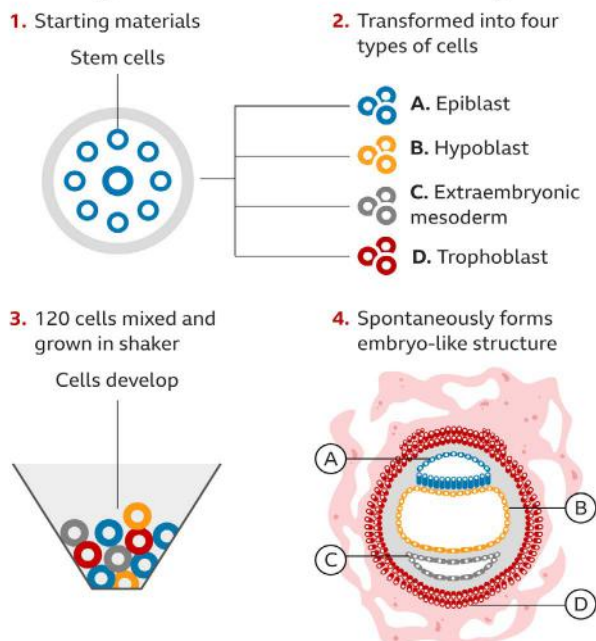
errors occur well in advance of daughter cell separation, during the ongoing process of DNA duplication.

- Chromosomal disorder research also aids in investigating the mechanisms behind why one of the daughter cells may end up with an excess or deficit of chromosomes.

Can lab-grown embryos be used to get pregnant?

- No. These models are meant to study the early stages of development of a fetus.
- It is generally accepted and legally supported in most countries that these embryo models will be destroyed after studying the first 14 days. Attempts to implant are not allowed.

Creating a model of the human embryo



Why is there a 14-day limit on embryo research?

- The limit was first proposed by a committee in the UK in 1979 after the birth of the first test tube baby Louise Brown demonstrated that embryos could be kept alive in laboratories.
- The 14-day period is equivalent to when embryos naturally finish implantation. It is also when cells start becoming an "individual", and breaking off into a twin is not possible.

Way Forward:

This development allows us to manipulate genes to understand their developmental roles in a model system. Further, this allows for testing the function of specific factors, which is difficult to do in the natural embryo and gives a better understanding of how a complex organism is developed.



Economic Issues



1 Onshoring the Indian Innovation to GIFT IFSC

Why in News:

The committee constituted by the International Financial Services Centres Authority (IFSCA) has submitted its report to the Chairperson of IFSCA. The committee was constituted to identify the reasons for shifting Indian Start-ups outside India, provide suggestions to avoid the externalisation of start-ups in the future and persuade externalised start-ups to redomicile.

Key Recommendations:

- The committee has provided recommendations that are critical to the development of GIFT IFSC as a global fintech hub and also to encourage new fintech to set up their commercial presence in the GIFT IFSC. The challenges for the development of the Indian Innovation Hub at GIFT IFSC have also been identified.

Reasons for Externalisation:

- The start-up ecosystem upon becoming a Unicorn begins to have a global footprint. Accordingly, it is seen that founders start to externalize/flip their structure.
- Flipping is a process of shifting the head office of the start-up to an overseas jurisdiction like Singapore, USA, UK, Luxemburg, Netherlands, etc.
- The primary reasons for this include the stronger value of the currency in that overseas country, favourable tax structure, proximity to robust global investors, business incentives like capital gain tax exemptions, stronger intellectual property protection laws and reduced tax compliance burden. Along with this, limited availability of domestic capital, potential customer base access in global markets and access to skilled talent are some of the other reasons. These externalised/flipped startups constitute a majority of Indian Unicorns.

Measures to Avoid Externalisation:

- The key observation of the committee is that fundamental changes are not required to attract Indian Startups to reverse flip but there are various minor issues which need to be sorted out.
- These minor issues comprise enabling Holding Company Structures, carrying out necessary regulatory changes to not only relax the existing investment restrictions applicable under the Overseas Investment and Liberalised

Remittances Scheme but also to provide tax-neutral treatment for start-ups reverse flipping into GIFT IFSC.

- Further, the stronger protection of intellectual property and providing state of art soft infrastructures (all inst. that maintain economic, health, social-cultural and environmental standards of a country) should be done.

GIFT IFSC and IFSCA:

- The GIFT (Gujarat International Finance Tech-city) is India's first International Financial Services Centre (IFSC) under the Special Economic Zone Act, 2005. It is located in Gandhinagar, Gujarat.
- International Financial Services Centres Authority was established in 2020 (IFSCA Act 2019) for the development and regulation of IFSC centres in India.

Conclusion:

The committee's recommendation if implemented, will catapult GIFT IFSC into becoming a global hub of startups wanting to explore the Indian Market. It will also help in achieving the grand vision of \$5 trillion economy by 2024-25.

2 India's first UPI-ATM launched

Why in News:

The Hitachi Payment Services has launched India's first UPI-ATM in collaboration with the National Payments Corporation of India (NPCI) at the Global Fintech Fest in Mumbai, which will enable customers to withdraw cash without any physical card.

What is UPI-ATM?

- UPI-ATM is a white-label ATM that provides a cardless cash withdrawal facility.
- White-label ATMs are owned and operated by non-banking institutions. Under this customers can use their UPI accounts to withdraw cash without using an ATM or debit card.
- It provides a QR-based cashless withdrawal facility to its customers.

UPI-ATM key features:

- UPI-ATM withdrawal limit is Rs 10,000 per transaction but this may vary depending on the limit set by the issuing bank for UPI-ATM transactions.
- This ATM offers QR code-based cash withdrawals, unlike the OTP-based withdrawals offered by banks, which allow customers to

withdraw cash from multiple accounts using UPI apps.

- UPI-ATM will also remove the risk of 'skimming' and promote financial inclusion.

Advantages of UPI-ATM:

- It will contribute to empowering the customers with this customer-friendly initiative for ATM transactions.
- UPI ATMs will take forward the banking services by integrating the convenience and security of UPI with traditional ATMs.
- This concept will play a vital role in providing instant access to cash in remote areas of India without the need for physical cards.



How does this work?

- In this, users will have to select the 'UPI Cash Withdrawal' option at the ATM and then select the amount to be withdrawn. A single-use QR code will be displayed on the screen. Users can then withdraw cash from any UPI app on their phone by scanning the QR code on the screen and inputting their PIN.

Conclusion:

Currently, card-less cash withdrawals rely on mobile numbers and OTP, while UPI-ATM works through QR-based UPI cash withdrawals. UPI-ATM is available to those individuals using UPI who have installed the UPI application on their Android or iOS smartphones.

3 Self Regulatory Organisation for Fintechs

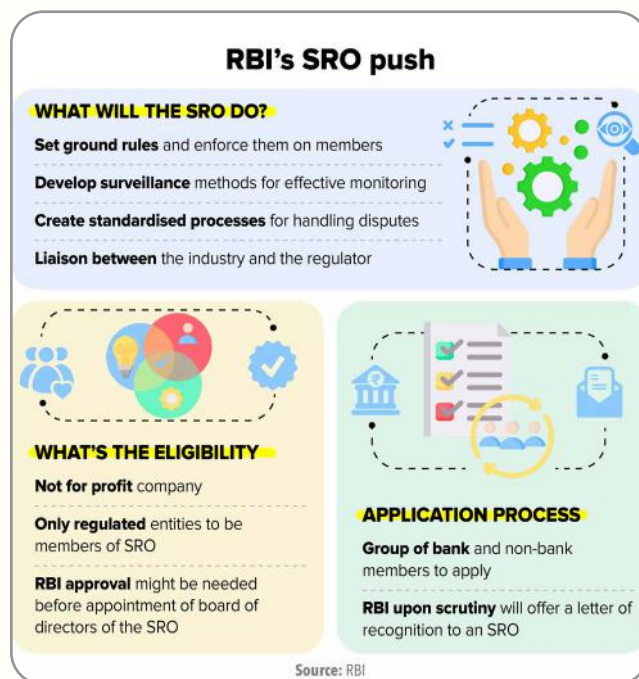
Why in News:

The Reserve Bank of India (RBI) has proposed the formation of a Self-Regulatory Organisation (SRO)

for fintech entities to promote responsible practices and maintain ethical standards in the industry.

What is an SRO?

- SRO stands for Self-Regulatory Organization..
- It is a non-governmental organization.
- SROs set and enforce rules and standards for entities within a specific industry.
- The primary aim is to protect customers and promote ethics, equality, and professionalism in the industry.
- SROs collaborate with all stakeholders to create industry rules and regulations.
- Members of an industry accept penal actions imposed by the SRO.
- SROs address concerns beyond industry self-interest, including worker and customer protection.
- SRO regulations complement existing laws and regulations.



Need for an SRO:

- SROs can monitor and maintain market integrity by establishing and enforcing rules and standards that prevent fraudulent activities and market manipulation.
- SROs can establish consumer protection guidelines and mechanisms to safeguard the interests of consumers, ensuring fair treatment and transparency in financial transactions.
- By setting and enforcing industry standards, SROs can boost investor confidence in the fintech sector, attracting more investments and

fostering growth.

- SROs can develop and enforce data privacy and protection standards to safeguard sensitive customer information, reducing the risk of data breaches and identity theft.
- SROs can promote cybersecurity best practices to protect fintech systems and customer data from cyber threats, enhancing the sector's overall security posture.

Functions of an SRO:

- SROs facilitate communication between their members and regulatory bodies, such as the RBI (Reserve Bank of India), to share information, concerns, and updates.
- SROs set industry-wide minimum standards and benchmarks to ensure professionalism and healthy market behavior among their members.
- SROs provide training and education programs to enhance the skills and knowledge of their members' staff and other relevant stakeholders.

Benefits of an SRO:

- SRO members can participate in industry deliberations, sharing insights and learning about industry nuances.
- Ethical conduct promoted by SROs can enhance confidence in the industry, making it more attractive to investors and stakeholders.
- SROs act as watchdogs, guarding against unprofessional or fraudulent practices within their respective industries or professions.

Way Forward:

SROs are essential in the fintech industry to ensure responsible practices, maintain ethical standards, and address various challenges, ultimately contributing to the sector's growth and stability while safeguarding the interests of all stakeholders.

Demand and Time Liabilities (NDTL) between May 19 and July 28, 2023.

Why was I-CRR Needed?

- The RBI introduced this temporary measure to absorb the surplus liquidity from the economy to maintain the price and financial stability. The surplus of RBI transferred to the government increased the public expenditure and capital inflows into economy.
- Therefore RBI decided to maintain I-CRR so that appropriate levels of liquidity are available into the economy.

Why it is discontinued?

- The daily absorption of liquidity via I-CRR by the RBI was 1.8 lakh crore in July. This resulted in a liquidity deficit for the first time in the current fiscal year. The tight liquidity condition was also contributed by the outflows of Goods and Service Tax collection and selling of dollars by the RBI to control the rupee's fall.
- Therefore the RBI decided to discontinue I-CRR and release the amount collected under it in a phased manner so that more credits can be provided by the banks ahead of festival season.
- The phase-wise release of the amount will prevent the sudden inflow of liquidity into an economy that can cause hyperinflation and depreciation of the rupee.

Way Forward:

Indian economy is battling with global headwinds, high inflation and low credit accessibility. However, high public capital expenditure and Production Linked Incentives Scheme, MUDRA loans, etc. can boost the GDP growth and improve the economic development in India with effective implementation and coordination between agencies.

4 Discontinuation of I-CRR

Why in News:

On September 8, 2023, the Reserve Bank of India announced the discontinuation of the Incremental-Cash Reserve Ratio (I-CRR) and released the maintained I-CRR amount in a phased manner to increase liquidity in the economy.

What is I-CRR?

- The I-CRR was introduced by RBI on August 10, 2023, to absorb the surplus liquidity generated via the re-collection of Rs.2000 notes to the banking system. It was considered to be a temporary measure.
- Under I-CRR, banks have to maintain an amount equal to a 10% increment on their Net

5 Growing Indian Digital Public Infrastructure

Why in News:

The World Bank has lauded the transformative impact of Digital Public Infrastructure (DPI) in India in its report titled 'G20 Global Partnership for Financial Inclusion'. It has been highlighted that Financial Inclusion has increased by 80% from 25% in 2008; it may have taken another 5 decades without DPIs.

Digital Public Infrastructure and its Key Pillars:

- DPI is a digital network that enables countries to safely and effectively deliver economic opportunities and social services to all residents.
- It mediates the flow of people, money and

information. The flow of people through the Digital ID System (Aadhar) then the flow of money through a real-time fast payment system (UPI) and after that flow of personal information via a Consent-based system (Account Aggregator-Data Empowerment Protection Architecture).

Key Findings of World Bank Report:

- The document highlighted the various measures taken by government agencies to develop and strengthen Digital Public Infrastructure.

JAM Trinity and Financial Inclusion-

- JAM Trinity propelled financial inclusion at a splendid rate and also formed the foundation for DPI. Since the launch of PM Jandhan Yojana, Jandhan accounts have tripled from 147 million in 2015 to 462 million. Among these 56% of accounts are owned by women.
- It also enabled the banking saving culture in rural India at a faster pace. It also increased the amount of deposits collected in Public Sector Banks in India.

G2P Payments-

- As per the report, India has built one of the World's largest digital Government to Person architectures benefitting DPI. Due to this amount up to \$361 billion has been transferred directly to beneficiaries that ultimately saved \$33 billion (1.4% of GDP) as of March 2022.

more than Rs.15 trillion.

Multidimensional advantages of DPI for the Economy-

- The strengthening of DPI has benefitted the Private Sector and Banking Sector as well. It has enhanced the efficiency of private organizations and the banking sector by reducing the complexities, cost and time of business operations in India.

Cross-border Payments-

- It has been ensured that the benefits of UPI are not limited to India only, Sri Lanka, France, UAE and Singapore have partnered with India on emerging fintech and payment solutions.

Way Forward:

India's finest Digital Public goods like JanDhan, Aadhar, ONDC and CoWin have changed the lives of people and have the potential to revolutionize the global economy and society as well. To make it more just and precise, regulating agencies have to take effective appropriate steps so that hurdles like the digital divide, regional disparities and cyber digital frauds can be addressed more efficiently.

6 Draft Guidelines for Prevention and Regulation of Dark Patterns

Why in News:

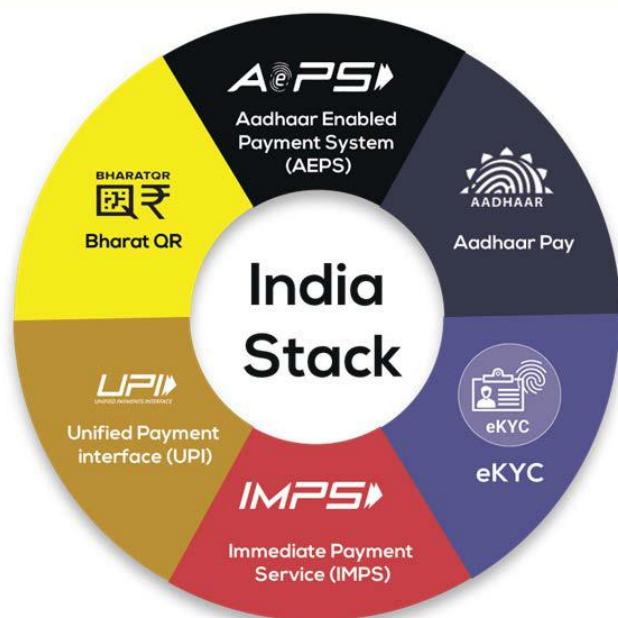
The Department of Consumer Affairs in India is seeking public feedback on draft guidelines aimed at preventing and regulating deceptive online practices known as dark patterns.

What are dark patterns?

- A dark pattern refers to a design or user interface technique that is intentionally crafted to manipulate or deceive users into making certain choices or taking specific actions that may not be in their best interest. It is a deceptive practice employed to influence user behaviour in a way that benefits the company implementing it.

Types of dark patterns:

- **False Urgency-** Falsely creating a sense of urgency or scarcity to mislead users into making immediate purchases or taking immediate actions that may lead to a purchase.
- **Basket Sneaking-** Including additional items (products, services, payments to charity/donation) at the time of checkout without the user's consent, resulting in a higher total amount payable than what the user intended.
- **Confirm Shaming-** Using phrases, videos, audio, or other means to induce fear, shame, ridicule,



UPI transactions dominating the Indian Retail Economy-

- For the fiscal year 2022-23, the total value of UPI transactions was nearly 50% of India's nominal GDP. The UPI transactions in May 2023 were

or guilt in users' minds, nudging them to act in a certain way that results in purchasing a product or service or continuing a subscription.

- **Forced Action-** Forcing users into taking actions that require them to buy additional goods or subscribe to unrelated services to access the originally intended product or service.
- **Subscription Trap-** Making it difficult or complex for users to cancel a paid subscription, including similar practices that hinder subscription cancellation.
- **Interface Interference-** Manipulating the user interface to highlight specific information while obscuring other relevant information, misdirecting users from their intended actions.
- **Bait and Switch-** Advertising a particular outcome based on user actions but deceptively providing an alternate outcome.

Challenges in regulating the dark patterns:

- **Global Nature of the Internet-** The internet operates across borders, and platforms may not be limited to a single jurisdiction. Coordinating and enforcing regulations internationally can be complex.
- **Resource-Intensive Enforcement-** Regulators need significant resources and expertise to monitor and enforce regulations effectively, which may be lacking in some regions or governments.
- **Legal Complexity-** Legal frameworks may not always keep pace with technological advancements, making it challenging to establish clear and enforceable rules for dark patterns.

Way Forward:

The way forward involves further engagement with stakeholders, careful consideration of public feedback, and the finalization of the guidelines. Once the guidelines are in place, they will be used to regulate and monitor online platforms to ensure that they do not engage in dark patterns that harm consumers.

7 Trade Settlement in One Hour: SEBI

Why in News:

The Securities and Exchange Board of India (SEBI) has recently announced that it is preparing to launch a one-hour trade settlement scheme by March next year.

What is One Hour Trade Settlement System:

- Currently trade settlement takes place under the T+1 system which takes twenty-four hours.

When an investor sells shares in One Hour Trade Settlement the sale amount is credited to his account during this period and the buyer gets the shares in his demat account within an hour.

Benefits of One Hour Trade Settlement:

- Indian stock markets will likely see more trading activity.
- Investors will have access to fund securities in the short term.
- Dynamic and trading strategies will also benefit from the increased liquidity of the Indian markets.
- Shorter settlement times will reduce counterparty and market risk which will bring stability in the market.
- The scope of Indian stock market and securities market will increase in Tier-2 and Tier-3 cities.

Two More Schemes:

SEBI Chairperson Madhavi Puri Buch has expressed her commitment to launch two more schemes along with the One Hour Trade Settlement Scheme. Schemes are:

Applications Supported by Blocked Amount (ASBA)-

- Under this scheme, the process of application and allotment for IPO is to be simplified.
- In this, the investor can apply for shares without transferring the money first.
- The amount already subscribed for such shares will not be debited until the company allots the shares.

Immediate Trade Agreement-

- Before implementing the One Hour Trade Settlement, there will be a need to move towards an immediate settlement.
- However, this system is more complex and will require immense technology development, therefore, is likely to be implemented by the end of 2024.

Way Forward:

Undoubtedly, this step by SEBI will prove to be a milestone in making trading in the Indian stock market more simple. The schemes like One Hour Trade Settlement, ASBA and Instant Trade Agreement are big indicator of the future market development of Foreign Direct Investment and Foreign Instrumental Investor for the Indian economy.

Miscellaneous Issues

1

Seethakali Folk Art

Why in News:

Perinad Seethakali Sangham, a group of artists from diverse backgrounds, revived the vanishing Seethakali folk art in 2017. The group is now all set to perform outside Kerala for the first time.

About Seethakali Folk Art:

- In the early times, Seethakali was performed as part of the Onam festival.
- It is a Dravidian dance form that portrays parts from Vanayatra (exile in the forest) to Andhardhanam (descent to earth) of Seeta.
- It is a dance drama mainly performed by Dalit artists belonging to the Ved and Pulaya communities. Small scenes from the Ramayana are staged in every household during Onam.
- It is a mix of songs, storytelling and fast tempo, while Kanjira, Manikatta, Chiratta and Kaimani are in accompaniment.
- The costumes and make-up are loud and attractive. The characters of Rama and Lakshmana appear in green, as the green colour is used to represent gods and goddesses in Kathakali.



About Perinad Seethakali Sangham:

- Perinad Seethakali Sangham is a 20-member group which was formed by T N Shajmon, a Kerala Folklore Academy award winner.
- It currently has artists from all walks of life.

Way Forward:

Seethakali, which originated in Perinad in Kerala, is a centuries-old folk art form that vividly depicts

scenes from Ramayana. With its vibrant music, age-old instruments and folk songs, it is a fascinating cultural treasure. The revival of the Perinad Seethakali Sangham with the help of the Kerala Folklore Academy will ensure its survival for future generations.

2

Pulikkali Dance

Why in News:

The Pulikkali dance in Thrissur, with a history dating back over 200 years, has gained global fame. Over 250 enthusiastic participants, dressed in vibrant stripes and spots, transformed the Thrissur city into a spectacular spectacle of colour and tradition during the exuberant Pulikkali festival. This entertaining show served as the grand finale of the Onam celebrations, creating a carnival-like atmosphere in Thrissur.

About the Pulikkali Dance:

- Pulikkali translates to “Tiger Play” or “Tiger Dance” and involves performers painting their bodies like tigers and leopards and dancing in the streets to the tune of traditional percussion instruments.
- Pulikkali, also known as “Puli Kali” or “Puli Kettu” is an entertaining folk art and a colourful part of Onam celebrations in Thrissur, Kerala.
- It originated in the Thrissur district of Kerala in the 18th century although the credit for its origin is given to Raja Rama Varma, also known as Maharaja Sakthan Thampuran of Kochi.
- It was introduced to Thrissur by Sakthin Thampuran two centuries ago.
- At Pulikkali, performers dressed in bright yellow, red, and black like tigers and hunters, dance to the tunes of instruments like udukku and thakil.
- This performance revolves around the theme of tiger hunting.
- ‘Tigers’ from five different contingents representing Ayyanthol, Viyyur, Sitaram Mill Lane, Sakthan, and Kanattukara took to the streets of Thrissur, with each group wearing different colours.
- Pulikkali does not follow strict rules for dance activities. Each performer creates their own unique style, resulting in a dynamic and individual performance.

Way Forward:

Pulikkali is more than just a festival; it is a vibrant and dynamic celebration of the cultural heritage

of Kerala. With its unique blend of art, tradition, and inclusivity, Pulikkali continues to make its way into the hearts of both participants and spectators, adding a splash of colour and enthusiasm to the Onam celebrations in Thrissur.

3 Delhiites Bearing the Brunt of Air Pollution

Why in News:

The recent Air Quality Life Index (AQLI) 2023 report by the Energy Policy Institute of the University of Chicago has stated that air pollution reduces the life span of Delhi residents by about 11.9 years.

Key points of the report:

- According to the report, the annual average PM_{2.5} level of Delhi in 2021 was found to be 126.5 $\mu\text{g}/\text{m}^3$, which is 25 times higher than the World Health Organization (WHO) guideline of 5 $\mu\text{g}/\text{m}^3$. In 2020, this figure was found slightly lower at 107 $\mu\text{g}/\text{m}^3$.
- India faces the highest health burden due to air pollution compared to all countries in the world, given the number of people affected by high levels of particulate matter.
- Particulate pollution in South Asia has seen an increase of 9.7% from 2013 to 2021, with PM 2.5 levels in India at 9.5%, Pakistan at 8.8%, and Bangladesh at 12.4%.
- According to 2021 PM_{2.5} data from satellites, pollution in India has increased from 56.2 $\mu\text{g}/\text{m}^3$ in 2020 to 58.7 $\mu\text{g}/\text{m}^3$ in 2021 which is 10 times more than the WHO guideline of 5 $\mu\text{g}/\text{m}^3$.

BREATHE WITH CAUTION

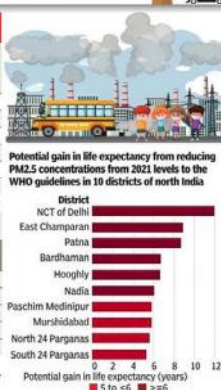
Delhiites are on track to lose 11.9 years of life expectancy on average relative to the WHO guidelines and 8.5 years relative to the national guidelines if current pollution levels persist.

Delhi is the most polluted city in the world

Districts	Annual average PM _{2.5} in 2021 (in $\mu\text{g}/\text{m}^3$)	Life expectancy gains from reducing PM _{2.5} concentrations... ...From 2021 to WHO guidelines of 5 $\mu\text{g}/\text{m}^3$ (years)	...From 2021 to national guidelines of 40 $\mu\text{g}/\text{m}^3$ (years)
Delhi	126.5	11.9	8.5
Gurgaon	119.5	11.2	7.8
Faridabad	115.6	10.8	7.4
GB Nagar	120	11.3	7.8
Ghaziabad	113.7	10.7	7.2
Rohtak	102.7	9.6	6.1

Region	Year	PM _{2.5} level	Expected life years gained if one was breathing air that met... ...WHO guidelines	...The national guidelines
Delhi	2017	113.4	10.6	7.2
	2018	116.1	10.9	7.5
	2019	124.4	11.7	8.3
	2020	111.6	10.5	7
	2021	126.5	11.9	8.5

WHO revised its guidelines in 2021 and PM_{2.5}'s safe limit was reduced from 15 micrograms per cubic metre to 5 micrograms per cubic metre. Air Quality Life Index is of 2021 and 2022



Impact of Particulate Matter Pollution:

- Particulate matter pollution is one of the biggest threats to human health in India in terms of reducing life expectancy, beating heart diseases,

and child and maternal malnutrition.

- Due to particulate matter pollution life expectancy is reduced by 5.3 years in India.
- The northern plains (comprising Bihar, Chandigarh, Delhi, Haryana, Punjab, Uttar Pradesh and West Bengal) are identified as the most polluted region of the country. Here the residents could lose around 8 years of life expectancy if these pollution levels persist.

Impact of decreasing PM_{2.5} levels:

- If PM_{2.5} levels in Delhi are reduced to the WHO guideline of 5 $\mu\text{g}/\text{m}^3$ as an annual average, the life expectancy of a resident of Delhi can be increased by 11.9 years.
- If the PM 2.5 concentration is reduced from the 2021 level to the national standard of 40 $\mu\text{g}/\text{m}^3$ which is well below the WHO guideline, then the life expectancy of Delhi residents can increase by 8.5 years.

Way Forward:

Reducing PM 2.5 levels in India from the 2021 level could result in an increase of 5.3 years in life expectancy, while the gain would be 1.8 years if reduced to meet the country's annual average PM 2.5 levels of 40 $\mu\text{g}/\text{m}^3$.

4 R. Ravi Kannan Receives Ramon Magsaysay Award

Why in News:

The director of the Cachar Cancer Hospital and Research Center (CCHRC) in Assam and renowned surgical oncologist, Padma Shri Dr. R.K. Ravi Kannan, was awarded the prestigious Ramon Magsaysay Award for 2023. He was given this award for revolutionizing cancer treatment in Assam through people-centric and pro-poor programmes.

Who is Dr. Ravi Kannan?

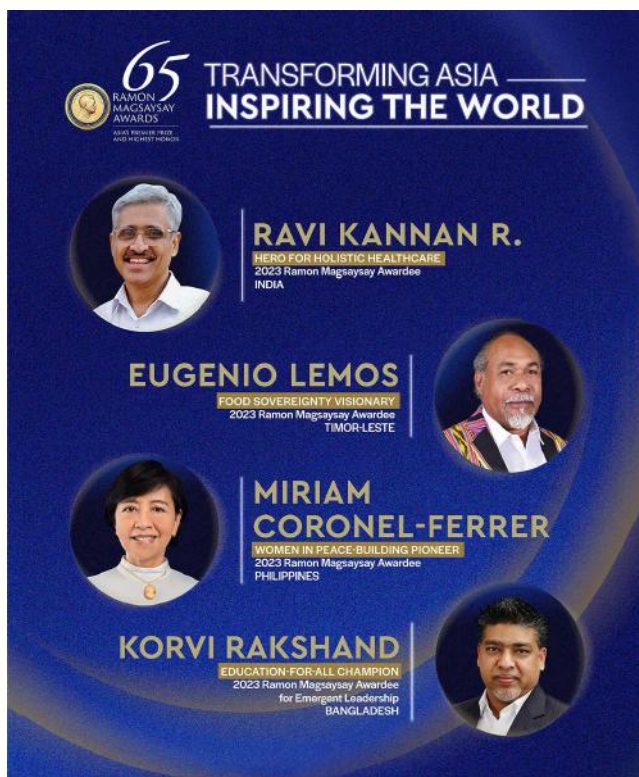
- Kannan has been serving as the director of the Cachar Cancer Hospital and Research Center (CCHRC) in Assam since 2007. Before this, he was a surgeon at Adyar Cancer Institute, Chennai.
- His hospital is known for treating cancer-affected people from marginalized sections of southern Assam as well as Tripura, Mizoram and Manipur. Dr Kannan has included setting up remote clinics in some districts to make cancer treatment affordable for poor people.

About the Ramon Magsaysay Award:

- It is given to individuals and institutions of Asia for doing particularly notable work in their respective fields and is often called the 'Nobel

Prize of Asia'.

- This award is given by the Ramon Magsaysay Foundation in memory of the former President of the Philippines, Ramon Magsaysay.
- Along with the Philippine government, the Rockefeller Society also contributed to the establishment of this award. The Society is based in New York City, USA.
- The awardees are presented with a certificate, a medallion with an embossed image of Ramon Magsaysay and a cash prize.
- Earlier, the categories of the award included:
 - » Government Service.
 - » Public Service.
 - » Community Leadership.
 - » Journalism, Literature and the Creative Communication Arts.
 - » Peace and International Understanding.
 - » Emerging Leadership.
- However, after 2009, the Ramon Magsaysay Award is no longer given in fixed award categories, except for Emerging Leadership.



Concept:

- The Ramon Magsaysay Award was conceptualized 'to illustrate the greatness of spirit in the service of the public'.

Conclusion:

This award continues to aid social change by

encouraging humanism, human rights and social service. This award will encourage people to work for society by exemplifying great personalities who strive to bring change and work towards making this society all-inclusive and a better place to live.

5

Highest Rainfall in the country in Rishikesh

Why in News:

For most of August 2023, Rishikesh in Uttarakhand held the record for the rainiest city in the country.

More about news:

- According to Vineet Kumar Singh, a research scientist at the Typhoon Research Center of Jeju National University in South Korea, the city received 1,901 mm of rainfall between August 1 and August 25.
- During the same period, Cherrapunji and Mawsynram, the two rainiest places in India and the world, received 1,876.3 mm and 1,464 mm rainfall respectively.

Reason:

- Most of the heavy rainfall in August occurred due to the monsoon being in the pause phase. Monsoon pause occurs when the monsoon trough shifts northwards, resulting in considerable rainfall over Uttarakhand, Himachal Pradesh, Jammu and all the northeastern states of India, whereas in the rest of India the rainfall activity stops.

Impact:

- Several flash floods and landslides occurred in Uttarakhand and Himachal Pradesh, resulting in loss of lives and large-scale destruction of infrastructure.

Monsoon Trough:

- A trough is a belt of low pressure spread over a large area. This trough is seen during the monsoon period, hence it is known as monsoon trough. The monsoon trough is a part of the Inter Tropical Convergence Zone (ITCZ) where the Northern Hemisphere and Southern Hemisphere winds meet.
- When this trough either shifts northwards from its normal position moves to the Himalayan foothills or is absent, break-monsoon conditions are declared.

Characteristics of the monsoon trough:

- This trough is located in an east-west direction from northwest Rajasthan to the Bay of Bengal.
- The height of the trough extends upwards to 5.8 kilometres in the atmosphere.

- Due to the difference of 2 degrees Celsius in temperature with height, it bends towards south with height.

Way Forward:

This current monsoon pause is the third longest of this century/after 2002 and 2009. Now that it has ended, the central and state governments must make a comprehensive action plan to deal with the negative impact it has made on the place and its people.

6

Buddhist Artefacts of Phanigiri

Why in News:

The Phanigiri artefacts, which date back to 200 BC–400 AD and were discovered in 1942, are on display at the New York Metropolitan Museum of Art. They were displayed in an exhibit titled “The Tree and the Serpent”, where they illustrate an epochal change in the history of Buddhism.

About Phanigiri Artifacts:

- The Phanigiri Buddhist site is considered one of the most important discoveries in Buddhist iconography this millennium.
- Phanigiri, often called “Snake’s Hood Hill”, is a small village about 150 km from Hyderabad that has important historical and spiritual significance in Buddhism.
- The Thoranas discovered at Phanigiri are very important, as they are among the earliest Thoranas discovered south of Sanchi.
- The Thorana has a panel that reflects both the Mahayana and Hinayana schools of thought.
- Phanigiri provides evidence of the deification of the Buddha and a transition towards sainthood and ritual in Buddhist practices.
- Evidence has been found from Phanigiri that shows the divinity of Buddha, and this change can be dated.
- These artworks depict a carved limestone statue of the Buddha wearing a Roman toga.

Way Forward:

First discovered in 1942 and rediscovered in 2003, the Phanigiri Buddhist site is considered one of the most important discoveries in Buddhist iconography this millennium. Nearly 20 years after the spectacular discovery of the Funigiri artefacts, they are surprising the other side of the world. The exhibition has 125 objects dating between 200 BCE and 400 CE, showcasing ancient Indian culture on the world stage.

7

Banglar Mati, Banglar Jol

Why in News:

The West Bengal Assembly on September 8, 2023 passed a resolution declaring Ptoila Baishakh (April 15), the first day of the Bengali calendar, as the state’s foundation day and declaring Rabindranath Tagore’s Banglar Mati, Banglar Jol, as the state anthem.

About Banglar Mati-Banglar Jol:

- The song was written by Tagore in response to Lord Curzon’s Partition of Bengal in 1905, a divisive colonial strategy to weaken the nationalist movement.
- Curzon’s decision on the partition of Bengal in 1905 was intended to create division and conflict among the diverse Bengali-speaking population. However, it had the opposite effect, as it united Bengalis against British rule and ignited the Swadeshi movement, which marked the beginning of the Indian struggle for independence.
- Tagore was a vocal critic of partition and expressed his support for the Swadeshi movement through his songs and poems.
- “Banglar Mati, Banglar Jol” called for unity among Bengalis while celebrating the beauty of Bengal, its natural surroundings, language, people, and spirit.
- The song became an anthem of the movement against partition and was sung during passionate marches and demonstrations, emphasizing Bengali unity.
- Tagore also tied Rakhi to Muslims as a symbol of brotherhood and unity.
- Bengal was united again in 1911 but later divided again in 1947.
- The proclamation of “Banglar Mati, Banglar Jol” as the state anthem is a testament to its enduring importance in instilling feelings of brotherhood and patriotism among Bengalis.

Way Forward:

The partition drew unanimous criticism from nationalist politicians and ultimately gave rise to the Swadeshi movement, “the first mass movement” in India’s struggle for independence. Tagore supported the Swadeshi movement through his songs and poems. In his book Swadeshi Movement in Bengal (1903–1908), Sumit Sarkar states that by 1904, Tagore’s political ideas had achieved significant clarity. Through his Rakhi-bandhan, Tagore “transformed a religious tradition into a secular form of unity in diversity”.

Practice Questions for Mains Exam

1. Describe the advantages and disadvantages of One Nation One Election in the parliamentary democratic system of India. Also discuss the challenges associated with it.
2. Drug trafficking is a serious internal security problem in North-East India. Discuss the role of Assam Rifles in stopping this.
3. The relevance of global organizations has increased in the current international system. Discuss its challenges and possibilities in the light of G-20 organization.
4. India's space mission is touching new heights every day. Describe ISRO's Aditya L1 mission and examine its significance.
5. Renewable energy is an essential need of the present world. Mention the strategies for development of renewable energy and reduction of carbon emissions in India.
6. Our traditional medicines are not just systems of treatment but are an important foundation of our health care system. In the light of this statement, evaluate India's growing reputation in the field of traditional medicine.
7. The role of youth as a productive force in the working population of the country is very important. But the increasing tendency of suicide among the youth has increased this concern. Mentioning the reasons for this trend, explain the solutions to deal with this problem.
8. What is the GREAT Scheme of the Government? Discuss its importance by mentioning its main characteristics.
9. The hills have famously been an important political system in North-East India. Critically evaluate the role and extent of these councils in the recent context of Manipur.
10. India and Greece have had relations since ancient times. Discuss the significance of the recent visit of the Prime Minister to Greece and its impact on global politics.
11. What is the recent 12-point proposal made by India to strengthen ASEAN cooperation?
12. What are invasive alien species? Discuss the key points of the recently presented assessment report on invasive alien species and their control.
13. What is the Kampala Declaration? Describe climate change and its impact on migration.
14. What is Stem Cell Therapy? Referring to the recent decision of Delhi High Court, discuss its moral aspect.
15. What is a smishing sale? Discuss its impact and the steps taken by the Government of India against it?

News Of National and International Importance

Chokuwa Rice

Recently Chokuwa rice of Assam has been given the Geographical Indication tag in view of its uniqueness and relation to its place of origin. It is also known as magic rice.

About Chokuwa Rice:

- This rice is believed to be related to the Ahom dynasty of Assam because this rice was the main food of the soldiers of the Ahom dynasty.
- This rice is eaten with curd, sugar, jaggery, banana, etc. This rice is also used in making many Assamese dishes such as pitha and other local dishes.
- This rice is cultivated in many parts of the Brahmaputra region such as Tinsukia, Dhemaji, Dibrugarh, Lakhimpur, Sivasagar, Jorhat, Golaghat, Nagaon, Morigaon.
- It is semi-sticky winter rice, known as 'Sali rice'. It is classified as Bora and Chokuwa based on concentration.

IBSA World Games 2023

Recently India's men's blind cricket team won silver medal after losing against Pakistan in the final of the men's T20 cricket event at the IBSA World Games 2023 in Edgbaston, Birmingham.

Key Points:

- It was for the first time that the game of cricket was included in the IBSA world games.
- In the International Blind Sports Federation world games 1250 Competitors from 70 countries participated.

Joint Military Exercise Bright Star-23

Recently, a contingent of the Indian Army left for Egypt to participate in military exercise Bright Star-23. This military exercise will be conducted from 31 August to 14 September at Egypt's Mohammed Naguib Military Base.

Key Points:

- Bright Star-23 is a multinational tri-service joint military exercise led by US CENTCOM and the Egyptian Army with a total of 34 countries participating in it.
- This will be the largest-ever joint military exercise in the West Asia and North Africa region.
- The exercise will provide a unique opportunity for the Indian Army to share best practices and experiences with other armies with a view of enhancing defense cooperation.
- Indian Navy's INS Sumedha has been included in 'Exercise Bright Star-23'.
- The sea phase involves complex and high-intensity exercises, which include cross-deck flying, anti-surface, and anti-air exercises.

Indian and Philippines Coast Guards Sign MoU

Recently, in a significant step towards strengthening the bilateral cooperation between India and the Philippines, the Indian Coast Guard signed a Memorandum of Understanding (MoU) with the Philippines Coast Guard (PCG) on enhancing maritime cooperation.

Important points:

- The implementation of this MoU will promote bilateral maritime cooperation between the two countries to ensure safe and clean seas in the region.
- This MoU will seek to enhance professional engagement between the two Coast Guards in the areas of maritime law enforcement, maritime search and rescue, and marine pollution response.
- During visit, the delegation was provided a customer demonstration flight on Indian Coast Guard Advanced Light Helicopter MK-III and a visit to Indian Coast Guard Ship Sujit built by Goa Shipyard Limited was also conducted.

- The exercise is also important currently as the Philippines is facing increased military tensions with China over the disputed Spratly Islands in the South China Sea.

Rare black eagle seen in Chail Wildlife Sanctuary

Recently, a rare black eagle was spotted for the first time in the Chail Wildlife Sanctuary located in the Solan district of Himachal Pradesh. This sanctuary is spread across 16 square kilometers.

Key Points:

- According to Experts that eagles, including the regal black eagle, have long been inhabitants of altitudes exceeding 3,000 meters.
- Chail Sanctuary was established in the year 1976.
- Chail Wildlife Sanctuary is densely covered with oak and pine, besides grasslands.
- Some of the famous animal species of the park also include wild boar, pine pheasant, barking deer, leopard, ghoral, sambar, spotted deer, Himalayan black bear, common langur, Indian porcupine, flying squirrel, etc.

Comic Book “Let’s Move Forward” Launched

Recently the Union Minister of Education, Skill Development and Entrepreneurship has launched a comic book titled ‘Let’s Move Forward’. The book focuses on health and wellness and encourages students to prioritize holistic well-being while entertaining them through storytelling.

Important points:

- The book will also emphasize the importance of stories in delivering important messages like mental health promote social harmony and well-being.
- This comic book is a collaborative effort of the National Council of Educational Research and Training (NCERT) and UNESCO.
- Its primary objective is to provide health education, prevention of diseases and increase access to health services through wellness centers within educational institutions.
- It covers a wide range of topics including emotional well-being, interpersonal relationships, gender equality, nutrition and health, substance abuse prevention, healthy lifestyle, reproductive health, internet safety, etc.
- The book will be available in Hindi, English, Assamese, Bengali, Gujarati, Kannada, Malayalam, Marathi, Odiya, Tamil and Telugu.

Jio AirFibre

Jio has announced the introduction of its 5G home broadband service, Jio AirFiber, to cover 200 million homes.

Important points:

- Jio AirFiber will be a fixed 5G wireless broadband that will have the capacity to connect a large number of people as it will not require cables or optic fiber to provide connectivity to users.
- Using this single device will make it easy for home and office users to access Gigabit-speed Internet.
- Due to the Jio AirFiber India can be among the top ten countries when it comes to fixed broadband speeds.

India-US launch Renewable Energy Tech Action Platform for Clean Energy

Recently, a meeting was held between the US Department of Energy (DoE) and the Ministry of New and Renewable Energy (MNRE), Government of India, to launch the new US-India Renewable Energy Technology Action Platform (RE-TAP) and Strategic Clean Energy Partnership.

Key Points:

- Its main objective is to advance new and emerging renewable technologies for deployment and scaling.

- It will explore green and clean hydrogen, wind power, long-term energy storage, and in the future mutually determined geothermal energy, tidal energy, and other emerging technologies.
- The two countries will engage in lab-to-lab collaboration, piloting, and testing of innovative technologies; collaboration on policy and planning to advance renewable energy and enabling technologies; investment, incubation and outreach programmes; and training and skill development to accelerate the uptake and adoption of new and emerging renewable technologies and energy systems.

India's Iconic Raptors are declining rapidly

India's raptors (birds of prey) are declining fast and the reasons for the decline are poorly understood, according to the State of India's Birds 2023: Range, trends, and conservation status

Key Points:

- The report says there is an urgent need for research to diagnose specific threats and measure their impacts so that policies can be developed for raptors as a group.
- Raptors are declining globally due to habitat loss, pesticide accumulation and targeted killing. For example, the use of pesticides in Europe has led to a decline in the harrier's population.
- The main reason for the decline in raptor numbers is the loss of high-quality habitat to meet dietary requirements.

Arunachal Pradesh Bans Rodenticide Glue Traps

Recently, based on an appeal by People for the Ethical Treatment of Animals (PETA) India, the Arunachal Pradesh government has banned the statewide manufacture, sale, and use of glue traps for catching rats.

Main Reasons for Imposing the Ban:

- The use of glue traps violates the provisions of the Prevention of Cruelty to Animals (PCA) Act, 1960, as they cause suffering to small animals that get stuck on the sticky boards.
- Usually made of plastic trays or sheets of cardboard covered with strong glue, these traps indiscriminately cause the death of birds, squirrels, reptiles, and other animals including frogs.
- PETA India has appreciated the Arunachal Pradesh government for protecting the animals from inhumanity and deaths.

Madhavan Appointed Chairman of FTII

Recently, the Ministry of Information and Broadcasting (MIB) has appointed actor R Madhavan as the President of the Film and Television Institute of India (FTII) Society and Governing Council.

Key Points:

- Madhavan is known for acting in superhit movies like 3 Idiots, Tanu Weds Manu, and Rang De Basanti. He made his directorial debut with 'Rocketry: The Nambi Effect'.
- Rocketry: The Nambi Effect was also awarded the Best Feature Film award at the 69th National Awards.
- The Film and Television Institute of India (FTII) was established by the Government of India in 1960 at the premises of the then Prabhat Studios in Pune.

International Cruise Terminal at Visakhapatnam Port

Recently an International Cruise Terminal was inaugurated at Visakhapatnam Port. It will serve as an important gateway for both domestic and international cruise tourism on the east coast of India.

Key points related to the terminal:

- This world-class cruise terminal facility will provide a transformative experience for tourists while boosting economic growth and benefiting local communities.
- This terminal building is equipped with essential facilities which include lounges, customs, immigration,

quarantine counters, baggage handling facilities, scanning, concourses, restaurants, entertainment, shopping, healthcare, trade exhibitions, money exchange outlets, CCTV coverage, and adequate parking.

- The length of one berth of the terminal is 180 meters and four mooring dolphins to on each side, extending the total length to 300 meters.
- It has a terminal building spread over 2,000 square meters, which is equipped with all the necessary facilities.
- It also has adequate parking space for seven buses, 70 cars, and 40 two-wheelers.
- The terminal also has excellent road connectivity for easy access.

Adopt A Heritage 2.0

Recently the Archaeological Survey of India (ASI) launched the 'Adopt a Heritage 2.0' program which aims to utilize CSR funds to improve facilities at several monuments.

Key Points:

- The main objective of this program is to promote cooperation with corporate stakeholders through which they can contribute to preserving these monuments for future generations.
- Under this program, ASI will invite corporate stakeholders to upgrade the facilities at the monuments using their CSR funds.
- The program aims to serve as a comprehensive guide to India's heritage monuments, providing state-wise descriptions, photographs, a list of public facilities, geotags, and a citizen feedback mechanism.
- A user-friendly mobile app named 'Indian Heritage' was also launched, which will showcase the heritage monuments of India. The app contains photographs as well as state-wise details of the monuments, a list of public facilities available, and geo-tagged there will be a feedback mechanism for the location and citizens.

Center Signs Pact with Adobe to Help Kids Learn AI

Recently the Union Education Ministry signed an agreement with global software major Adobe to help develop creative expression among children in classrooms using Adobe Express applications.

Highlights:

- Through this, approximately 20 million students and 5,00,000 teachers will be provided training and certification in creativity and digital literacy by 2027.
- This will give a boost to digitalization and this partnership will set a new standard and benchmark for students in the time of ideas, innovation, and creativity.

India France Bilateral Naval Exercise 'Varuna' – 2023

Recently, Phase II of the 21st edition of the Varun-23 bilateral military exercise between the Indian and French Navies was conducted in the Arabian Sea. The exercise saw the participation of guided missile frigates, tankers, maritime patrol aircraft, and helicopters from both sides.

Key Points:

- The exercise was conducted for three days and involved joint operations and various tactical maneuvers.
- Naval units of both countries strived to enhance, and hone their warfighting skills, improve interoperability, and demonstrate their capability to promote peace, security, and stability in the region.
- The first phase of the Varun-2023 exercise was conducted off the western coast of India.
- Indian and French navies bilateral naval exercises were started in 1993.
- The exercise also facilitates operational-level interactions between the two navies to promote mutual

cooperation at sea, underscoring the shared commitment to ensure the security and independence of the global maritime commons.

UK rejoins Horizon Europe's Science Program

Recently Britain rejoined the European Union's \$100 billion science-sharing program Horizon Europe, more than two years after Britain announced exit from EU.

About Horizon Science Program:

- The Horizon program is the world's largest international research and innovation program. It serves as a mechanism open to EU Member States and countries associated with the program.
- The program supports international cooperation focused on a range of issues, from cancer and infectious diseases to the climate crisis, food security, artificial intelligence, and robotics.
- The program will give the Earth Observation Sector access to data valuable to help with flood and fire warnings and the ability to bid for contracts.

Third Phase of Mandatory Hallmarking

Recently the Central Government announced the third phase of the Mandatory Hallmarking wide Hallmarking of Gold Jewelry and Gold Artifacts (Third Amendment) Order, 2023.

Important points:

- The Ministry of Consumer Affairs, Food, and Public Distribution said this third phase will expand the mandatory hallmarking requirement to an additional 55 districts in India.
- The third phase of compulsory hallmarking will cover an additional 55 new districts under the hallmarking system, with a hallmarking center being established after the implementation of the second phase.
- Total number of districts covered under compulsory hallmarking is 343.
- Since the introduction of compulsory hallmarking, the number of registered jewelers will increase from 34,647 to 1,81,590, and Assay and Hallmarking Centers (AHC) will increase from 945 to 1471.
- Till now, more than 26 crore gold jewellery have been hallmarked with Hallmark Unique Identification (HUID).

India and Saudi Arabia sign agreement on cooperation in energy sector

Recently India and Saudi Arabia have signed an MoU on cooperation in the field of energy. This MoU was signed by the Union Ministry of New and Renewable Energy and Power, Government of India and the Ministry of Energy of Saudi Arabia.

Important points of the agreement:

- Agreements signed between the two countries on renewable energy, energy efficiency, hydrogen, electricity, grid interconnection, petroleum, natural gas, strategic petroleum reserves and energy security.
- Circular economy and technologies such as: carbon capture, utilization and storage will be promoted to reduce the effects of climate change.
- Digital transformation, innovation, cyber-security and artificial intelligence will be promoted between the two countries.
- This will develop a strong partnership in the energy sector between India and Saudi Arabia.
- This MoU will support India's efforts towards energy transition and transformation of global energy system towards tackling climate change.

Current Affairs at a Glance

1. The Department of Water Resources, River Development, and Ganga Rejuvenation of the Ministry of Jal Shakti released the sixth report on Minor Irrigation Schemes. According to this report, there are 23.14 million minor irrigation (MI) schemes in the country, out of which 21.93 million (94.8%) are groundwater and 1.21 million are surface water schemes.
2. The 'Svavitva' scheme of the Ministry of Panchayati Raj won the e-Governance 2023 (Gold) National Award for the application of emerging technologies to provide citizen-centric services.
3. Aizawl, the capital of Mizoram, became the first state in India to pilot the Ayushman Bharat Digital Mission (ABDM), the National Health Authority (NHA) has said.
4. RBI approves the merger of Akola Merchant Co-operative Bank with Jalgaon People's Co-operative Bank.
5. In Jammu and Kashmir, two world-famous local specialty products namely 'Bhaderwah Rajma' and 'Ramban Sulai Honey' were granted the Geographical Indication (GI) tag. The process of GI tagging of these products was started by the Department of Agriculture & Farmers Welfare, Jammu.
6. The Central Government appointed Jaya Verma Sinha as the new Chairperson and Chief Executive Officer (CEO) of the Railway Board. She is the first woman to head the Railway Board in 166 years. The Railway Board is the apex decision-making body for the Indian Railways.
7. Oncologist Ravi Kannan, director of Cachar Cancer Hospital and Research Center (CCHRC), Assam, was honored with Asia's Nobel Ramon Magsaysay Award.
8. IIT Guwahati collaborated with Numaligarh Refinery Ltd. to set up the NRL Center of Excellence (COE) for sustainable materials.
9. Three-day Kathmandu-Kalinga Literature Festival successfully concludes in Lalitpur Co-organized by Yashasvi Academy, Nepal and Kalinga Literature Festival (KLF), India. The festival was inaugurated by Foreign Minister NP Saud.
10. Moody's Investors Service has revised its growth estimate for calendar year 2023 to 6.7%, citing strong economic momentum.
11. Delhi High Court has allowed stem cell-based therapy for two children suffering from autism spectrum disorder (ASD).
12. G20 Leaders supported the 'Goa Roadmap' and 'Travel for Life' program to boost the tourism sector.
13. The Central Government recently sold 1.66 lakh MT of wheat and 0.17 lakh MT of rice through the Open Market Sale Scheme.
14. Salem district of Tamil Nadu got a GI tag for Salem sago. Sago is derived from raw tapiocas. It is in the form of small hard globules or pearls and is pearl white in colour.
15. Recently the Supreme Court of Mexico has decriminalized abortion in the country. The court said in a statement that the system punishing abortion is unconstitutional because it violates women's human rights.
16. The Indian Air Force and the Drone Federation of India will jointly co-host Bharat Drone Shakti in 2023.
17. A one-day conference on 'Transnational Grid Interconnection regarding One Sun, One World, One Grid (OSOWOG)' was organized in New Delhi during the G-20 Summit. The conference was organized by Power Grid Corporation of India Ltd., a 'Maharatna' company under the Ministry of Power, Government of India.
18. The Defense Acquisition Council approved proposals worth Rs 7,800 crore to enhance the operational capabilities of the armed forces.
19. The Reserve Bank of India (RBI) proposed to increase the limit for one-time payment through offline mode on 'UPI Lite' from Rs 200 to Rs 500 to promote digital payments.
20. An Artisans Conference and Pottery-Expo under Gramodyog Vikas Yojana was organized at the Kalinga Institute of Industrial Technology campus, Bhubaneswar.

Bharatiya Nyaya Sanhita, 2023

Why In Broadcast

Union Home Minister and Minister of Cooperation, Amit Shah introduced the Bharatiya Nyaya Sanhita Bill, 2023, in the Lok Sabha, on August 11, 2023. The Bill has been referred to the Standing Committee on Home Affairs. The Bill repeals the Indian Penal Code, 1860 (IPC).

Reason for the changes

- The colonial penal law had to be replaced because it lacked participation from the very people for whom it was meant.
- Imposition of foreign ideas and values.
- The idea of according justice or nyaya requires empirically analysing the shifts in the perceptions of those types of behaviour that are considered undesirable or otherwise.

Categories of offences covered under include

- Human body such as assault & murder
- Property such as extortion & theft.
- Public order such as unlawful assembly & rioting
- Public health, safety, decency, morality, & religion.
- Defamation.
- Offences against the state.

Key Changes Proposed in the Bill (1)

1. Sedition

- IPC defines sedition as bringing or attempting to bring hatred or contempt, or exciting disaffection towards the government.
- The Bill removes this offence.

It Penalises the following:

- Exciting or attempting to excite secession, armed rebellion, or subversive activities.
- Encouraging feelings of separatist activities.
- Endangering sovereignty or unity and integrity of India.

Punishment:

- These will be punishable with imprisonment of up to seven years or life imprisonment, and a fine.

2. Terrorism

- The Bill defines terrorism as an act that intends to threaten the unity, integrity, and security of the country, to intimidate the general public or disturb public order.

Terrorist acts include:

- Using firearms, bombs, or hazardous substances (biological or chemical) to cause death, danger to life, or spread a message of fear.
- Destroying property or disrupting essential services.

Punishment:

- Death or life imprisonment, where the offence has resulted in death of any person.
- Imprisonment term between five years and life in other cases.
- An offender will also be liable to a fine of at least five lakh rupees.

Bharatiya Nyaya Sanhita, 2023

Key Changes Proposed in the Bill (2)

3. Organised Crime

The Bill defines organised crime as:

- A continuing unlawful activity such as kidnapping, extortion, contract killing, land grabbing, financial scams, and cybercrime.
- Carried out by use of violence, intimidation, or other unlawful means.
- To obtain material or financial benefit.
- Carried out by individuals acting singly or jointly, as members of or on behalf of a crime syndicate.

Punishment:

- Death or life imprisonment, where the offence results in death of any person.
- Imprisonment term between five years and life, in other cases.
- The offender will also be liable to pay a fine.

4. Petty Organised Crime

The Bill defines petty organised crimes as

- Those which cause general feelings of insecurity among citizens, and are committed by organised criminal groups/gangs.
- These include organised pick pocketing, snatching, and theft.

Punishment:

- The Bill makes attempting or committing petty organised crime punishable with imprisonment between one and seven years, and a fine.

5. Murder by a Group of Persons on Grounds of Caste or Race

- The Bill specifies separate penalty for murder committed by five or more people on specified grounds.
- These include race, caste, sex, place of birth, language, or personal belief.

Punishment:

- Each offender will be punishable with imprisonment between seven years and life, or death.
- It will also attract a fine.

6. Death Penalty for Gang Rape of Minor

Punishment:

- IPC allows death penalty for gang rape of women below 12 years of age.
- The Bill allows death penalty for gang rape of women below 18 years of age.

7. Sexual Intercourse by Deceitful Means

- The Bill penalises the act of sexual intercourse with a woman (not amounting to rape) through deceitful means or a promise of marriage without intending to fulfil it.

Punishment:

- It will be punishable with simple or rigorous imprisonment up to 10 years, and a fine.

8. Extending Applicability of Certain Offences to Boys

- Under the IPC, importing girls under the age of 21 years for illicit intercourse with another person is an offence.
- The Bill specifies that importing boys under the age of 18 years for illicit intercourse with another person will also be an offence.

9. Community Service as Punishment

- In a first bill introduces 'community service' as a punishment for some offences.
- Community service has been provided for multiple 'petty' offences.
 - » Public servant engaging in unlawful trade.
 - » Non-appearance in response to a proclamation under Cl. 82(167) of Bharatiya Nagarik Suraksha Sanhita 2023.
 - » Attempt to commit suicide to restraint exercise of lawful power.
 - » First offence of theft of property (value under Rs. 5000).
 - » Misconduct in public by a drunken person.
 - » Defamation.

Bharatiya Nagarik Suraksha Sanhita, 2023

Why In Broadcast

Union Home Minister Amit Shah introduced the Bharatiya Nagarik Suraksha Sanhita, 2023, in the Lok Sabha, on August 11, 2023. The Bill has been referred to the Standing Committee on Home Affairs. The Bill repeals the Indian Penal Code, 1860 (IPC).

1. Detention of Undertrials

- Under the Code, if an accused has spent under detention half of the maximum period of imprisonment for an offence, during investigation or trial, he must be released on his personal bond.
- This does not apply to offences which are punishable by death.
- The Bill adds that this provision will also not apply to:
 - » Offences punishable by life imprisonment.
 - » Persons against whom proceedings are pending in more than one offence.
- First-time offenders will be released on bail if they have completed detention for 1/3rd of the maximum imprisonment which can be imposed for the offence.

2. Trials in Electronic Mode

- The Bill provides that all trials, inquiries, and proceedings may be held in electronic mode.
- Production of electronic communication devices, likely to contain digital evidence, for investigation, inquiry, or trial is also allowed.

3. Medical Examination of Accused

- The Code allows conducting a medical examination of the accused in certain cases, including cases of rape.
- The Bill provides that any police officer can request for such an examination.

4. Forensic Investigation

The Bill mandates forensic investigation for offences punishable with at least seven years of imprisonment.

5. Power to Prohibit Carrying Arms

- The Code empowers the District Magistrate to prohibit the carrying of arms in any procession, mass drills, or mass training with arms in public places.
- However, the provision was not notified under the Code. The Bill omits this provision.

6. Timelines for Procedures

- The Bill prescribes timelines for various procedures.
- It requires medical practitioners who examine rape victims to submit their reports to the investigating officer within seven days.
- Giving judgement within 30 days of completion of arguments (extendable up to 60 days).
- Informing the victim of progress of investigation within 90 days.
- Framing of charges by a sessions court within 60 days from the first hearing on such charges.

7. Trial in Absence of Offender

- The Bill provides for conduct of trial and pronouncement of judgement in the absence of a proclaimed offender.
- This shall be done when such a person has absconded to evade trial and there is no immediate prospect of arresting him.

8. Metropolitan Magistrates

- The Code empowers the state governments to notify any city or town with a population of more than one million as a metropolitan area.
- The Bill omits this provision.

Bharatiya Sakshya Bill, 2023

Why In Broadcast

Union Home Minister Amit Shah introduced the Bharatiya Sakshya Bill, 2023, in the Lok Sabha, on August 11, 2023. The Bill has been referred to the Standing Committee on Home Affairs. The Bill repeals the Indian Evidence Act, 1872.

1. Admissibility of Electronic or Digital Records as Evidence

- The Act provides for two kinds of evidence
 - » Documentary.
 - » Oral evidence.

2. Documentary Evidence

- Documentary evidence includes information in electronic records that have been printed or stored in optical or magnetic media produced by a computer.
- Such information may have been stored or processed by a combination of computers or different computers.
- The Bill provides that electronic or digital records will have the same legal effect as paper records.
- It expands electronic records to include information stored in semiconductor memory or any communication devices.
- This will also include records on emails, server logs, smartphones, locational evidence and voice mails.

3. Oral Evidence

- Under the Act, oral evidence includes statements made before Courts by witnesses in relation to a fact under inquiry.
- The Bill adds any information given electronically to be considered as oral evidence.

4. Secondary Evidence

- Under the Act, documentary evidence includes primary and secondary evidence.
- Primary evidence includes the original document and its parts, such as electronic records and video recordings.
- Secondary evidence contains documents that can prove the contents of the original.
- Secondary evidence includes certain copies of the original documents and oral accounts of the document's content.
- The Bill expands secondary evidence to include:
 - » Oral and written admissions.
 - » The testimony of a person who has examined the document and is skilled in the examination of documents.
- The Bill adds that secondary evidence may be required if the genuineness of the document itself is in question.

5. Production of Documents

- The Act provides for the production of documents.
- If a witness is summoned to produce a document and has it in their possession or power, they must bring it to Court regardless of any objection to its production or admissibility.
- The Court will determine the validity of such a document.

6. Joint Trials

- A joint trial refers to the trial of more than one person for the same offence.
- The Act states that in a joint trial, if a confession made by one of the accused which also affects other accused is proven, it will be treated as a confession against both.

Global Biofuels Alliance (GBA)

Why In Broadcast

The Global Biofuels Alliance (GBA) was formally launched on 9th September by PM Narendra Modi in the presence of leaders from the US, Brazil, the UAE, Singapore, Italy, Argentina, Bangladesh, and Mauritius on the sidelines of the G20 Summit in New Delhi.

Expansion of E20 Petrol

- During the launch Indian PM proposed for an initiative at a global-level to take ethanol blending in petrol up to 20 percent.
- He also pressed on developing another blending mix for the greater global good, one that ensures a stable energy supply while also contributing to climate security.
- The sale of E20 petrol in India, was launched by PM Modi in February, 2023.
- The number of outlets dispensing E20 petrol has jumped to 1,350.

Aim

The alliance is aimed at facilitating international cooperation and intensifying the use of sustainable biofuels, along with facilitating global biofuels trade and technical support for national biofuel programmes.

The Members

- The efforts for GBA were spearheaded by India, the United States, and Brazil.
- It has been launched with nine initiating members:
 - » India,
 - » The USA,
 - » Brazil,
 - » Argentina,
 - » Bangladesh,
 - » Italy,
 - » Mauritius,
 - » South Africa,
 - » The United Arab Emirates
- Observer Countries
 - » Canada
 - » Singapore.
- Total 19 countries and 12 international organisations have already agreed to join the GBA.
- 7 of the 19 countries are from the G20, 4 are among the G20 invitee countries, while 8 are neither G20 members nor invitees.
- International Organisations:
 - » The World Bank,
 - » Asian Development Bank,
 - » World Economic Forum,
 - » International Energy Agency,
 - » International Energy Forum,
 - » International Renewable Energy Agency,
 - » International Civil Aviation Organization.

About Biofuel

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

MSME Sector in India

Why In Broadcast

Recently G20 declaration highlighted the challenges MSMEs, particularly in developing countries, face with respect to access to information. For this they welcome Jaipur Call for Action for enhancing MSMEs' access to information to promote the integration of MSMEs into international trade.

Definition of MSME

- MSME stands for Micro, Small And Medium Enterprises.
- The Central Government, notifies the following criteria for classification of micro, small and medium enterprises, namely:
 - » A micro enterprise, where the investment in Plant and Machinery or Equipment does not exceed one crore rupees and turnover does not exceed five crore rupees.
 - » A small enterprise, where the investment in Plant and Machinery or Equipment does not exceed ten crore rupees and turnover does not exceed fifty crore rupees.
 - » A medium enterprise, where the investment in Plant and Machinery or Equipment does not exceed fifty crore rupees and turnover does not exceed two hundred and fifty crore rupees.

India's MSME Sector

- These MSMEs make a substantial contribution, accounting for around 30 percent of the country's GDP.
- This sector plays a pivotal role in driving socio-economic development, particularly in semi-urban and rural areas, fostering entrepreneurship.

Services Rendered by MSME Office

- Advising in policy formulation for the promotion and development of MSMEs.
- Dissemination of schemes of Ministry of MSME through its network of field offices.
- Providing techno-economic and managerial consultancy, common facilities and extension services to MSMEs.
- Providing facilities for technology upgradation, modernisation, quality improvement and infrastructure.
- Developing Human Resources through training and skill upgradation.
- Facilitating cluster development as a vehicle for MSME Ecosystem development.
- Providing economic information services.
- Maintaining a close liaison with the Central Ministries, NITI Aayog, State Governments, Financial Institutions and other Organisations concerned with development of MSMEs.
- Enhancing trade competitiveness to ensure increase in share of export basket.

India's Global Digital Impact

- India has outpaced advanced economies in terms of the speed and extent of digital transformations, both domestically and in exports.
- In 2016-17, India exported digitally delivered services worth \$89 billion, as per a UNCTAD 2018 report.
- The OECD noted that India's share of global estimated digital trade exports surged by approximately 400%, growing from 1% in 1995 to nearly 4% in 2018.

MSMEs and Digital Services

- With the projected growth of internet subscribers in India to reach 800 million by the end of 2023, small businesses are increasingly integrating digital services into their operations.
- These services include e-commerce platforms, social media for marketing and communication, and digital payment applications, among others.
- Indian MSMEs are also adopting digital service inputs like smartphone-based marketing and communication services to expand their market reach and strengthen customer relationships.

African Union in G20

Why In Broadcast

African Union became the 21st member of the G20 group during New Delhi summit. The inclusion of African Union would bring the issues & priorities of Global South on the high table.

Impact of the Inclusion

- This inclusive approach promises to reshape the G20 by placing developmental priorities at the forefront.
- It calls upon G7 and China to fulfill their commitments to the Global South.
- India's presidency has set a precedent for embracing diversity and cooperation, embodied in the Swahili term "Harambee" - a spirit of developmental cooperation in action.

AU's Pursuit and India's Response

- The AU formally approached India in 2022 to seek permanent membership in the G20.
- In February 2023, a resolution was passed to pursue this goal during the AU summit.
- At the G20 Summit in Bali, India took a bold step by thoroughly endorsing the African aspiration.
- This gesture came during the 60th anniversary of the Organisation of African Unity, highlighting India's consistent support for African representation.

About African Union

The African Union (AU) was officially launched in July 2002 in Durban, South Africa. It was the successor to the Organisation of African Unity (OAU), which was initially established in 1963.

Vision

An Integrated, Prosperous and Peaceful Africa, driven by its own citizens and representing a dynamic force in the global arena.

Aim

- Achieve greater unity and solidarity between African countries and their people.
- Defend the sovereignty, territorial integrity and independence of its Member States.
- Accelerate the political and socio-economic integration of the continent.
- Promote and defend African common positions on issues of interest to the continent and its peoples.
- Encourage international cooperation.
- Promote peace, security, and stability on the continent.
- Promote democratic principles and institutions, popular participation and good governance.
- Promote sustainable development at the economic, social and cultural levels as well as the integration of African economies.
- Promote cooperation in all fields of human activity to raise the living standards of African peoples.
- Advance the development of the continent by promoting research in all fields, in particular in science and technology.
- Ensure the effective participation of women in decision-making, particularly in the political, economic and socio-cultural areas.

MCQs based on Preliminary Exam

1. Consider the following statements:
 1. In the food grains deficit areas and among the poorer strata of society food grains are distributed at a price lower than the market price known as Issue Price
 2. The MSP is declared by the government every year after the sowing seasonWhich of the statement/s given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
2. *Organic Farming:*
 1. Offers a means to substitute/replace costlier agricultural inputs
 2. Generates income through exports
 3. Has more nutritional value than chemical farmingSelect the correct answer using the code given below:
 - (a) 1 only
 - (b) 1 and 2 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3
3. *We may be tempted to treat higher level of GDP of a country as an index of greater well being of the people of that country. Why this approach may **not** be correct? Consider the following reasons:*
 1. Distribution of GDP - how uniform is it?
 2. Non-monetary exchanges
 3. ExternalitiesSelect the correct answer using the code given below:
 - (a) 1 only
 - (b) 1 and 2 only
 - (c) 2 and 3 only
 - (d) 1, 2 and 3
4. With reference to 'Capital Budget', consider the following statements:
 1. The Capital Budget is an account of the assets as well as liabilities of the Central Government.
 2. It takes into consideration changes in capital.
 3. It consists of capital receipts and capital expenditure of the government.Which of the statement/s given above is/are correct?
 - (a) 1 only
 - (b) 1 and 2 only
 - (c) 2 and 3 only
 - (d) 1, 2 and 3
5. Consider the following statements regarding *Economists of Macro Economy:*
 1. If the buyers and sellers in each market take their decisions following their own self-interest, economists will not need to think of the wealth and welfare of the country as a whole separately.
 2. Economists have to look further for macroeconomics solutions & problems.Which of the above statement/s is/are **incorrect**?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
6. With reference to 'Statutory Liquidity Ratio (SLR)', consider the following statements:
 1. The Statutory Liquidity Ratio is a requirement on banks to hold a certain share of their resources in liquid assets such as cash, government bonds and gold.
 2. Any unexpected demand from depositors can be quickly met by liquidating SLR assets.
 3. In practice, the SLR has become a means of financing a bulk of the government's fiscal deficit.
 4. The SLR is a form of financial repression where the government pre-empts domestic savings at the expense of the private sector.Which of the statement/s given above is/are correct?
 - (a) 1 only
 - (b) 3 and 4 only
 - (c) 1, 2 and 3 only
 - (d) 1, 2, 3 and 4
7. *RBI has defined "wilful defaulter" as :*
 - (a) A borrower who intentionally defaults on its repayment obligation, despite adequate cash flows
 - (b) Borrower not utilized the funds for the purpose for which it was taken but has diverted the funds for other purposes
 - (c) Borrower has defaulted in meeting its repayment obligations and has also removed the movable fixed assets or immovable property given by him for the purpose of securing a term loan without the knowledge of the bank/lender
 - (d) All of the above
8. Consider the following statements regarding *Inflationary Effect on Tax :*
 1. Burden of the tax-payers also increases as tax-payer's gross income moves to the upward slabs of official tax brackets.
 2. In the case of a government incurring high fiscal deficit, inflation functions as an inflation tax.

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

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

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

9. Which of the following factor is *non-economic factor of the economic development*?

- (a) Capital formation
(b) Marketable surplus of agriculture
(c) Human resources
(d) Conditions in foreign trade

10. Consider the following statements in regard with *Regional Rural Banks (RRB)*:

- RRBs can issue shares in capital market to get more funds from private investors.
- Combined shareholding of Union, state and sponsor banks should not fall below 51% in RRB.
- State government's shareholding is fixed to 15 percent.

Which of the statement/s given above are correct ?

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

11. Consider the following statements in the context of *Payment Banks*:

- Payment banks take deposit only for current account and saving account.
- Payment banks can give loans.
- Payment banks can invest depositor's money in Government Securities only.
- MFI and NBFC can apply for payment banks.

Which of the statements given above are correct?

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

12. Match the following :

List-I	List-II
A. Financial Inclusion	1. Urjit Patel
B. Monetary Policy related Reforms	2. P. J. Nayak
C. Governance in Bank Boards	3. Bimal Jalan
D. Private Bank Licenses	4. Nachiket Mor

Codes:

A B C D

13. Consider the following statements in regard with *Consolidated Fund of India* :

- This fund is filled by all the cash from direct and indirect taxes.
- This fund is filled by all the loans taken by Government of India.
- Government of India does not need Parliament's approval to spend money from this fund.

Which of the statement/s given above is/are **incorrect**?

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

14. Arrange the following *sectors according to their share in employment in descending order*:

- (a) Services > Agriculture > Industries
(b) Agriculture > Industries > Services
(c) Industries > Services > Agriculture
(d) Agriculture > Services > Industries

15. Consider the following problems :

- Long term factors like steeper decline in per capita land availability and shrinking of farm size.
- Slow reduction in share of employment.
- Decline in yield growth.
- Low labour productivity in agriculture and the gap between agriculture and non-agriculture sector is widening.

Which of the *problems given above are correct with regard to Indian agriculture*?

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

16. *External debt consists of*:

- NRI deposits
- Commercial borrowings
- Bilateral loans
- Trade credit
- Long-term external debt

Select the correct answer using the codes given below:

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

17. Which of the following *should be included in*

the inclusive growth?

1. Providing livelihood
2. Increasing purchasing power
3. Creating opportunities for skill development
4. Increasing agro-based industries

Select the correct answer using the codes given below:

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

18. Consider the following statements in regard with *Indian Economy*:

1. On an average, the contribution of the primary sector (agriculture) in the GDP is falling down regularly.
2. The share of its tertiary sector (services) has increased to more than half in its GDP.
3. India has jumped the stage of being a fully developed industrial economy.

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

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

19. Why public sector was chosen for industrialization in India?

1. To create significant ability to produce capital goods.
2. To achieve self-reliance in core areas.
3. To facilitate import substitution.
4. To compete with private sectors.

Select the correct answer using the codes given below:

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

20. Consider the following expenditures :

1. Interest payments
2. Subsidies
3. Establishment expenses of defence
4. Loans to state governments/UTs
5. Pensions to retired personnel

Which of the expenditures given above are non-planned capital expenditures?

- (a) 1, 2 and 4 only
- (b) 3 and 5 only
- (c) 1, 2, 3, 4 and 5
- (d) None of the above

21. The *El Nino event* :

1. Is closely associated with the pressure changes in the Central Pacific Ocean and

Australia

2. Is cold event in the Pacific Ocean

Select the correct answer using the code given below:

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

22. 'Ecological balance' :

- (a) Is a state of dynamic equilibrium within a community of organisms in a habitat
- (b) May be disturbed due to the introduction of new species, natural hazards or human causes
- (c) Occurs through competition and cooperation between different organisms where population remains stable
- (d) All of the above

23. Consider the following statements :

1. The best means of measuring time is by the movement of the Earth, the Moon and the Planets.
2. When the Prime Meridian of Greenwich has the Sun at the highest point in the sky, all the places along this meridian will have mid-day or noon.
3. The earth has been divided into 12 time zones.

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

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

24. Which one of the following is **not** a characteristic of minerals?

- (a) They are created by natural process
- (b) They have a definite chemical composition
- (c) They are inexhaustible
- (d) Their distribution is uneven

25. Which one of the following is **not** the part of the definition of a town as per the census of India?

- (a) Population density of 400 persons per sq km.
- (b) Presence of Municipality, Municipal corporation, etc.
- (c) More than 75% of the population engaged in Primary sector.
- (d) Population size of more than 5000 persons.

26. Which of the following is the main reason due to which share of forest has shown an increase in the last forty years?

- (a) Extensive and efficient efforts of afforestation.
- (b) Increase in community forest land.

- (c) Increase in notified area allocated for forest growth.
 (d) Better peoples participation in managing forest area.
- 27.** *Regional planning is related to:*
 (a) Development of various sectors of economy
 (b) Area specific approach of development
 (c) Area wise differences in transportation network
 (d) Development of rural areas
- 28.** Consider the following statements :
 1. The division of population into rural and urban is not based on the residence.
 2. Rural and Urban life styles are common with each other in terms of their livelihood and social conditions.
 3. The age-sex-occupational structure, density of population and level of development vary between rural and urban areas.
 Which of the statement/s given above is / are correct?
 (a) 1 and 2 only (b) 2 only
 (c) 3 only (d) 1, 2 and 3
- 29.** With reference to *Collective Farming*, consider the following statements :
 1. This types of farming is based on social ownership of the means of production and collective labour.
 2. Collective farming was introduced to boost agricultural production for self-sufficiency.
 3. Collective farming was given a name 'Kolkhoz' in Soviet Union.
 Which of the statement/s given above is / are correct?
 (a) 1 only (b) 1 and 2 only
 (c) 1, 2 and 3 (d) None of the above
- 30.** Which one of the following is *suitable for Koeppen's "A" type of climate?*
 (a) High rainfall in all the months
 (b) Mean monthly temperature of the coldest month more than freezing point
 (c) Mean monthly temperature of all the months more than 18°C
 (d) Average temperature for all the months below 10°C
- 31.** Consider the following statements:
 1. A long summer night with clear skies and still air is ideal situation for inversion of temperature.
2. Surface inversion of temperature promotes stability in the lower layers of the atmosphere.
 Which of the statement/s given above is/are correct ?
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2
- 32.** Consider the following statements:
 1. The fog contains more moisture than the mist.
 2. Fogs are prevalent where warm currents of air come in the contact with cold currents.
 3. Fogs are mini clouds in which dust, smoke and the salt particles are found.
 Which of the statement/s given above is/are correct ?
 (a) 1 and 3 only (b) 2 only
 (c) 2 and 3 only (d) 1, 2 and 3
- 33.** Consider the following *Ice Ages* :
 1. Riss 2. Wurm
 3. Mindel 4. Gunj
 Select the correct order using the codes given below -
 (a) 4-3-1-2 (b) 4-3-2-1
 (c) 2-3-4-1 (d) 1-2-3-4
- 34.** Consider the following statements :
 1. Gravity besides being a directional force activating all downslope movements of matter also causes stresses on the earth's materials.
 2. Indirect gravitational stresses activate wave and tide induced currents and winds.
 3. Without gravity and slope gradients there would be no mobility and hence no erosion, transportation and deposition are possible.
 Which of the statement/s given above is/are correct ?
 (a) 1 and 2 only (b) 1 and 3 only
 (c) 1, 2 and 3 (d) None of the above
- 35.** *Important active factor of soil formation is :*
 (a) Moisture in terms of its intensity, frequency and duration of precipitation, evaporation and humidity
 (b) Temperature in terms of seasonal and diurnal variations
 (c) Both (a) and (b)
 (d) Neither (a) nor (b)
- 36.** With reference to '*Evaporation*', consider the following statements :

1. Evaporation is a process by which water is transformed from liquid to gaseous state
2. The amount of water vapour in the atmosphere is added or withdrawn due to evaporation and condensation respectively.
3. The temperature at which the water starts evaporating is referred to as the latent heat of vapourisation.
4. The greater the movement of air, the greater is the evaporation.

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

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

37. Consider the following statements about *Energy flow in Biosphere* :

1. The transfer of energy in an Ecosystem is a cyclic process.
2. There is a gradual increase of energy at each trophic level.

Which of the above statement/s is/are **incorrect**?

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

38. Consider the following statements about '*Mixed farming*':

1. It is the combination of two independent enterprises on the same farm.
2. Here the farmers practice both agriculture and live stock farming.
3. Both activities support each other.

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

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

39. Consider the following statements about *Nitrate*:

1. Excess of nitrate is responsible for blue baby syndrome.
2. It is a form of haemoglobin.
3. High level of nitrate causes death of infants.

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

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

40. *Pseudonymous* is:

- (a) A Rotavirus.
- (b) A genetically engineered species of Bacterium.
- (c) A fungi.
- (d) A toxic waste decomposer robot.

41. Consider the following statements regarding the *Rig Vedic Period*:

1. During the Rig Vedic period only copper metal was used.
2. The sea is mentioned in the context of trade and ocean wealth.
3. The Rig Veda ignored the importance of agriculture.
4. The plough was drawn by the oxen.

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

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

42. Which of the following *methods* was **not** adopted during '*Indigo Rebellion*'?

- (a) Those who worked for the planters were socially boycotted.
- (b) Ryots swore they would no longer take advances to sow indigo.
- (c) Passive resistance and non-cooperation strategies were adopted against British Government.
- (d) The indigo peasants fought against Planters in the leadership of Zamindars and village headmen.

43. Consider the following statements regarding '*Aihole City*':

1. Aihole was an important trading centre and the capital of the Chalukyas.
2. It was developed as a religious centre, with a number of temples.

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

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

44. Consider the following statements:

1. Ravindra Nath Tagore was of the view that creative learning could be encouraged only within a natural environment.
2. Gandhiji was highly critical of Western civilization while Tagore wanted to combine elements of modern Western civilization with Indian tradition.

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

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

45. With reference to *Chola temples*, consider the following statements:

1. Chola temples often became the nuclei of settlements which grew around them.
2. These temples were centres of 'craft production'.
3. The produce of land endowed to temples went to maintain all the working specialists at the temple.
4. Temples were only the hub of economic, social and cultural life and no religious worship took place there.

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

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

46. Which of the following statements is correct regarding '*Rowlatt Satyagraha*'?

- (a) The Rowlatt Satyagraha turned out to be the first all-India struggle against the British government
- (b) It was largely restricted to cities
- (c) 'Satyagraha Sabhas' were set up to launch the movement against 'Rowlatt Satyagraha'
- (d) All of the above

47. *Mongol attacks on the Delhi Sultanate increased during the reign of Alauddin Khalji and in the early years of Muhammad-Bin-Tughluq's rule.* Consider the following statements in this regard:

1. The two rulers mobilised a large standing army in Delhi which posed a huge administrative challenge
2. For the first time in the history of the Sultanate, Muhammad Tughluq planned a campaign to capture Mongol territory
3. Alauddin Khalji adopted defensive measures against Mangols

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

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

48. Which of the following statements is **incorrect** about *Kabir*?

- (a) His teachings openly ridiculed all forms of external worship of both Brahmanical Hinduism and Islam.
- (b) Kabir believed in a formless Supreme God.

- (c) He preached that the only path to salvation was through bhakti or devotion.
- (d) None of these

49. **Assertion (A)** : Mughals did not like to be called Mughal or Mongol.

Reason (R) : Genghis Khan's memory was associated with the massacre of innumerable people.

Select the correct answers using the codes given below:

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (b) Both (A) and (R) are true and (R) is not the correct explanation of (A).
- (c) (A) is true but (R) is false
- (d) (A) is false but (R) is true

50. With reference to '*Kandariya Mahadeva temple*', consider the following statements:

1. Kandariya Mahadeva temple was constructed by the king Dhangadeva of the Chandela dynasty.
2. In Mahamandapa the deity of the chief God was kept and ritual worship took place.
3. In garbhagriha dances were performed.

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

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

ANSWER

1.	(a)	14.	(d)	27.	(b)	40.	(b)
2.	(d)	15.	(d)	28.	(c)	41.	(c)
3.	(d)	16.	(d)	29.	(c)	42.	(c)
4.	(d)	17.	(d)	30.	(c)	43.	(c)
5.	(d)	18.	(d)	31.	(b)	44.	(c)
6.	(d)	19.	(b)	32.	(c)	45.	(c)
7.	(d)	20.	(d)	33.	(a)	46.	(d)
8.	(c)	21.	(a)	34.	(c)	47.	(d)
9.	(c)	22.	(d)	35.	(c)	48.	(d)
10.	(a)	23.	(b)	36.	(d)	49.	(a)
11.	(a)	24.	(c)	37.	(b)	50.	(a)
12.	(c)	25.	(c)	38.	(b)		
13.	(c)	26.	(c)	39.	(a)		

1. Recently, Japanese Hitachi Payment Services launched India's first UPI-ATM in collaboration with National Payments Corporation of India (NPCI) at the Global Fintech Fest in Mumbai. Consider the following statements with reference to UPI-ATM-
 1. UPI-ATM is a white label ATM that will facilitate cardless cash withdrawals.
 2. This will allow customers to withdraw cash from multiple accounts using UPI apps.
 Select the correct option-
 - A. only 1
 - B. Only 2
 - C. Both
 - D. None
2. Consider the following statements regarding preeclampsia -
 1. This is a serious blood pressure condition that develops during pregnancy.
 2. Its early onset occurs before 34 weeks of gestation and is associated with a high risk of severe disease and fetal death.
 3. According to the Spanish Society of Hypertension, it increases stress levels in women by 7-10% during pregnancy.
 Select the correct statement-
 - A. Only 1
 - B. Only 1, 2
 - C. Only 1, 3
 - D. All
3. The recent Justice Amitava Roy Committee report has highlighted the need to reform prisons for women prisoners. Consider the following statements in the context of this report-
 1. The number of women prisoners in Indian prisons has increased by 11.7% during the period 2014 to 2019.
 2. Only 18% of women prisoners have access to women related facilities.
 3. The Committee on Prison Reforms was formed in 2016 under the chairmanship of former Supreme Court judge Amitav Roy.
 Select the false statement from the following-
 - A. Statement 1
 - B. Statement 2
 - C. Statement 3
 - D. All statements are false
4. Consider the following statements in the context of Malviya Mission -
 1. The objective of Malviya Mission and Teacher Training Program is to provide tailored training programs to teachers.
 2. Human Resource Development Centers (HRDC) will be renamed as Madan Mohan Malviya Teacher Training Centres.
 Which of the above statements is/are false-
 - A. Statement 1
 - B. Statement 2
 - C. Both
 - D. None
5. Consider the following statements.
 1. Chokuwa rice has been granted the Geographical Indication tag (GI tag), it is also known as magic rice.
 2. Chokuwa rice is considered to be related to the Ahom dynasty of Assam because this rice was the main food of the soldiers of the Ahom dynasty.
 3. This rice is cultivated in many parts around the Brahmaputra region like Tinsukia, Dhemaji, Dibrugarh, Lakhimpur, Sivasagar, Jorhat, Golaghat, Nagaon, Morigaon.
 4. Chokuwa rice is also known as 'Sali rice'.
 Which of the above statements is/are true-
 - A. Statement 1 and 2
 - B. Statement 2 and 3
 - C. Statement 2 and 4
 - D. All
6. Recently, Chail Wildlife Sanctuary located in Solan district of Himachal Pradesh was in the news. In this context, consider the following statements-
 1. A rare black eagle has been sighted for the first time recently in Chail Sanctuary.
 2. Chail Sanctuary was established in the year 1966 and declared a protected area.
 Which of the above statements is/are true -
 - A. Statement 2
 - B. Statement 1
 - C. All
 - D. None
7. Consider the following statements -
 1. Archaeological Survey of India (ASI) launches 'Adopt a Heritage 2.0' programme.
 2. Under this programme, ASI will invite corporate stakeholders to enhance the facilities at the monuments using their CSR funds.
 3. The program aims to serve as a comprehensive guide to India's heritage monuments, providing state-wise descriptions, photographs, list of public facilities, geotags and a citizen feedback mechanism.
 4. A user-friendly mobile app named 'Indian Heritage' was also launched, which will showcase heritage monuments of India.
 Which of the above statements is/are true-
 - A. Statement 1 and 2

- B. Statements 1,2 and 3
- C. All
- D. none

8. Consider the following statements –

1. Recently the African Union (AU) has been included as a new member of the G20.
 2. African Union (AU) represents 45 countries.
- Which of the above statements is/are true-
- A. Statement 2
 - B. Statement 1
 - C. Statement 1 and 2
 - D. None

9. Discuss the following points with reference to Europe's Horizon science programme:

1. Recently Britain has rejoined the European Union's \$100 billion science-sharing program Horizon Europe.
 2. The Horizon program is the world's largest international research and innovation program.
- Which of the above statements is/are true –
- A. Statement 1
 - B. Statement 2
 - C. Both
 - D. None

10. Discuss the following statements in the context of India-France bilateral naval exercise 'Varuna'-2023-

1. Recently, Phase II of the 21st edition of the Varuna-2023 bilateral military exercise between the Indian and French navies was held in the Arabian Sea.
 2. The first phase of Varun-2023 exercise was conducted off the western coast of India.
 3. Indian and French Navy bilateral naval exercises were started in 1993.
- Which of the above statements is/are true-
- A. Statement 2
 - B. Statement 1
 - C. All
 - D. None

11. Consider the following statements and make the correct statement.

- A. The legal aspect of self-respect marriage is similar to that in other states of South India.
- B. The decision of the Madras High Court in 2016 was declared constitutional by the Supreme Court in August 2023.
- C. The Hindu Marriage (Tamil Nadu Amendment) Act was passed in 1968.
- D. None of These.

12. Consider the following statements.

1. Greece is bordered by Albania North Macedonia, Bulgaria and Turkey.
 2. Current trade between both countries is two Billion US dollars.
 3. INIOCHOS- 23 Air Force Exercise was conducted in 2023.
 4. Prime Minister of India was awarded with Greece's second highest national honour.
- Which of the above statements is correct?
- A. Only First is correct.
 - B. Only Second and third are correct.
 - C. Only First and fourth are correct.
 - D. All statements are correct.

13. What are the major threats to bird species in India, as mentioned in the report?

1. Overpopulation and habitat loss
 2. Climate change, urbanization, monocultures, and energy infrastructure
 3. Poaching and illegal wildlife trade
 4. Noise pollution and deforestation
- A. Only A and B
 - B. Only B and C
 - C. Only B
 - D. All the above

14. Which of the following statements about stem cells are true?

1. Stem cells can only be found in embryos.
 2. There are three main types of stem cells: pluripotent, multipotent, and induced pluripotent stem cells.
- A. Only A
 - B. Only B
 - C. Both A and B
 - D. Neither A nor B

15. Consider the following statements regarding GIFT City-

1. GIFT City consists of a multi-service Special Economic Zone (SEZ) and it is the first Indian IFSC.
 2. In 2020, the first India International Bullion Exchange (IIBX) was launched in GIFT-IFSC of Gandhinagar.
 3. It is an integrated hub for financial and technology services for both the India and world.
 4. It is solely regulated by the International Financial Services Centres Authority.
- How many of the above-given statements are not correct?

- A. Only Two
- B. Only Three
- C. Only Four
- D. Only One

16. In the context of the Sithakali folk tale which was recently in the news, consider the following statements:

1. It is celebrated in every household during Onam.
2. It is a Dravidian dance form that portrays the parts from Vanayatra (exile in the forest) to Andhardhanam (descent to earth) of Sita.
3. It is a 21-member in group.

Which of the above statements is/are correct?

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

17. What is the primary theme and significance of the traditional Indian festival known as "Pulikkali"?

1. Pulikkali involves body painting and dancing to resemble tigers and leopards.
2. It is celebrated as part of the Onam festival in Karnataka.
3. Pulikkali is a religious ritual mainly associated with harvest festivals.

Which of the above statements is/are correct?

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

18. Consider the following and choose the correct statement:

- A. A total number of 54 member countries have so far recognized the term ecocide.
- B. Biologist Ernest Haeckel coined the term in relation to the category of international crime.
- C. Small island nations are campaigning to include the term ecocide as a crime in various international organizations.
- D. None of These

19. Which of the following statements is correct:

- A. The East Asia Summit was conducted on an ASEAN-centric principle.
- B. The Prime Minister of India made 14 points proposals in this conference
- C. At the end of the conference, four major joint statements were adopted.

D. Timor Leste was admitted as a new member.

20. Consider the following statements-

1. As per the Global Food Security Index 2022, India has 16.3% undernourished population.
2. One-third population of children in India fall under the category of stunted and underweight.
3. In India, the Zero-food prevalence was 18% for infants aged 6-23 months which is a critical period of a child's development and can have severe implications.
4. The concept of Zero Food seeks to identify those children who did not consume that much amount of food which is essential for their survival.

Which of the above-given statements is/are not correct?

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

21. Consider the following statements:

1. The Phanigiri Buddhist artwork was first discovered in 1942.
2. These artefacts are from 200 BC to 400 AD.
3. In these sculptures, Buddha is depicted wearing a Roman toga.

Choose the incorrect statement from the above statements:

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

22. The Banglar Mati, Banglar Jol, the newly selected state anthem of West Bengal, was written in?

- A. 1901
- B. 1902
- C. 1904
- D. 1905

23. Consider the following statements:

Statement I- The Invasive alien species are mostly man-introduced for the purpose of cultural and monetary gains.

Statement II- The elevated temperatures and shifting weather patterns all across the world are disrupting the life cycles of native species.

Choose the correct option:

- A. Both Statement-I and Statement-II are correct and Statement-II is the correct

explanation for Statement-I

B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I

C. Statement-I is correct but Statement-II is incorrect

D. Statement-I is incorrect but Statement-II is correct

24. Consider the statements regarding with World Migration Report-2022

1. The International Organisation for Migration has been publishing this report since 2000.

2. The highest displacement was reported in Asia due to disasters.

3. India reported approx. 4 million new displacements due to disasters and China witnessed 5 million of them.

4. It is an annual report which also highlights the causes of migration at the global level.

How many of the statements given above are correct?

A. Only One

B. Only Three

C. Only Four

D. Only Two

25. Which of the following statements does not represent the impact of Incremental-CRR?

A. Unlike Cash Reserve Ratio, Non-Banking Financial Companies also have to maintain I-CRR with Banks.

B. The introduction of I-CRR has hiked the prices of Certificate of Deposits and other short-term funds.

C. It is maintained over the increment in NDTL of banks during a specific period of time not over the whole amount of NDTL.

D. RBI had opted for 100% I-CRR during demonetization in 2016.

26. Which of the following statements is not correct regarding 'India Stack'?

A. It is a set of Application Programming Interface (APIs) that enables governments,

businesses, developers and startups to utilize a unique digital infrastructure to solve India's hard problems.

B. It is not limited to one country and can be applied to any nation, be it a developed one or an emerging one.

C. The project was first conceptualized and implemented in India and positioned the country for the Internet Age.

D. India Stack comprises four foundational key pillars.

27. Consider the following statements and tell which statement is appropriate and correct.

A. Trade settlement takes 48 hours in the T+1 system.

B. In one hour trading, the sale amount of shares is transferred within an hour to the account of investor.

C. One can apply for shares along with money under the ASBA scheme.

D. The Immediate trade agreement is likely to be in place by year 2025.

28. Consider the following statements regarding India's initiative 'UPI-ATM':

1. Japanese Hitachi Payment Services in collaboration with National Payments Corporation of India (NPCI) launched India's first UPI-ATM at the Global Fintech Fest in Mumbai.

2. It is a white label ATM that provides cardless cash withdrawal facility.

3. The withdrawal limit from this ATM is Rs 10,000 per transaction but may vary based on the limit set by the issuing bank for the transaction.

Choose the correct statement with the help of the above statements:

A. 1 and 2 only

B. 2 and 3 only

C. 1,2 and 3

D. 1 and 3 only

Answer

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

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