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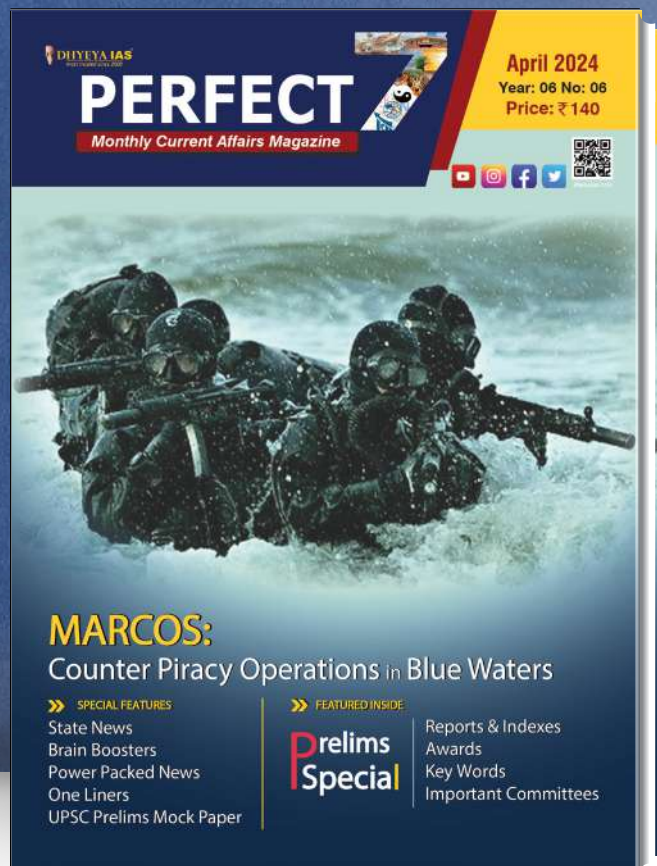**Prelims Special**

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Message

An officer with a right mindset is an officer that a nation aspires for. A right mindset doesn't necessarily comprise unlimited jargon of knowledge rather a right amount of knowledge and its appropriate execution. Especially, when it comes to UPSC and State PSCs preparation, the crux is not to accumulate the knowledge but its effective implementation and utilization in tackling any situation. The situation here can be anything from UPSC CSE Prelims to the major issues that need to be addressed. The journey is hard but it is worth.

Perfect 7 has been part of many UPSC and State PSCs aspirants in their journey of becoming well reputed officers serving nationally and internationally. The magazine itself had gone through constant ebb and flows of change and improvements. Now, that the magazine is in its monthly era, I hope it becomes your perfect preparation partner and guides you through this ever learning endeavor of Civil Services Preparation.

With Best wishes.

Vinay Singh
Founder
Dhyeya IAS

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PERFECT 7

Monthly Current Affairs Magazine

In This Issue

Artificial Intelligence: In the Context of Bioterrorism & Chemical Terrorism

Recent research has highlighted the potential of increased biological risks associated with Artificial Intelligence. There is a concern that AI, with the help of language models like ChatGPT, could be used to promote bioterrorism. Researchers are of the view that AI language models could be leveraged to develop biological design capabilities. Such biological design tools include tools like AlphaFold 2 for protein folding and RF diffusion for protein design.

On these grounds, there are apprehensions that ChatGPT could facilitate bioterrorism. This is further proved by the fact that ChatGPT can extensively provide information on the production of botulinum toxin and other associated aspects. The potential for AI, including ChatGPT and future iterations like GPT-4, to provide knowledge about the development of bio-terrorist weapons is therefore now a topic of discussion at the United Nations. A study by OpenAI researchers suggests that terrorist organisations could potentially conduct biological terror attacks facilitated by AI, similar to the Ebola pandemic. This underscores the importance of global discussions on biosecurity and chemical security in counterterrorism efforts. The Rand Corporation has also highlighted AI-based bioterrorism as a significant threat.

What is Bioterrorism?

❖ Biological attack, or bioterrorism, is a method of spreading violence, fear, and terror by targeting civilians, animals and crops with various types of viruses, bacteria, and germs. In these attacks, terrorist organisations deliberately aim to harm a large population using biological agents.

❖ In 2001, anthrax was spread in USA by placing the bacteria in an envelope, resulting in 22 illnesses and 5 deaths. In 1990, similar attack was observed when three trucks were seen spraying yellow liquid at the US Naval Base, Narita Airport, and the Imperial Palace in Tokyo, Japan. The group behind this attack, Aum Shinrikyo, carried out terrorist activities inspired by religion. This bioterrorism occurred during a period of ongoing development in modern weapon technology.

How does a Bio-terrorist attack happens?

❖ Biological weapons in the modern era were first used by German soldiers in World War I (1914–18) using anthrax and glanders bacteria. During the Japan-China War (1937–1945) and World War II (1939–1945), the Imperial Japanese Army's special research unit conducted experiments with biological weapons on Chinese civilians and soldiers, which did not prove to be very effective, but according to recent estimates, approximately 6,00,000 civilians suffered from plague and cholera due to the consumption of plague-infected foods.

❖ Bacteria Bacillus anthracis was used to carry out biological attacks on several occasions, as was the case in the spread of anthrax in the US. Anthrax spores are easily found in nature and can also be produced in the laboratory. Microscopic spores of anthrax can be added to powders, sprays, foods, and water. In 2001, anthrax in powder form was sent through the US postal system in envelopes containing letters and 12 US postal workers contracted anthrax.

❖ It is noteworthy that infectious agents like germs, viruses or fungi, which are called biological weapons,

can be used for genocide in war. Nearly 200 types of bacteria, viruses and fungi are present in the environment as carriers of bioterrorism. Dangerous organisms like anthrax, plague, botulism, tularaemia, glanders etc. are included in this. Many carriers are in powder form. These can be easily released into water or air or mixed into one's food. They can kill animals and other living beings within 24 hours.

❖ UNCCT, UNICRI and the UN Global Counter-Terrorism Coordination Compact are leading efforts to understand the threat of bioterrorism and how technology can be used as a solution.

What is Chemical Terrorism?

❖ An attempt to kill a large number of civilians by deliberately using poisonous chemicals is called chemical terrorism. Through this, not only civilians but also animals can be targeted. In this, such toxic vapours, aerosols, liquids or solid elements are used which can cause destructive effects. They can be released through bombs, sprayed from aircraft, boats and vehicles or used as liquids to pose a risk to people and the environment. The chemical elements that can be used in chemical terrorism include:

  » Agents that destroy human lungs, such as chlorine and cyanide.
  » Agents causing blisters (blister agents) in human body like mustard gas, sulfur and sulphur mustard.
  » Nerve agents like GD (Soman), GB (Sarin Gas), GA (Teban), GF and VX and some other insecticides.
  » Blood agents like arsine, auxin which were used in America and Vietnam war.

Russia accused Ukraine of committing Chemical Terrorism:

❖ Several Russian soldiers involved in military operations in Ukraine have been hospitalised with severe chemical poisoning, and this was confirmed by the Russian Defense Ministry. Russia's Defense Ministry has accused Kiev of 'Chemical Terrorism', saying that traces of botulinum toxin type B, a biological poison of synthetic origin, was found in samples taken from soldiers. Russian soldiers were hospitalised with signs of severe poisoning after being deployed near the village of Vasilievka in the Zaporozhye region. Moscow plans to send laboratory tests from troops to the Organization for the Prohibition of Chemical Weapons (OPCW).

❖ Botulinum poison, often called the 'miracle poison', is one of the most toxic biological substances known to science. Made by Clostridium botulinum bacteria,

it blocks the release of acetylcholine neurotransmitter, causing muscle paralysis.

❖ Botulinum toxin type A has been used in small doses in medicine in recent decades, particularly to treat disorders characterised by hyperactive muscle movements. It is also known in cosmetology under its short name, Botox. However, botulinum toxin has become a major threat as a bioweapon due to its ease of production and distribution. There is high mortality rate resulting from its toxicity and recovery from which is possible only after a long period of intensive care.

Indian Initiatives to combat Bioterrorism and Chemical Terrorism:

❖ India had called for an objective investigation into the alleged use of Chemical weapons in the year 2021. It also urged the United Nations Security Council to take cognisance of the dangers of weapons of mass destruction (WMD) falling into the hands of terrorist groups.

❖ India has provided one million US dollars to the Organization for the Prohibition of Chemical Weapons (OPCW) Trust Fund for activities related to the destruction of chemical weapons in Syria.

Global efforts to combat Bioterrorism and Chemical Terrorism:

❖ The United Nations Security Council has on several occasions specifically addressed the threat of weapons of mass destruction and chemical, biological, radiological and nuclear terrorism. In UNSC Resolution 1373 (2001), the Council recognised the link between international terrorism and, inter alia, the illicit transport of such materials.

❖ Its fundamental declaration on the issue came in the form of resolution 1540 (2004), through which the Council reaffirmed that the proliferation of chemical, biological, radiological and nuclear weapons and their means of delivery constitute a threat to international peace and security.

❖ The Security Council in resolution 2325 (2016) again called on Member States to strengthen their national anti-proliferation regimes in the implementation of resolution 1540 (2004).

❖ To this end, the UN Global Counter-Terrorism Strategy calls on Member States, international organisations and the UN system to:

  » Combat trafficking in chemical, biological, radiological and nuclear materials.
  » Ensure that advances in biotechnology are not

used for terrorist purposes.

» Improve border and customs controls to prevent and detect illicit trafficking of chemical, biological, radiological and nuclear weapons and materials.

» Improve coordination in planning a response to a terrorist attack using chemical, biological, radiological, and nuclear weapons or materials.

❖ In response to this global threat, the UNCCT has developed the Program on Preventing and Responding to Weapons of Mass Destruction/Chemical, Biological, Radiological and Nuclear (WMD/CBRN) Terrorism which seek to build a level of understanding of Member States and international organisations about the potential threat in relation to terrorism. This program supports prevention, preparedness and response efforts regarding such terrorism upon the request of the stakeholders.

Conclusion:

❖ The rapid advancement of artificial intelligence (AI) has profound implications across various domains, including the concerning potential for the development of biological and chemical weapons. This application of AI is particularly worrying because it is accessible to non-state actors and individuals.

❖ Large language models, such as ChatGPT, can quickly educate individuals on potentially harmful topics. As chatbots become more sophisticated, they may inadvertently help individuals with malicious intent to upskill on topics enabling them to do harm. In addition to this, they may also assist in collecting data more quickly in comparison to internet research.

❖ Furthermore, the pace of AI technology evolution often surpasses government regulatory oversight, creating a potential gap in existing regulations. As biotechnology becomes more accessible, it holds the promise of significantly improving personal and population well-being. However, this increased access also raises the risk of biodisasters due to accidental or malicious use.

Short Issues

Maratha Quota law of Maharashtra

Why in News:

The Maharashtra Assembly on February 20 had unanimously passed the Maharashtra State Reservation for Socially and Educationally Backward Classes Bill, 2024, granting 10% reservation in education and government jobs to the Maratha community.

Maratha quota in Maharashtra:

➢ This is the third time in the last decade that the State has introduced legislation for Maratha quota. The new legislation is similar to the Socially and Educationally Backward Classes Act, 2018 which was struck down by the Supreme Court in May 2021.

➢ The Bill does not disturb the existing OBC quota and those who fall within the "creamy layer" bracket (members of a backward class who are highly advanced socially, economically and educationally) will not be entitled to the benefit.

➢ The law has been formulated based on a report of the Justice (retired) Sunil B Shukre led Maharashtra State Backward Class Commission. It opined that "exceptional circumstances and extraordinary situations" justify granting reservation to the community beyond the Supreme Court approved 50% limit.

➢ The Commission also attributed extreme poverty, decline in agricultural income, and partitions in land holdings as reasons for the declining status of the Marathas. It further outlined that 94% of farmers who have died by suicide in the State belonged to the Maratha community.

➢ Maharashtra already has 52% reservations, split into Scheduled Castes (13%), Scheduled Tribes (7%), OBC (19%), Vimukta Jati (3%), Nomadic Tribe B (2.5%), Nomadic Tribe C (3.5%), Nomadic Tribe D (2%), and Special Backward Classes (2%).

➢ The 10% Economically Weaker Sections reservation is also applicable to the State making the total reservation 72% with the inclusion of the new quota.

The need for Reservations in India:

➢ Reservation is a form of affirmative action which can also be viewed as positive discrimination. It is a government policy, backed by the Indian Constitution by means of various amendments.

➢ The initial Indian Constitution granted reservations solely for legislative quotas, limited to a duration of 10 years until 1960 as specified in Article 334. The reservation was intended only for SC/ST communities. Amendments made subsequently prolonged the period of reservation for legislative quotas and widened the scope of reservation.

➢ The Constitutions aims to provide reservation for two main objectives:

» It aims for Advancement of Scheduled Castes and the Scheduled Tribes or any socially and educationally backward classes of citizens (e.g.: OBC) or Economically Weaker Sections, Article 15 (4), Article 15 (5), and Article 15 (6).

• The Constitution here aims to empower them and ensure their participation in the decision-making process of the State. Further it aims to end practices such as untouchability.

» It aims for adequate representation of any backward class of citizens or Economically Weaker Sections in the services under the State, Article 16 (4) and Article 16 (6).

• Reservation for Other Backwards Classes was introduced based on the Mandal Commission Report (1991).

Indra Sawhney vs Union of India, 1992:

➢ The case became a pivotal point in the history of reservation where the Indian Supreme Court capped caste-based reservation, ruling that "no provision of reservation or preference can be so vigorously pursued as to destroy the very concept of equality.

➢ The court further said that it has consistently held that the reservation under Articles 15(4) and 16(4) should not exceed 50% and the States and the Union have by and large accepted this. It should be held as constitutional prohibition and any reservation beyond 50% would liable to be struck down.

Conclusion:

The tussle between Marathas and OBCs regarding the Maratha quota law brings out the complexities of reservation politics in India. It shows how complex it is to create a balance between socio-economic fairness, legal frameworks, and the aspirations of different communities. This highlights the urgent need for a more thoughtful

approach to reservations, which perhaps involves a thorough socio-economic assessment. The goal is to make sure that affirmative action genuinely helps those who need it the most, without watering down the benefits for communities already under the reservation umbrella.

Prime Minister's visit to Arunachal Pradesh

Why in News:

China has lodged a diplomatic protest with India over the visit of Prime Minister to Arunachal Pradesh and reiterated its claim on the region, saying India's actions will further complicate the matter.

About the visit:

➢ Prime Minister Modi dedicated the Sela Tunnel to the nation. Built at an altitude of 13,000 feet, it will provide all-weather connectivity to strategically located Tawang and is expected to ensure better movement of troops in the border area.

➢ The Rs 825 crore tunnel, built on the road connecting Tezpur in Assam to West Kameng district of Arunachal Pradesh, is believed to be the world's longest two-lane road tunnel at such a height.

➢ The Sela Tunnel will provide better movement of troops and weapons to various forward locations along the Line of Actual Control (LAC) with China.

What is the controversy?

➢ The McMahon Line between China and India is considered the international boundary line but China rejects it. China says that a large part of Tibet is with India and on the basis of this it considers Arunachal Pradesh as a part of Tibet.

Reasons for the opposition by China:

➢ China, which claims Arunachal Pradesh as southern Tibet, regularly objects to visits by Indian leaders to the state to highlight its claims.

➢ India has repeatedly rejected China's territorial claims over Arunachal Pradesh and said the state is an integral part of the country. New Delhi has also rejected Beijing's move to rename the territory, saying it does not change the reality.

Conclusion:

Arunachal Pradesh has great strategic importance for India. From Aruchal Pradesh we can monitor China. It also acts as a gateway to South East Asia. Arunachal Pradesh is also a tourism hub and a major religious site for Buddhism.

Therefore, it becomes very important to monitor and develop Arunachal Pradesh.

Citizenship (Amendment) Rules, 2024

Why in News:

Recently the Central Government officially notified the Citizenship (Amendment) Rules, 2024, marking a significant development in India's citizenship framework. These rules have been brought under the Citizenship (Amendment) Act, 2019.

About Citizenship (Amendment) Act, 2019:

➢ The Citizenship (Amendment) Act, 2019 (CAA) is a legislative act passed by the Parliament of India on December 11, 2019 to amend the Citizenship Act of 1955. This amendment allowed religious minorities, to be granted Indian citizenship. It provides for citizenship for Hindus, Sikhs, Buddhists, Jains, Parsis and Christians who fled the neighboring Muslim-majority countries of Pakistan, Bangladesh and Afghanistan due to the fear of religious persecution before December 2014.

➢ Under the CAA 2019 amendment, migrants who entered India by 31 December 2014 will be eligible for fast-track Indian citizenship. The amendment reduced the residence requirement for naturalization from 11 years to 5 years.

What are the CAA 2024 rules?

➢ The rules, in line with the 2019 amendment to The Citizenship Act, 1955, aim to grant citizenship to migrants belonging to Hindu, Sikh, Buddhist, Jain, Parsi or Christian communities who entered India before December 31, 2014, from Pakistan, Afghanistan or Bangladesh.

Exemptions from CAA:

➢ Autonomous councils created under the Sixth Schedule of the Constitution have been exempted from the purview of the CAA. Therefore, the law in force will not be implemented in most of the tribal parts of the North-Eastern States. Autonomous councils under this special status include Karbi Anglong, Dila Hasao and Bodoland Territorial Council areas in Assam, Garo Hills in Meghalaya and tribal areas in Tripura.

➢ Areas in the northeastern states that require Inner Line Permit (ILP) for travel by people from other parts of the country have been excluded from the law. ILP is applicable in parts of Arunachal Pradesh, Nagaland, Mizoram and Manipur.

What the rules state

Centre has implemented CAA, 4yrs after the law was passed, as it notified rules ahead of expected announcement of LS polls

THE 39-PAGE NOTIFICATION...
of the Citizenship (Amendment) Rules, 2024

...STATES THAT AN APPLICANT WILL HAVE TO SUBMIT

- Form VIIIA, with affidavits verifying statements and character of applicant
- Declaration that they have adequate knowledge of a language specified in 8th schedule of Constitution
- Supporting papers like a passport, or identity document to show someone in lineage was a citizen of one of the three countries

APPLICANT MUST ALSO PROVE

1. They entered India before December 31, 2014
2. The applicant or either of his parents was a citizen of Independent India

Protest against CAA:

➢ The amendment discriminates against Muslims and violates the right to equality enshrined in the Constitution. Some also question the exclusion of persecuted religious minorities from areas such as Tibet, Sri Lanka and Myanmar.

➢ Protesters in Assam and other northeastern states have expressed concern over the potential loss of political, cultural and land rights of indigenous peoples. There is also a possibility of increase in migration from Bangladesh.

Conclusion:

Several petitions challenging the constitutional validity of the Citizenship (Amendment) Act, 2019 have been filed in the Supreme Court. Government should have waited for the observations of the Supreme Court before implementing the rules.

Bribe for Vote

Why in News:

A seven-judge bench of the Supreme Court, while giving its verdict in the case related to the privilege of MPs and MLAs, has said that taking bribe for speech or vote in the Parliament and Legislature does not come under the purview of the privilege of the House. So if the MP or MLAs give speeches or vote in the House after taking bribes, then

a criminal case can be filed against them in the court.

Background:

➢ The Supreme Court in the case of PV Narasimha Rao vs Republic of India 1998 had ruled that MLAs-MPs should not be prosecuted in cases of taking bribes for their speeches or votes in Parliament and the state Legislature.

THE TIMELINE

■ **April 17, 1998:** A five-judge Constitution Bench held in the Narasimha Rao vs CBI case that lawmakers have immunity against criminal prosecution for any speech made and the vote cast inside the House under Articles 105(2) and 194(2) of the Constitution

■ **February 17, 2014:** Jharkhand HC refuses to quash criminal case against JMM leader Sita Soren for allegedly taking bribe in Rajya Sabha polls in 2012

■ **September 23, 2014:** A two-judge SC Bench places before a larger Bench the plea of JMM leader Sita Soren

■ **March 7, 2019:** A three-judge Bench refers the issue related to immunity of lawmakers to a larger Bench

■ **September 20, 2023:** A five-judge Bench refers the issue and reconsideration of the 1998 verdict to a Bench of seven judges

■ **October 5, 2023:** The seven-judge Bench reserves judgment

■ **March 4, 2024:** Observing that bribery is not protected by parliamentary privileges, the seven-judge Bench overturns five-judge Bench's interpretation in the 1998 verdict in the JMM bribery case

Observations by the Court:

➢ The Constitution Bench headed by CJI DY Chandrachud said that we disagree with the judgment given in 1998 in which MPs and MLAs were given immunity from prosecution for giving speeches in the House or taking bribes for votes.

➢ The Supreme Court ruled that lawmakers cannot claim immunity from prosecution in bribery cases. The court explained that the legal protection provided to MPs and MLAs under Articles 105 and 194 of the Constitution does not shield them in cases of accepting bribes for votes or speeches in the House.

➢ The Court further observed that Articles 105(2) and 194(2) of the Constitution are meant to maintain an environment of debate and discussion inside the House.

About Parliamentary Privilege:

➢ Articles 105 (2) and 194(2) of the Constitution states that no member of the Parliament or the Legislature of a State shall be answerable to any court for anything said in the House or for any vote given in the House. No person will be held accountable in any court for any report or publication.

Conclusion:

The privileges given to MPs and MLAs is to empower them to openly raise issues related to the people of their area. Public representatives should understand that when they visit an area to ask for votes, they are representing a particular political party. If they end up voting for any other party against the sentiments of their constituents, it undermines the principles of democracy.

INS Jatayu

Why in News:

Naval Detachment Minicoy was recently commissioned as INS Jatayu, an upgraded naval base. This marks an important milestone in the Indian Navy's resolve to incrementally augment security infrastructure at the strategic Lakshadweep Islands.

About INS Jatayu:

➢ INS Jatayu will be the country's second naval base in Lakshadweep. The Navy's first base on the islands, INS Dweeprakshak in Kavaratti, was commissioned in 2012.

➢ Generally, a naval detachment has administrative, logistics, and medical facilities. After obtaining the requisite environmental and other clearances, INS Jatayu will be upgraded to a naval base with additional infrastructure such as an airfield, housing, and personnel.

Impact on operational capability of Lakshadweep:

➢ The establishment of the base is in line with the government's focus on comprehensive development of the islands.

➢ The basing of an independent naval unit with requisite infrastructure and resources will enhance the overall operational capability and reach of Indian Navy in the islands.

➢ It will facilitate India Navy's anti-piracy and anti-narcotics operations in the Arabian Sea and augment its capability as the first responder in the region.

➢ It will further enhance the Navy's reach and operational surveillance capabilities especially with regard to growing influence of China in the Indian Ocean Region and its strained relations with Maldives.

The Lakshadweep Islands

➢ Lakshadweep literally means 'A Hundred Thousand Islands' in Sanskrit and Malayalam. It is an archipelago of 36 islands located between 220 km and 440 km from Kochi. The islands, only 11 of which are inhabited, have a total area of only 32 sq km.

➢ These islands are part of a chain of coralline islands in the Indian Ocean that includes Maldives to the south and the Chagos archipelago farther beyond, to the south of the equator.
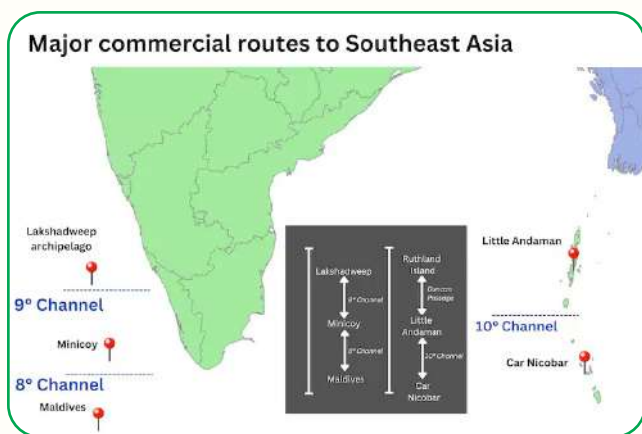
Conclusion:

Given the location in the Indian Ocean, the Lakshadweep is of huge strategic importance to India. Minicoy straddles vital Sea Lines of Communications (SLOCs) the world's main maritime highways, including the 8° Channel (between Minicoy and Maldives) and the 9° Channel (between Minicoy and the main cluster of Lakshadweep islands). The development of the naval base will certainly enhance the overall potential of the island. However, the fragile ecology of the island and their vulnerability to Marine Pollution may pose challenges and thus must be paid heed to ensure sustainability.

One Nation, One Election

Why in News:

To ensure that all the elections in the country are held simultaneously, the Ramnath Kovind Committee has submitted the draft of 'One Country, One Election' to the President. The committee has proposed to hold simultaneous elections for the Lok Sabha and all the legislative assemblies in the country in 2029. It has been suggested to hold Lok Sabha and Legislative Assembly elections in the first phase and municipal corporation level elections in the second phase.

Key suggestions of the committee:

➢ The committee has recommended constitutional amendment regarding simultaneous elections so that elections to the Lok Sabha, all state assemblies and local bodies can be held by 2029.

➢ The committee suggested that in the first phase, elections to the Lok Sabha and State Assembly should be held simultaneously. Then, elections to municipalities and panchayats would be coordinated in such a way that it is held within 100 days of the Lok Sabha and State Assembly elections.

➢ In the event of a hung House or a no-confidence motion, fresh elections can be held for the remaining term.

➢ The committee has recommended a single voter list and a single voter photo identity card (EPIC) for elections to all three levels of the Government of India – Central (Lok Sabha), State (Legislative Assembly) and local (Municipalities).

Need of One Nation One Election:

➢ Every year elections are held in some state or the other in the country. Due to the continuity of elections, country is always in election mode.

➢ This not only affects administrative and policy decisions but also puts a huge burden on the country's treasury. To avoid all this, policy makers came up with the idea of holding simultaneous elections for the Lok Sabha and state assemblies.

Legal Issues Affecting the Implemention:

➢ The Law Commission of India had released its draft report on the elections. It said that there is a need to make appropriate amendments in the Constitution, the Representation of the People Act 1951 and the rules of procedure of the Lok Sabha and State Assemblies.

➢ This historic change in the country's politics will be possible only when the present government is elected with a two-thirds majority. Also, there is a constitutional obligation that before implementing this law, it will have to be passed by the assemblies of atleast half the states of the country.

Way Forward:

There is no major flaw in the concept of One Nation, One Election, but the way political parties are opposing it, it seems that it will not be easy to implement. Now there is a need for all political parties to debate this issue with an open mind so that it can be implemented.

Cinematograph (Certification) Rules, 2024

Why in News:

The Central government has notified the Cinematograph (Certification) Rules, 2024, in order to improve the process of certification of films for public exhibition.

Highlights of the Rules:

➤ The rules introduce age-based categories, subdividing the existing UA category into three:
  » UA 7+ (for ages seven and above).
  » UA 13+ (for ages thirteen and above).
  » UA 16+ (for ages sixteen and above).

➤ These markers are recommendatory, intended for parents or guardians to consider when deciding whether their children should view a particular film.

➤ **Equal gender representation on the board:** Within the CBFC Board, one-third of the members will be women, with a preference for achieving gender parity by having half of the members be women.

➤ **Certification timeline and validation:** A new provision allows for expedited screening of films for certification in cases of urgency felt by filmmakers due to prior commitments for releasing the film. Further, the new rules establish perpetual validity for CBFC certificates, replacing the previous 10-year period.

➤ **Television broadcast:** Films edited for television broadcast will require recertification, as only unrestricted public exhibition category films can be shown on television.

➤ **Inclusivity for Specially-abled:** Guidelines for ensuring accessibility for persons with hearing and visual impairments to films have been notified by the government.

➤ **Feature films:** Feature films intended for public exhibition in cinema halls or movie theatres for commercial purposes must adhere to the established guidelines.

➤ **Compliance timeline:** Films requiring certification in more than one language must comply with the rules within six months, while others have a compliance timeline of two years.

➤ Beginning January 1, 2025, films submitted for prestigious events such as the National Film Awards and the International Film Festival will need to adhere to the established guidelines.

➤ **Committee for implementation:** Oversight of the implementation will be managed by a dedicated committee appointed by the Ministry, with half of its members being persons with hearing or visual disabilities and representatives from the film industry.

Conclusion:

The Cinematograph (Amendment) Act, 2023, is a significant step towards combating piracy and enhancing the Ease of Doing Business for the Indian Film Industry. These rules will play a crucial role in enabling individuals with hearing and visual impairments to enjoy cinema fully, promoting their inclusion in mainstream society.

By Election in the Akola West Assembly Seat Withholded

Why in News:

The Bombay High Court set aside the Election Commission (EC) notification issued for holding bypoll in the Akola West assembly constituency in Maharashtra. The court observed that the new incoming member would get a period of less than one year and therefore it (holding bypoll) would be a violation of section 151 (A) of the Representation of the People Act.

About Section-151A:

➤ Bye-election for filling any vacancy shall be held within a period of six months from the date of the occurrence of the vacancy: Provided that nothing contained in this section shall apply if
  » The remainder of the term of a member in relation to a vacancy is less than one year.
  » The Election Commission in consultation with the Central Government certifies that it is difficult to hold the bye-election within the said period.

About By Election:

➤ A by-election, also known as a bypoll, is an election held to fill vacant elected offices between general elections. By-elections are held in constituencies due to the death or resignation of candidates.

➤ Bypolls are important in the electoral cycle to address unforeseen vacancies. The primary purpose of bypolls is to ensure timely representation of the affected constituency or district in the legislative body.

About Election Commission of India:

➤ Election Commission of India is a permanent Constitutional Body. The Election Commission was established in accordance with the Constitution on 25th January 1950.

➤ Originally the commission had only a Chief Election Commissioner. It currently consists of Chief Election

Commissioner and two Election Commissioners.

➢ The Constitution of India has vested in the Election Commission of India the superintendence, direction and control of the entire process for conduct of elections to Parliament and Legislature of every State and to the offices of President and Vice-President of India.

➢ Under the Constitution, the Commission also has advisory jurisdiction in the matter of post election disqualification of sitting members of Parliament and State Legislatures. The cases of persons found guilty of corrupt practices at elections which come before the Supreme Court and High Courts are also referred to the Commission for its opinion on the question as to whether such person shall be disqualified from contesting elections and, if so, for what period.

Conclusion:

The decision given by the court establishes the rule of law where rules, regulations and the constitution are supreme.

Criminalisation of Politics in India

Why in News:

According to poll rights body Association for Democratic Reforms (ADR), Thirty-six per cent of Rajya Sabha candidates have declared criminal cases against themselves while the average assets of candidates analysed stood at Rs. 127.81 crore.

More from the Report:

➢ Additionally, 17% of these individuals face serious criminal charges with one candidate having cases related to attempted murder.

➢ Approximately 21% of the candidates are billionaires, with assets exceeding Rs 100 crore, reflecting the significant wealth amassed (collect) by certain individuals in the political arena.

➢ The majority (76%) of candidates belong to the 51-70 age groups, with only 19% being women, reflecting gender disparities in political representation.

About ADR:

➢ ADR is a non-partisan, apolitical organization in India that has been working on electoral and political reforms for over 25 years.

Rationale for criminalisation in Politics:

➢ The criminalization of political parties stems from the nexus between criminals and politicians, intertwined with the dynamics of vote-bank politics.

➢ Contributing factors include:

➢ The insufficient enforcement of laws and judgments,

➢ A deficit in ethical standards and values.

➢ Vulnerabilities in the functioning of the election commission.

➢ Additionally, the issue is closely tied to the political manipulation of state machinery and the pervasive influence of corruption.

➢ Furthermore, the reluctance of the political system to amend laws or overhaul the existing system perpetuates this challenging situation.

21(36%) Rajya Sabha Candidates with Criminal Cases

10(17%) Rajya Sabha Candidates with Serious Criminal Cases

12 (21%) Billionaire Rajya Sabha Candidates

Rs. 127.81 crores Average Assets of Rajya Sabha Candidates
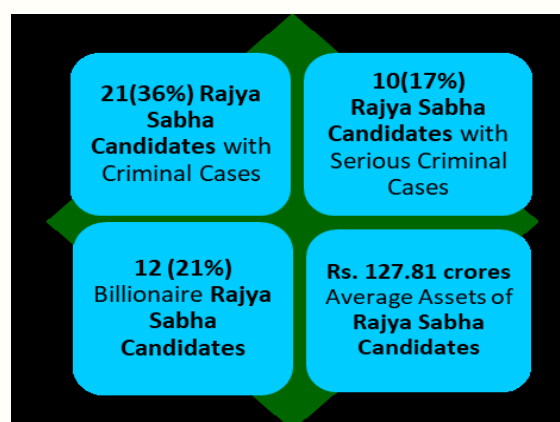
Concerns related to Criminalization of Politics:

➢ Safety and Security Concerns: The fundamental aim of governance is to ensure the safety and security of citizens, who entrust their elected representatives with this crucial responsibility. However, when elected officials have criminal records, their commitment to an effective and prompt criminal justice system may be questionable.

➢ Diminished Conviction Rates: According to the 2021 report from the National Crime Records Bureau, merely 10,416 murder cases were resolved during the year, resulting in a meager 42.4% conviction rate..

➢ Influence at Police Stations: Politicians wield significant influence within police stations, compromising the integrity and impartiality of field staff.

Way Forward:

➢ Addressing the criminalization of politics in India is an urgent matter that demands immediate attention. The participation of criminals in the political arena not only subverts the democratic process but also impedes the nation's progress.

➢ A crucial step toward resolution involves reforming the role of political parties, making their candidate

selection processes more transparent and accountable.

➢ It is imperative to implement stringent measures promptly to curb this menace and restore confidence in the democratic system.

Electoral Bonds

Why in News:

The Supreme Court of India has ordered the release of the final tranche of data from the State Bank of India, providing a nearly complete picture of electoral financing, which was once an opaque route. The SBI has released data on the unique numbers for electoral bonds purchased by corporate and individual donors and later encashed by political parties.

Chronology of events in Electoral bonds case

- **2017** — Electoral bond scheme introduced in the Finance Bill
- **2017 Sep 14** — NGO 'Association for Democratic Reforms', lead petitioner, moves SC challenging the scheme
- **2017 Oct 03** — SC issues notices to Centre and EC on PIL filed by the NGO
- **2018 Jan 2** — The Central government notifies electoral bond scheme.
- **2022 Nov 7** — Electoral bond scheme amended to increase sale days from 70 to 85 in a year where any assembly election may be scheduled
- **2023 Oct 16** — SC bench headed by CJI DY Chandrachud refers pleas against scheme to five-judge Constitution bench
- **2023 Oct 31** — Fve-judge Constitution bench headed by CJI D Y Chandrachud commences hearing on pleas against scheme
- **2023 Nov 2** — SC reserves verdict
- **2024 Feb 15** — SC delivers unanimous judgement annulling the scheme, calling it 'unconstitutional'

Key observation made by Supreme Court:

The Supreme Court ruled that anonymous electoral bonds breach the Right to Information and Section 19(1)(a) and that providing financial support to political parties through these bonds could result in a quid pro quo arrangement.

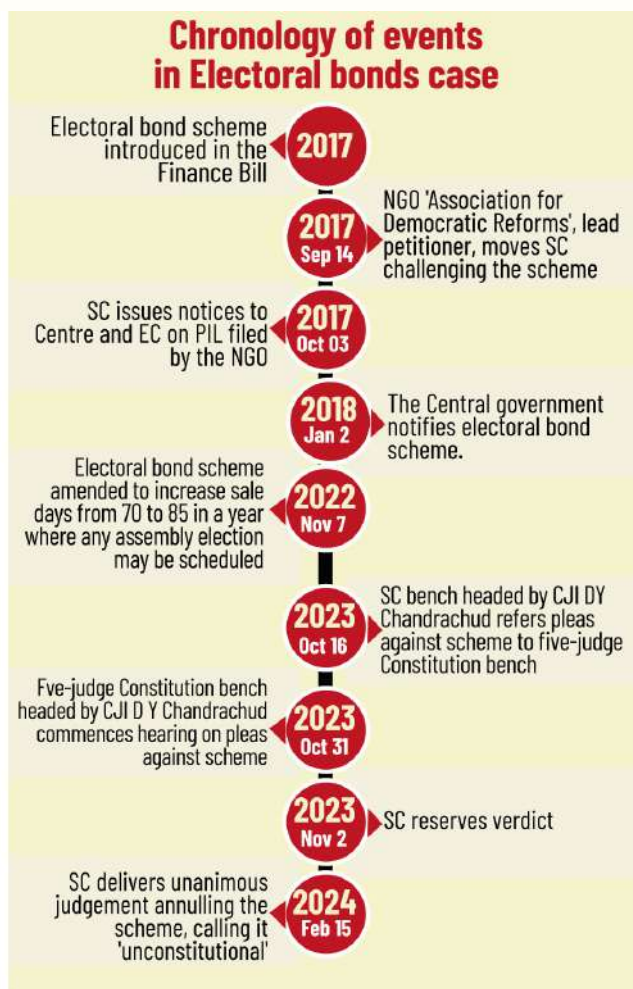➢ **Need for alternative schemes:** The court suggested that the electoral bonds scheme is not the only scheme to curb black money, implying the need for alternatives. It also stated that violating the right to information is not justified by the goal of curbing black money.

➢ **Unconstitutionality of companies act amendment:** The Court stated that amendment to the Companies Act, which allows blanket corporate political funding, is unconstitutional.

➢ **Selective anonymity and confidentiality:** The court criticized the scheme for providing "selective anonymity" and "selective confidentiality," as the details of electoral bonds are available with the State Bank of India (SBI) and can also be accessed by law enforcement agencies.

➢ **Data disclosure by Election Commission:** Supreme Court directed Election Commission of India (ECI) to produce data on electoral bonds' contributions till September 30, 2023. The court also directs SBI to furnish the details of electoral bonds encashed by the political parties to the Election Commission of India (ECI).

Electoral Bonds and Electoral Bonds Scheme:

➢ Electoral bonds are financial instruments similar to promissory notes that can be purchased by companies and individuals in India exclusively from the State Bank of India (SBI) for donation to a political party.

➢ These bonds can only be redeemed in the specified account of a registered political party. Individuals have the option to purchase bonds either singly or jointly with others.

➢ The Electoral Bonds Scheme was introduced in 2018 with the aim of purifying political funding in India.

➢ The primary objective of the scheme was to enhance transparency in electoral funding in the country.

➢ The government characterized the scheme as an "electoral reform" in a nation transitioning towards a "cashless-digital economy".

Conclusion:

The court criticized the government's contention that voters do not have the right to know the source of funding of political parties. In this regard, the court added that the Union government should consider designing a new system that balances proportionality and paves the way for a level playing field.

Dimensions of India's Free Trade Agreement with European countries

India's foreign policy widely uses economic diplomacy to achieve its economic interests. It endeavors to connect with the global economy to reap the benefits of globalization and the LPG model by working to secure its economic interests through Free Trade Agreements and Preferential Trade Agreements with various countries and organizations. However all of this is done by not compromising with the interests of domestic producers. Therefore, the process of moving forward with Free Trade Agreements is done only after due consideration of trade rules and laws like Rules of Origin, Trade Facilitation, etc.

Recently, India has signed a Free Trade Agreement with a group of European countries which includes Switzerland, Norway, Iceland and Liechtenstein. India and members of the European Free Trade Association (EFTA) have held 21 rounds of talks over 16 years to finalize a broad trade and investment agreement. This shows that India has examined every clause of the agreement keeping in mind its economic interests.

Whenever there is a Free Trade Agreement with any country or organization, all types of tariff barriers have to be removed along with duty imposed on goods but this has limitations. A country cannot fill its market with foreign goods through Free Trade Agreement. India has kept this in mind in the Free Trade Agreement with EFTA countries. New Delhi is expected to receive an investment of $ 100 billion in 15 years after this agreement.

Potential benefits for India from FTA with EFTA:

❖ It is crucial for India to follow the path of Free Trade Agreement to become the world's third largest economy of more than 5 trillion dollars, reduce its global trade deficit, and increase exports to European countries. Today India is commercially strong in many sectors and to strengthen it further, there is a need to diversify its business and work for a greater market access. Due to high tariff rates on Indian products in many countries, India's exports and ultimately its Foreign Exchange Reserves, trade balance etc. are impacted. All these issues have led India to enter into Free Trade Agreement with the UAE, Australia and now with EFTA countries.

❖ India's FTA with EFTA countries will expectedly boost the export of Indian pharmaceutical products drugs, textiles, chemicals and machinery. The country will also be able to attract investment in automobile industry, food processing, railways, financial and service sectors.

❖ India was EFTA's fifth largest trading partner after the EU, United States, Britain and China, with total bilateral trade touching $25 billion in 2023. During this period, India has exported $2.8 billion to EFTA and imported about $22 billion exhibiting a significant trade deficit. To cover this, India will need greater market access to increase exports to these countries. This FTA will provide Indian exporters access to major European and global markets.

❖ With a population of 13 million and a combined GDP of more than $1 trillion, EFTA is the world's ninth largest trading block and fifth in terms of commercial

services. Funds in the EFTA region include Norway's $1.6 trillion sovereign wealth fund, which is world's largest 'pension' fund. It has earned record returns of about $213 billion in 2023 on its investments in technology stocks.

❖ For the first time in the history of FTA, a binding commitment of $100 billion investment and 1 million direct jobs has been made by India and the EFTA countries. This agreement will promote Make in India and provide opportunities to young and talented workforce.

India-EFTA FTA highlights:

❖ The agreement consists of 14 chapters, the main focus of which are market access, rules of origin, trade facilitation, trade remedies, sanitary and phytosanitary measures related to goods, technical barriers to trade, investment promotion, market access on services, intellectual property rights, trade and sustainable development and other related legal provisions.

❖ EFTA has made a commitment to promote investments in India with the aim of Foreign Direct Investment upto $100 billion over the next 15 years. The objective is to facilitate the creation of 1 million direct jobs in India through such investments. It is important to note that the investment does not cover Foreign Portfolio Investment.

❖ For the first time in the history of the FTA, a legal commitment is being made to promote destination-oriented investment and create jobs.

❖ EFTA is offering 92.2 per cent of its tariff lines covering 99.6 per cent of India's exports. Its market access proposal includes 100 percent tariff concession on

non-agricultural products and Processed Agricultural Products (PAP).

❖ India has offered to cover 82.7% of its tariff lines, which accounts for 95.3% of EFTA's exports, of which over 80 per cent of imports are gold. However, the duty on gold imports remains unchanged. India has been careful to consider the sensitivities related to PLI in sectors such as Pharma, medical devices, and processed food, while making this offer. The exclusion list includes sensitive agricultural products, dairy, soya, and coal sectors.

❖ India has offered 105 sub-sectors to EFTA and received commitments in 128 sub-sectors from Switzerland, 114 from Norway, 107 from Liechtenstein and 110 sub-sectors from Iceland.

❖ Trade and Economic Partnership Agreement (TEPA) signed between India and EFTA will encourage export of services from India in sectors of key strength such as IT services, business services, personal, cultural, sports and recreational services, other education services, audio-visual services etc.

❖ EFTA's service offering includes improved access through digital delivery of services (Mode 1), commercial presence (Mode 3) and improved commitments and certainty for entry and temporary stay of key personnel (Mode 4).

❖ The Trade and Economic Partnership Agreement has provisions for mutual recognition agreements in professional services like nursing, chartered accountants, architects etc.

Trade & Economic Partnership Agreement (TEPA) INKED

- $100 Bn FDI in next 15 yrs boosting 'Make In India'
- 10 lakh direct jobs for India's young workforce
- Better facilities for vocational & technical training
- Technology collaboration across different sectors
- Tariff Concessions related to agri & processed food products to boost India's exports
- Growth in industrial exports
- Greater integration into global value chains
- Better access to independent professionals & service providers etc to EFTA countries

First time in history of FTAs, a binding commitment on investment promotion & job creation.

❖ The commitments related to intellectual property rights in the Trade and Economic Partnership Agreement are at the TRIPS level. The IPR chapter with Switzerland, where there are high standards for IPR, reflects India's strong IPR (Intellectual Property Rights) regime. India's interests in generic drugs and the specific aspects of patent law and international trade law involved in the process of ever greening of patents have been fully addressed.

❖ India has signaled its commitment towards sustainable development, inclusive growth, social development and environmental protection.

❖ The agreement promotes transparency, efficiency, simplification, coherence and sustainability of trade processes.

❖ TEPA will empower our exporters to access specialized inputs and create a favorable trade and investment environment. This will boost exports of goods manufactured in India and will also provide opportunities to the service sector to reach more markets.

❖ TEPA offers the opportunity to integrate into EU markets. More than 40 percent of Switzerland's global services exports go to the European Union. Indian companies can look to Switzerland as a base to expand their market access to the EU.

❖ It will accelerate "Make in India" and Atmanirbhar Bharat by encouraging domestic manufacturing in sectors such as infrastructure and connectivity, manufacturing, machinery, pharmaceuticals, chemicals, food processing, transport and logistics, banking and financial services and insurance.

❖ Further, it will accelerate the creation of a large number of direct jobs for India's young aspiring workforce along with improved facilities for vocational and technical training over the next 15 years in India.

❖ It will also facilitate technology collaboration and access to world leading technologies in precision engineering, health sciences, renewable energy, innovation and R&D.

Strengthening Relations between India and Switzerland:

❖ On the India-EFTA agreement, the Swiss government has said that it will benefit manufacturers making Swiss machinery, watches and luxury products related to transportation. India has also invited Swiss transport companies to invest in railways. The agreement gives EFTA countries the opportunity to export processed foods and beverages, electrical machinery and other engineering products at lower tariffs to a market of potentially 1.4 billion people. The pharmaceutical and medical device industry may also benefit from this trade agreement.

❖ India hopes that this agreement will improve trade relations with Switzerland, EFTA's largest partner. India is its fourth largest trading partner in Asia and is EFTA's largest partner in South Asia. Apart from banks like UBS, more than 300 Swiss companies like Nestle, Holcim, Sulzer and Novartis operate their businesses in India, while leading Indian IT companies TCS, Infosys and HCL operate in Switzerland.

Limitations of EFTA Agreement:

❖ India had earlier rejected the demand of the four countries that 'data exclusivity' provisions be included in the agreement. This will make it difficult for Indian companies to produce generic variants of off-patent medicines.

❖ India and EFTA have agreed to largely keep imports of "sensitive" agricultural products and gold out of the agreement. Dairy, coal, soya and sensitive agricultural products will remain out of the scope of duty exemption.

❖ According to a report by Global Trade Research Initiative, Switzerland's policy of duty-free entry for all industrial goods from any country will be effective from January 1, 2024. This may affect the profits of Indian companies. Analysts have warned that India may face difficulties in exporting agricultural produce to Switzerland due to the complexity of tariffs, quality standards and approval requirements.

❖ There has been no assurance from EFTA that agricultural duties will be reduced to zero on most basic agricultural produce.

❖ The elimination of tariffs on all industrial products including chemicals, consumer goods, vehicles and textiles is also matter of concern for India as industrial goods account for 98 per cent of India's $1.3 billion merchandise exports to Switzerland in FY23. India's goods will face tougher competition in the EFTA market following any tariff elimination that will be part of the deal.

Short Issues
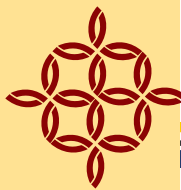
Sweden becomes 32nd Alliance member of NATO

Why in news:

On March 7, almost 2 years after Sweden first submitted it's application and a year after Finland joined the North Atlantic Treaty Organisation, Sweden officially became the NATOs 32nd member.

Significance of the Move:

➢ Sweden declined to take sides during both world wars and throughout the Cold War, embracing neutrality as core to its security policy and even its national identity. However, after Russia attacked Ukraine, public opinion shifted in both Finland and Sweden.

History behind Sweden's neutrality:

➢ Sweden's tradition of neutrality dates back to the Napoleonic wars in the early 19th century, a time when the country sought to distance itself from the power struggles engulfing Europe. Despite emerging victorious in battles against Napoleon, the loss of Finland to Russia led Sweden to abandon aspirations of maintaining a significant role on the global stage.

➢ King Karl XIV John formalized Sweden's neutrality in 1834, emphasizing the country's desire to avoid entanglements in the conflicts of major powers.

➢ Throughout history, this stance evolved, particularly during the Cold War when Sweden and Finland served as buffer states between NATO and the Warsaw Pact. This positioning aimed to mitigate tensions with Russia, a dominant neighbor in the Baltic Sea region.

➢ Despite its neutrality, Sweden maintained a robust military capability, demonstrating its readiness to defend itself if necessary.

➢ Events such as Russia's annexation of Crimea in 2014 further prompted Sweden to reevaluate its approach. Consequently, the country increased military investments and strengthened ties with NATO, through reinstatement of conscription in 2017 and reestablishment of a regiment on the strategically vital island of Gotland.

➢ Over time, Sweden's alignment shifted from strict neutrality towards nonalignment, reflecting its integration into the Western sphere and membership in the European Union since 1995.

Military Significance:

➢ Sweden brings to the table well-trained and equipped armed forces. The country has been working in close coordination with NATO during military exercises over the years and even more since Russia's full-fledged invasion began. It also meets NATO's defense spending target of 2% of gross domestic product.

➢ **Article 5 of Washington treaty:** Once a country is a NATO member, an attack on its territory is considered an attack on the US-led alliance, and all 31 members are obliged to defend each other. This article will now applicable to Sweden as well.

Strategic significance:

About NATO

North Atlantic Treaty Organization (NATO) is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April, 1949. This alliance was established by the United States, Canada and several Western European nations to provide collective security against the Soviet Union. Currently there are 32 members in the alliance with its original members including the original members Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States.

France withdrew from the integrated military command of NATO in 1966 but remained a member of the organization; it resumed its position in NATO's military command in 2009. The original signatories were joined by Greece and Turkey (1952), West Germany (1955, from 1990 as Germany), Spain (1982), the Czech Republic, Hungary, and Poland (1999), Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia (2004), Albania and Croatia (2009), Montenegro (2017), North Macedonia (2020), Finland (2023) and Sweden (2024).

- **NATO's hold over Baltic and Arctic:** Sweden's membership completes a strategic ring of NATO territory around the Baltic Sea. Earlier, Finland became the NATO member in April 2023. The membership also establishes firm hold of NATO over arctic, a strategically important area of dominance for Russia where China too seeks access as part of its Belt and Road Initiative.

- **Implications on Indo-Pacific:** NATO is looking eastwards with eye on China and it will have notable impact on Indo-Pacific. As a NATO member, Sweden is likely to influence its eastward mission by supporting a more hawkish stance on China, which could include reworking political caveats that prevent NATO from framing China as a security threat to European security.

- Sweden will add weight to NATO's current strategy of building stronger inroads in the Indo-Pacific through security partnerships and will look to boost NATO's tailor-made programs with partner-states in the Indo-Pacific, namely South Korea, Japan, Australia, and New Zealand.

- **The China angle:** NATO has openly highlighted the convergence between China and Russia. It has openly targeted China's diplomatic, technological, and economic tactics that seek to constrain its partners' values and interests which ultimately undermine the rules-based order.

  » Although, Euro-Atlantic remains NATO's core mandate, it now identifies the importance of tacking the geopolitical and ideological competition that China poses, primarily through deeper security partnerships with like-minded Indo-Pacific states.

  » China's adoption of heavy-handed wolf warrior diplomacy has also heightened tensions.

- **Impact on India:** Sweden's neutrality is in line with India, and thus will become extremely vital. India too was a state that has refused to participate in military alliances but has managed to effectively raise its security partnerships nonetheless primarily to counter its China's hostilities.

Conclusion:

As Sweden and Finland enter into the U.S. led NATO, changes necessary to improve national or regional defense, must be accompanied by redoubled efforts toward revitalizing multilateral institutions for enabling a semblance of true peace and stability.

Maldives-China Defence Pact

Why in News:

The Maldivian Defence Ministry has announced the signing of a military pact with China. It was announced days after a technical team from India arrived in the Maldives, to replace troops that President Mohamed Muizzu wanted to remove.

Increasing China-Maldives Relations:

- The development is in line with the two countries agreeing to elevate China-Maldives relations to a comprehensive strategic cooperative partnership. The two sides also held bilateral talks on military cooperation.

- Both nations have signed an agreement on China's provision of military assistance to the Republic of Maldives, fostering stronger bilateral ties. Further, China has donated 12 green ambulances to the Maldives's Health Ministry.

Impact on India-Maldives Relations:

- The development coincides with New Delhi's apparent compromise with Male, agreeing to withdraw its troops stationed in the island nation and replacing them with a technical team to help operate India-gifted aircraft.

- Following bilateral discussions between a high-level core group, the two sides in early February reached a consensus on Indian troops leaving the Indian Ocean archipelago by May 10, 2024, in phases.

- Although Maldives-India ties have been mostly cordial over the years, there was a noticeable tilt towards China during the presidency of Progressive Party of Maldives (PPM) leader Abdulla Yameen from 2013 to 2018. It was under Mr. Yameen that China inducted Maldives as a part of its Belt and Road initiative (BRI).

Boycott Maldives Campaign:

- India was the largest source market for Maldives last year, but has since moved to the sixth spot, following the "boycott Maldives" campaign.

- Maldives has urged Chinese travelers to reclaim their top spot in tourist arrivals to the island nation.

- According to the Maldivian Tourism Ministry's latest figures, China accounts for 12.8 % of the total number of visitors — 4,31,002 as of March 3 recorded in 2024, while India accounts for 6.4 %.

Conclusion:

Maldives is a mere 700 km from the Indian coast and over 6,000 km from China. From the tsunami in 2004 to the drinking water crisis a decade later, India was the first to

rush aid for Maldives. At the same time, China's strategic interests in the Indian Ocean make smaller littoral states perfect targets for Beijing's diplomatic outreach. Delhi must continue to engage with Male, as well as the people of Maldives.

Abortion Rights in France

Why in News:

The French Parliament on March 4 has approved a bill to enshrine abortion as a constitutional right at a historic joint session at the Palace of Versailles. France has become the only country to explicitly guarantee a woman's right to voluntarily terminate a pregnancy.

Abortion Rights in France:

➢ Abortion was legal in France since 1975. However, it will now be a guaranteed freedom for women. Unlike in the United States, the issue of abortion is not highly divisive across the political spectrum in France. Most French people believe that abortion is a woman's right and an essential public health service.

➢ The Bill, introduced last year, amended the 17th paragraph of Article 34 of the French constitution. The amendment stipulates that "the law determines the conditions by which is exercised the freedom of women to voluntarily terminate a pregnancy, which is guaranteed." This means that future governments will not be able to drastically modify existing laws which permit termination up to 14 weeks.

Abortion in other European countries:

➢ Abortion is currently accessible in more than 40 European nations, but some countries are seeing increased efforts to limit access to the procedure.

➢ In September 2023, government of Hungary made it obligatory for women to listen to fetal heartbeat, before they can access a safe abortion.

➢ Poland allows termination only in the event of rape, incest or a threat to the mother's health or life. In 2020 when the country's top court ruled that abortions on the grounds of foetal defects were unconstitutional.

➢ UK permits abortion upto 24 weeks of pregnancy, if approved by two doctors. Delayed abortions are allowed only if there exists a danger to the mother's life. However, women who undergo abortions after 24 weeks can be prosecuted under the Offences against the Person Act, 1861.

Abortion Rights in India:

➢ India has the Medical Termination of Pregnancy (MTP) Act, which permits licensed medical professionals to perform abortions in specific predetermined situations as provided under the legislation.

➢ Earlier, the medical termination of pregnancy was governed by the Indian Penal Code (IPC), with Sections 312 to 318 forming a part of this segment. Most of these provisions aimed at criminalizing abortions, except where the procedure was done in good faith in order to save the woman's life.

Conclusion:

A sound healthy mother is often associated with the development of a child and hence rights like reproductive autonomy, dignity and privacy often become crucial for overall development of a society. Nevertheless, along with such rights comes responsibility for ensuring adequate healthcare infrastructures and legally safe abortion which is one of a leading cause for maternal mortality.

International Narcotics Control Board Annual Report 2023

Why in News:

International Narcotics Control Board (INCB) in its Annual Report stated that the evolving landscape of online drug trafficking is presenting new challenges to drug control.

Highlights of the Report:

➢ The increased availability of illicit drugs on the internet,

the exploitation of online platforms including social media and the increased risk of overdose deaths due to the online presence of fentanyl and other synthetic opioids are some of the key challenges for drug control in the internet era.

➢ By using social media and other online platforms, drug traffickers can advertise their products to large global audiences. Various conventional social media platforms are being used as local marketplaces and inappropriate content is widely accessible to children and adolescents.

➢ Encryption methods, anonymous browsing on the darknet and cryptocurrencies are commonly used to avoid detection, posing difficulties for prosecuting online trafficking offences.

➢ Offenders can move their activities to territories with less intensive law enforcement action or lighter sanctions or base themselves in countries where they can evade extradition.

Key Concerns:
➢ Drug trafficking organizations continue to expand their operations in the Amazon basin into illegal mining, illegal logging and wildlife trafficking.

➢ Record levels of illicit coca bush cultivation were recorded in Colombia and Peru, rising by 13% and 18% respectively.

➢ Several European countries have established regulated markets of cannabis for non-medical purposes. These programmes do not appear to be consistent with the drug control conventions.

➢ South asia appears to be increasingly being targeted for the trafficking of methamphetamine illicitly manufactured in Afghanistan to Europe and Oceania.

About INCB:
➢ INCB is the independent, quasi-judicial body charged with promoting and monitoring Government compliance with the three international drug control conventions:
  • Single Convention on Narcotic Drugs, 1961.
  • Convention on Psychotropic Substances, 1971.
  • Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

➢ Established by the Single Convention on Narcotic Drugs of 1961, the thirteen members of the Board are elected in a personal capacity by the Economic and Social Council for terms of five years.

Way Forward:
The global nature of online platforms makes collaborative efforts vitally important for identifying new threats and developing effective responses. INCB is encouraging voluntary cooperation between governments and online industries to tackle the misuse of legitimate e-commerce platforms for drug trafficking. Its initiatives such as the Global Rapid Interdiction of Dangerous Substances (GRIDS) programme have led to drug seizures and arrests as well as criminal networks being dismantled.

Common Currency for D-8 Countries

Why in News:
Bangladesh Prime Minister Sheikh Hasina suggested that the members of D-8 Organization for Economic Cooperation should consider introducing a common currency to enhance mutual trade. She came up with the suggestion during a meeting with trade ministers of the D-8 nations in Dhaka.

Benefits of the currency:
➢ It would be highly beneficial if D-8 could adopt a common currency, drawing inspiration from the European Union, to facilitate trade. The objective is to elevate the welfare and socio-economic status of the people. This is achievable only if mutual trade is fortified.

D-8 Organization for Economic Cooperation

Total population of member countries
1.2 BILLION

Economic size
$ 4 TRILLION

DEVELOPING 8 COUNTRIES
D-8

FOUNDED IN 1997

Türkiye
Iran
Egypt
Pakistan
Nigeria
Malaysia
Indonesia
Bangladesh

Commitment during meeting:
➢ The D-8 trade ministers' meeting in Dhaka was centered

around discussing preferential trade agreements. The delegates agreed on a target to increase mutual trade to $500 billion by 2030, up from the current $146 billion.

About D-8 Organisation:

➤ D-8 Organization for Economic Cooperation is an organization for economic cooperation among the following countries: Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkiye.

➤ The establishment of D-8 Organization for Economic Cooperation was announced officially through the Istanbul Declaration of Summit of Heads of State/ Government on June 15, 1997.

➤ The objectives of D-8 Organization for Economic Cooperation are to improve member states' position in the global economy, diversify and create new opportunities in trade relations, enhance participation in decision-making at international level, and improve standards of living.

➤ D-8 Organization for Economic Cooperation is a global arrangement rather than a regional one, as the composition of its members reflects.

➤ D-8 Organization for Economic Cooperation is a forum with no adverse impact on bilateral and multilateral commitments of the member countries, emanating from their membership to other international or regional organizations.

Conclusion:

During the meeting, D-8 member countries have agreed to enhance co-operation in the field of economic development of its member countries and ensure that it promotes global trade. Member countries agreed to improve the fate and socioeconomic development of the common people. It is possible only when countries will be able to enhance trade and commerce.

SIPRI Report on International Arms Transfer

Why in News:

Swedish think tank Stockholm International Peace Research Institute (SIPRI) published a report "Trends in international arms transfers, 2023".

Key Findings of the Report:

➤ According to the latest report by SIPRI, India remains the world's top arms importer and its imports have grown by 4.7% between 2014-2018 and 2019-2023.

Russia remained India's largest arms supplier.

➤ Nearly 55% of arms imports by European states in 2019-23 were supplied by the US, up from 35% in 2014-18.

➤ According to the report, Pakistan has significantly increased its arms imports (43%).

➤ It said Pakistan was the fifth largest arms importer in 2019-23 and China became even more influential as its key supplier, providing 82% of its arms imports.

➤ Arms imports by China's two East Asian neighbors increased, with Japan increasing by 155% and South Korea by 6.5%.

➤ China's own arms imports decreased by 44%, primarily as a result of replacing imported weapons most of which came from Russia, with locally produced systems.

➤ The continued high levels of arms imports by Japan and other US allies and partners in Asia and Oceania are largely driven by one key factor: the perception of the Chinese threat.

➤ 30% of international arms transfers in 2019–23 took place in the Middle East.

➤ Three Middle Eastern states were among the top 10 importers in 2019–23.

➤ Saudi Arabia was the world's second-largest arms importer in 2019–23, receiving 8.4% of global arms imports over the period. Saudi Arabia's arms imports declined by 28% in 2019-23.

➤ The five largest exporters were the United States, France, Russia, China and Germany.

➤ Arms exports by the USA went up by 17% between 2014–18 and 2019–23, while those by Russia went down by 53%. France's exports rose by 47 per cent and it moved just ahead of Russia to become the world's second largest arms exporter.

➤ The five largest arms importers in 2019–23 were India, Saudi Arabia, Qatar, Ukraine and Pakistan.

➤ States in Asia and Oceania accounted for 37% of all arms imports in 2019–23, followed by states in the Middle East (30%), Europe (21%), the Americas (5.7%) and Africa (4.3%).

➤ Arms imports by states in Europe were 94% higher in 2019–23 than in 2014–18.

➤ The largest importer in Europe was Ukraine, which received 23% of the region's total arms imports in 2019–23.

About SIPRI:

➤ SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament. It was established in 1966.

Conclusion:

India's position as the world's top arms importer underlines the need for strategic reforms to expand its defence-industrial base and reduce dependence on foreign suppliers. As the country grapples with geopolitical challenges, it will be important to foster a strong domestic defense manufacturing sector to achieve long-term security goals.

India-EFTA Trade and Economic Partnership Agreement

Why in News:

Recently, the India and European Free Trade Association (EFTA) signed the Trade and Economic Partnership Agreement (TEPA).

Main points of the agreement:

➢ For the first time, India has signed FTAs with four developed countries – an important economic bloc in Europe. EFTA has committed to promoting investments to increase the stock of foreign direct investment in India to $100 billion over the next 15 years and facilitate the creation of 1 million direct jobs in India through such investments. The investment does not cover foreign portfolio investment.

➢ The agreement consists of 14 chapters, the main focus of which are market access related to goods, rules of origin, trade facilitation, trade remedies, sanitary and phytosanitary measures, trade-related technical barriers, investment promotion, market access on services, intellectual property rights, trade and sustainable

development and other related legal provisions.

About TEPA:

➢ It is a type of Free Trade Agreement that involves negotiating trade and other areas of economic partnership regarding services and investment.

➢ It may also include negotiating areas such as trade facilitation and customs cooperation, competition and intellectual property rights.

About EFTA:

➢ EFTA includes Switzerland, Iceland, Norway and Liechtenstein. It is an intergovernmental organization formed in 1960 to promote free trade and economic integration for the benefit of its four member countries.

➢ EFTA is an important regional grouping with ever-increasing opportunities to increase international trade in goods and services.

➢ It is one of the three important economic blocks in Europe (the other two being the EU and the UK). Among the EFTA countries, Switzerland is India's largest trading partner, followed by Norway.

Conclusion:

The India-EFTA Trade and Economic Partnership Agreement has the potential to be a significant milestone for India. This agreement could boost the Make in India initiative and create more opportunities for the country's young and talented workforce. Additionally, this FTA will allow Indian exporters to access major European and global markets, while also facilitating a free trade agreement with the European Union.

India Presents G4-Model for UNSC Reform

Why in News:

India has presented a detailed 'G4 model' for United Nations Security Council reform, on behalf of Brazil, Germany, Japan and India, for debate, dialogue and negotiations.

Proposals Made:

➢ The G4 model notes that the current composition of the Security Council, with its "glaring under-representation and un-representation" of key regions in both categories of membership, is "detrimental" to its legitimacy and effectiveness.

➢ **Membership:** The G4 model proposes that the Security Council's membership should increase from the current 15 to 25-26, by increasing the number of permanent members to 11 and adding four or five

non-permanent members. The term of these members will be based on the current practice of 2 years.

➢ **Representation:** Among the six new permanent members, two each are proposed to be from African states and Asia Pacific states, one from Latin American and Caribbean states; and one from Western European and Other states.

➢ **Veto and working methods:** The new permanent members would, as a principle, have the same responsibilities and obligations as current permanent members. However, they shall not exercise the veto until a decision on the matter has been taken during a review.

➢ **Relation between UNSC and UN General Assembly:** The Council would be required to hold regular consultations with the president of UNGA, submit annual reports and special reports to UNGA.

-: Prelims Insights :-

The main bodies of the United Nations are:
➢ *General Assembly,*
➢ *Security Council,*
➢ *Economic and Social Council,*
➢ *Trusteeship Council,*
➢ *International Court of Justice, and*
➢ *UN Secretariat.*
All were established under the UN Charter when the Organization was founded in 1945.

About UNSC:

➢ UNSC is one of the six principal organs of UN with primary responsibility of maintaining international peace and security. It is the only United Nation organ with a power to make decisions that the members are obligated to implement.

Why such reforms are needed?

➢ **Changed geopolitical realities:** The realities of 1945, when the Council was established, have long been superseded by the geo-political realities of the modern era and a new century.

➢ **Regional Under/Un-representation:** In both categories of permanent and non-permanent memberships there is glaring under-representation and un-representation of key regions which raises big question marks over its legitimacy and effectiveness.

➢ **Misuse of veto power:** At times the veto power is used by the permanent members to fulfill their own circle of motives and agendas which adds council's inability to address critical conflicts and maintain international peace and security.

Conclusion:

A reform heeding the voice of the young and future generations, including from Africa, Asia and other under-represented state is the need of the hour. To correct the historical injustices, improve the legitimacy and creditworthiness, the reforms will aid the council to ensure international peace and security.

India Middle East Europe Economic Corridor

Why in News:

The Union Cabinet gave its Ex-post facto approval to the Inter-Governmental Framework Agreement (IGFA) India and the United Arab Emirates on Cooperation for the empowerment and operation of the India-Middle East Europe Economic Corridor (IMEC).

Inter-Governmental Framework Agreement:

➢ The aim of the IGFA is to enhance the bilateral relations and to further strengthen the relations between the two countries in the Ports, Maritime and Logistics sectors.

➢ The IGFA includes areas of cooperation between the two countries with the objective of exploring further

potential of future joint investment and collaboration in respect of development of the IMEC.

➢ The Agreement contains detailed framework for cooperation between the two countries. The cooperation will be based on a set of mutually agreed upon principles, guidelines and agreements consistent with the relevant rules and regulations of the countries' jurisdiction.
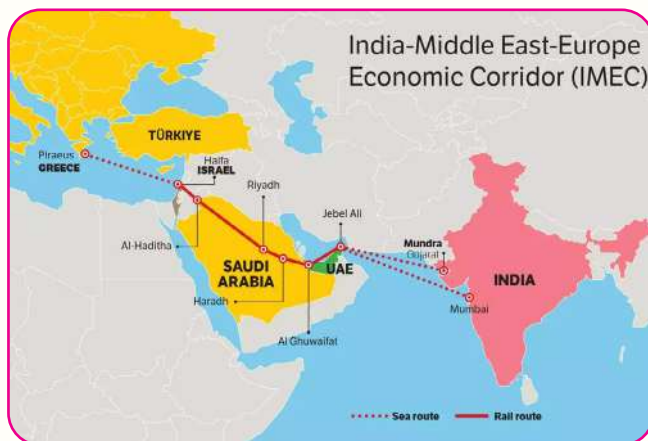
About IMEC:
➢ The IMEC can be seen as part of a broader strategy to improve global trade links, reduce transportation costs, and diversify supply chains.
➢ The corridor seeks to leverage the strategic locations of India, the Middle East, and Europe to boost trade, economic growth, and political cooperation.
➢ The MOU on IMEC was signed by India, USA, Saudi Arabia, UAE, European Union, Italy, France and Germany.

Constituents of IMEC:
➢ The IMEC corridor comprises an Eastern Corridor connecting India to the Gulf region and a Northern Corridor connecting the Gulf region to Europe.
➢ It will also include a railway and ship-rail transit network and road transport routes along with an electricity cable, a hydrogen pipeline, and a high-speed data cable.

Ports Involved:
➢ The ports that could be connected on the west coast of India are Mundra (Gujarat), Kandla (Gujarat), and Jawaharlal Nehru Port Trust (Navi Mumbai).
➢ In the Middle East, five ports have been shortlisted to be connected to the Indian ports including Fujairah, Jebel Ali, and Abu Dhabi in the UAE along with

Dammam and Ras Al Khair ports in Saudi Arabia.
➢ The connectivity will be further extended to Haifa Fort in Israel, and Europe, Piraeus port in Greece, Messina in South Italy, and Marseille in France.
➢ The onward rail route connectivity from five ports in UAE and Saudi Arabia stretching up to Haifa port in Israel will be a mix of already existing Brownfield projects and fresh Greenfield projects.

Conclusion:
IMEC draws inspiration from historic trade routes like the Silk Road, adapting the concept to modern geopolitical and economic landscapes. It can be seen as part of a broader strategy to improve global trade links, reduce transportation costs, and diversify supply chains.

Hong Kong Passes National Security Bill

Why in News:
The Hong Kong legislature has passed a new National Security Law unanimously, granting the government more power to curb dissent.

About National Security Bill:
➢ **Expansion of Government Power:** The new security law broadens the government's authority to suppress potential challenges to its rule, introducing severe penalties for actions perceived as threats to national security. These include life imprisonment for treason and insurrection.
➢ **Impact on Protests:** The law aims to deter disruptive protests like the 2019 airport occupation and railway station vandalism.
➢ **Penalties for Lesser Offenses:** Possession of seditious publications and other lesser offenses could lead to several years of imprisonment. Some provisions even allow for criminal prosecutions for acts committed outside the country.
➢ **Espionage and State Secrets:** The new rule specifies up to 20 years' imprisonment for espionage and up to 10 years for unlawfully disclosing state secrets.
➢ **Collaboration with Foreign Entities:** Stricter penalties are to be imposed on individuals found collaborating with foreign governments or organizations to commit certain offenses.

Impact of such Bill:
➢ **Activists:** Under the new bill, activists will face harsher penalties for breaking the sedition law, with potential

imprisonment of up to seven years for committing seditious acts or uttering seditious words.

➢ **Financial professionals:** Those dealing with sensitive corporate information could be impacted by the provisions related to the protection of state secrets, which broadly includes secrets used in mainland China, covering economic, social, and technological developments beyond the traditional security field.

➢ **Foreign business leaders:** The new law could result in investors directing their capital elsewhere.

➢ **Residents:** The new law requires Chinese citizens to report to authorities if they know others are committing treason, with failure to report punishable by up to 14 years in prison. Although the government added a public interest defense in the bill, its scope is more limited than what was recommended.

Conclusion:

The passing of the 'Safeguarding National Security Bill' follows a political crackdown sparked by the 2019 pro-democracy protests. They were sparked by proposed extradition law changes, which could send suspects to mainland China for trial. While Beijing and the Hong Kong governments argue that the law has brought stability to the region, a significant number of young professionals and middle-class families have emigrated to countries such as Britain, Canada, Taiwan, Australia, and the United States.

India-Brazil Hold First '2+2' Dialogue

Why in News:

India and Brazil held discussions to expand cooperation in areas of energy, critical minerals, technology and counter-terrorism at their first '2+2' defence and foreign ministerial dialogue.

India Brazil Relationship:

➢ Diplomatic relations were established in 1948, with both countries opening embassies in the same year. Both share a very close and multifaceted relationship at the bilateral level as well as in plurilateral level (BRICS, BASIC, G-20, G-4, IBSA, International Solar Alliance) and in the larger multilateral bodies (UN, WTO, UNESCO, and WIPO).

➢ The momentum in India-Brazil relations was further created during President Bolsonaro's historic visit to India in January 2020 as the Chief Guest during the Republic Day celebrations.

➢ Together, Brazil and India have a GDP of more than US$6 trillion, making them two of the world's biggest rising economies. The countries collaborate on various areas such as space, defence, security, etc.

-: Prelims Insights :-

The Brazilian white revolution was sparked by an Indian cattle breed. It traces back to the time when a pair of `Gir' cattle was gifted by the BhavNagar Maharaja to Celso Garcia Cid, a prominent Brazilian livestock legend and businessman in the 18th century. This breed, known for its reddish-white coats and down horns, became a significant contributor to Brazil's milk production. The Brazilian Ministry of Agriculture officially registered the Gir breed in 1989.

Recent developments:

2+2 Meeting:

➢ India and Brazil have recently held discussions to expand cooperation in the areas of energy, critical minerals, technology and counter-terrorism at their first '2+2' defence and foreign ministerial dialogue. Sectors such as military, space, energy, vital minerals, technology, counter-terrorism, and regional, multilateral, and other matters of mutual concern were also covered.

Sugar Dispute (WTO):

➢ Brazil has proposed sharing its ethanol production technology with India to resolve a sugar-related dispute at the WTO. The South American nation's offer aims to assist India in utilizing its surplus sugar for ethanol production, potentially easing competition for Brazil in the global sugar market.

Multi-pillar action plan to strengthen their strategic partnership:

➢ The two sides signed pacts and announced 15 agreements in oil and gas, mineral resources, traditional medicine, animal husbandry, bio-energy and trade and investment.

Conclusion:

➢ Brazil and India collaborate in multilateral forums

on trade, development, and environmental issues, sharing similar perspectives. Both are members of the G-15, G-20, and BRICS. They aim to strengthen ties, focusing on trade, investment, and cooperation in climate change and sustainable development.

➢ India's proposal for a Global Biofuel Alliance aligns with Brazil's expertise as the world's second-largest biofuel producer. Both nations could collaborate on environment friendly biofuels.

➢ Their economies are complementary, with Brazil strong in mining and energy, and India excelling in pharmaceuticals, IT, and engineering.

Elections in Pakistan

Why in News:

Pakistan's elections were recently held on February 8 after more than two years of political turmoil. Shehbaz Sharif has sworn as the new Prime Minister of Pakistan.

Situation of Pakistan:

Political Issues:

➢ Pakistan has been experiencing political turmoil since April 2022 when former Prime Minister Imran Khan was removed through a vote of no confidence.

➢ The communalist tendencies along with military interventions have been major obstacles for Pakistan's political stability. Additionally the role on non-state actors have major role in deteriating pakistans's political stability.

Economic Issues:

➢ The country is facing a severe economic crisis, characterized by high inflation, a devaluing currency, increasing public debt and shrinking foreign reserves.

➢ Despite efforts, securing an IMF bailout has been unsuccessful due to the government's failure to enact necessary reforms, worsening the economic situation.

Security Issues:

➢ Concerns have risen in Pakistan following the US troop withdrawal from Afghanistan, with the Pakistani army facing challenges from the Taliban-supported Tehreek-e-Taliban Pakistan (TTP), which has expanded its presence in Baluchistan and Punjab.

Social unrest:

➢ Street protests after Khan's removal are exposing the Pakistan's army's political vulnerabilities.

➢ The Federally Administered tribal Areas (FATA) which was merged with Khyber-Pakhtunkhwa in 2018 is known to be laboratory of terrorism and is sore thumb for Paksitan's stability. Furthermore, there is ongoing unrest of Pashtun community over Durand line dividing Pakistan and Afghanistan.

Regional instabilities:

➢ Chinese investments, particularly in provinces critical for the China Pakistan Economic Corridor (CPEC), has strained Pakistan-China relations.

➢ Worries about Pakistan descending into further turmoil raise concerns about regional instability, given its volatile borders with India, Iran, and Afghanistan.

Implications for India:

➢ **Terrorism:** Any issue with Pakistan's stability could result in an expansion of these terrorist networks, directly impacting India's interests.

➢ **Refugee influx:** A humanitarian crisis looms in Pakistan, with its people struggling for basic necessities and livelihoods. Contrasts with conditions in India raise apprehensions about a potential influx of refugees from Pakistan.

➢ **Impact on trade:** The economic crisis jeopardizes India's exports to Pakistan, with bilateral trade totaling $514 million in 2021-2022, where Indian exports exceed imports, according to the Ministry of Commerce.

➢ **The China Angle:** The deepening economic crisis in Pakistan may enhance Chinese influence, with potential implications for India-China relations, particularly at the Line of Actual Control (LAC).

➢ 1200-megawatt Chashma-5 nuclear power plant, a joint project between China and Pakistan, was launched in Mianwali District of Punjab. Further, both the countries have signed FTA with China announcing to review the agreement again to boost Yuan -based Trade.

Conclusion:

India emphasizes the importance of normal relations with its neighbors, especially Pakistan, advocating for peaceful bilateral resolutions and the elimination of terrorism and violence. India must call for Pakistan to create environment for constructive dialogue so that both economies can grow together without jeopardizing the sovereignty.

Elections in Russia

Why in News:

Vladimir Putin won the Russian presidential election with

87.97% of the votes, making him the longest-serving leader in over 200 years. He will serve as president for another six-year term.

➤ In the election, voting took place in areas of Ukraine now controlled by Russia. For the first time, Russia also introduced a remote online voting system for the presidential election.

➤ In 2020, Russia passed a law that allows President Vladimir Putin to stay in power till 2036 essentially making him President for life.

Putin Forever?

Longest-serving Russian leaders since the start of the 20th century (in days in office)

Joseph Stalin	Vladimir Putin*	Leonid Brezhnev	Nikita Khrushchev	Boris Yeltsin	Mikhail Gorbachev
10,636	8,978	6,601	3,536	3,096	2,480
1924-53	1999-2024	1964-82	1953-1964	1991-1999	1985-1991
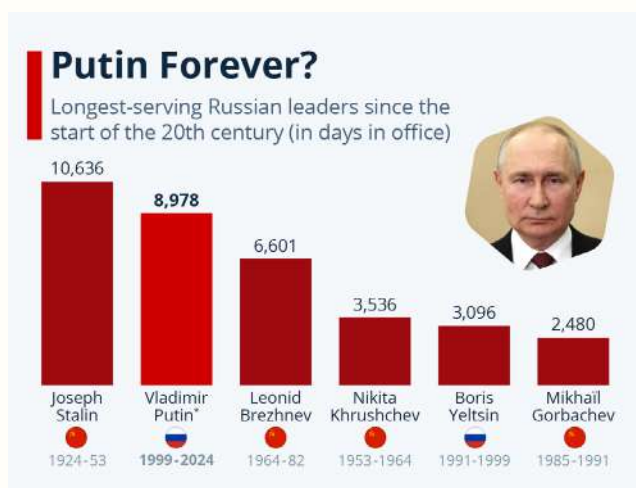
Global Implications:

➤ **Russia-Ukraine:** On February 24, 2022, Russia invaded Ukraine, escalating the war that began in 2014. It was the largest attack on a European country since World War II, causing civilian and military casualties in Ukraine.

➤ While Russia's actions violate international laws, Ukraine faces challenges in achieving victory without sustained support from the U.S. and its NATO partners. Ukraine has resorted to missile and drone attacks inside Russia, using advanced weapons supplied by the West. However, deep mistrust and misinformation on both sides could escalate violence in future.

Russia-US:

➤ Russian identity is deeply connected to its history as an empire and its status as a great power, which it considers essential even in challenging times. This identity has often led to clashes with the US and its allies over various issues, including Syria, Iran, North Korea, and Venezuela. Relations have also been strained due to activities like espionage, cyberattacks,

etc.

➤ The US implemented the CAATSA law in 2017 to punish countries with significant engagements with Russia, North Korea, and Iran through economic sanctions. This law was partly a response to Russia's alleged interference in the 2016 US Presidential elections and its role in the Syrian war. Russia has been excluded from the G8.

Russia China:

➤ Russia's strained relations with the West have led to closer ties with China. Both countries have strong military, economic, and political relations, supporting each other on global issues. This strategic embrace has strengthened amid conflicts in Ladakh and Ukraine.

➤ Russia criticized the US, Quad (including India), and AUKUS for attempting to contain China during a meeting of the Shanghai Cooperation Organization.

➤ Russia has been expanding cooperation with China on several fronts including, space, nuclear power, security etc. Russia's space agency Roscosmos has announced plans to work with China to build an automated nuclear reactor on the moon by 2035. The proposed reactor will help power a proposed lunar base that the two countries will jointly operate.

➤ **Additional aspects:** Since coming to power in 2000, Putin has placed emphasis on establishing transport and energy trade with the energy producers of Central Asia, namely Uzbekistan, Kazakhstan, and Turkmenistan.

➤ Russia has also been pitching for Northern Sea Route (NSR) to tackle red sea crisis. With Putin becoming president again, Russia will further gain around the idea of NSR. Notably, India is also interested in NSR.

Conclusion:

Russia has viewed itself in various ways in relation to Europe and the West: as a part of it, as superior to it, as different and unique, and as a crucial link between East and West. With Putin coming into power again Russia will increase its nuclear capabilities (including in space) which may threaten global nuclear stability. Additionally, the Ukraine war's impact on Russian economy is huge with increased military spendings and brain drain of professionals.

Coral Superhighway in Indian Ocean: It's Importance & Coral Reef Conservation Measures by India

Coral reefs are crucial for maintaining the biodiversity of the oceans. Without their proper protection, many marine animals may face endangerment. That is why many countries have taken the responsibility of conserving coral reefs as a top priority. Research is being conducted to better understand their geographical distribution and the challenges facing their conservation.

Scientists from Oxford University have recently discovered a coral superhighway in the Indian Ocean. For this, 19 different coral sites were tested by scientists, and it was found that superhighway was spread over an area of more than 1 million square kilometers in the remote areas of Seychelles.The ocean currents have spread the larvae across coral reefs, creating a coral superhighway. The discovery is significant because a key point in coral reef recovery is larval supply and will be considered important for advancing conservation efforts to protect coral reefs.

Significance of the Coral Reefs:

❖ Despite covering only 0.2 to 0.25 percent of Earth's marine area, corals support a quarter of the world's 2 million species of marine life. For many island countries and tropical countries, they provide protection and relief from the effects of weather. Coral formations also act as genetic museums and due to their biodiversity, they are also called rain forests of the marine area. Therefore, in order to maintain the sustainability of the oceans it is crucial to conserve them.

❖ Coral islands are very important from the point of view of biodiversity but currently they are facing many challenges such as:

» **Climate change:** Carbon emissions not only contribute to temperature rise, but they also increase the acidity of the ocean which leads to the death of corals.

» **Weather events:** Weather events such as summers, tropical cyclones etc are major factor for coral degradation pose severe threat to the existence of corals. The seasonal temperature rise is also another factor that can be attributed to several factors such as climate change, El- Nino, etc. El Nino is a warm ocean current that increases temperatures around the world.

» **Human activities:** Barriers built to prevent coral mining, erosion, etc., and silt deposition by speedboats also cause damage to corals. Most of the atolls have been degraded by human activities such as alien invasion, nuclear bomb testing, etc. The water discharged from industrial complexes has become a cause of crisis for them. Apart from this, coral islands also get damaged due to oil leakage, fishing, tourism etc.

» **Predators:** Starfish feed on coral polyps and destroy coral reefs by eating them. Starfish is a key reason for loss of coral cover. In the last 40 years, it has caused a lot of damage to the coral reef.

» **Coral bleaching:** Large scale decay of coral or coral islands is called bleaching. Coral bleaching incidents have been occurring commonly in the Indian Ocean, Pacific Ocean and Caribbean Ocean. At present, due to global warming, the increasing sea temperature and El-Nino, coral reefs are decaying on a large scale. Currently, the existence of about one-third of the coral reefs is in

danger due to increasing temperatures.

» The ongoing coral reef bleaching began in Hawaii in mid-2014. It has hollowed out the coral reefs of at least 38 countries and island groups. This bleaching has impacted major coral reefs around the world from world's largest Great Barrier Reef in Australia to Lakshadweep in India.

» Aerial surveys have revealed that 93 percent of the Great Barrier Reef is affected by bleaching. 50 percent of the world's coral reefs have already been destroyed and the remaining corals may be destroyed due to current bleaching.

» The northern part of the total 2300 km long Great Barrier Reef is suffering the most from this wave. Of the 522 coral reefs surveyed, 81 percent are experiencing severe bleaching.

❖ Due to the current bleaching, scientists are worried about the permanent destruction of coral reefs in an area of more than 15 thousand square kilometers. Coral degradation will not only destroy and destabilize the marine ecosystem, but it would also destroy many other islands including Lakshadweep, which is a tropical archipelago of 36 atolls, and coral reefs off the Kerala coast.
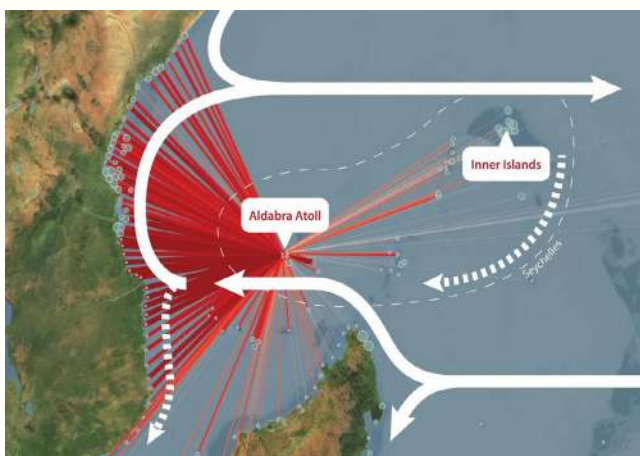
Coral reef conservation efforts in India:

India has four major coral reef areas which include Andaman and Nicobar Islands, Lakshadweep, Gulf of Mannar and Gulf of Kutch. Coral reefs in India span over an extensive area of 3,062 square km. In India, many coral species are protected under Schedule-I of the Wildlife Protection Act, 1972. Other conservation initiatives include:

❖ The Coastal Regulation Zone (CRZ) Notification, 2019, implemented under the Environment (Protection) Act 1986, includes biologically protected mangroves, sea grasses, sand dunes, corals and coral reefs, biologically active mudflats.

❖ Special attention has been given to the conservation and management plans of Ecologically Sensitive Areas (ESAs) such as turtle nesting grounds and habitats of king crabs (horseshoe crabs) and developmental activities in sensitive coastal ecosystems. Further, these rules put a ban on disposal of garbage.

❖ India's Biological Diversity Act, 2002 and the Biological Diversity Rules 2004 and its guidelines ensure the protection and conservation of biodiversity (including marine species), sustainable use and equitable sharing of its components, intellectual property rights, etc. The Ministry of Environment, Forest and Climate Change (MoEFCC) is providing funds under centrally sponsored schemes to marine states for the conservation of corals and mangroves.

❖ Biorock or Mineral Accretion Technology is being used to restore coral reefs. Biorock is a material formed by electrocoagulation of minerals dissolved in seawater on steel structures. These steel structures are lowered to the seabed and powered by solar panels that float on the sea surface.

❖ The 'Global Initiative to Reduce Erosion and Coral Reef Conservation Programme' was launched at the 'G-20 Environment Ministerial Meeting' held through video conferencing under the chairmanship of Saudi Arabia on September 16, 2020. Apart from this initiative, two documents on climate change related to management of emissions and climate change adaptation were also launched under the G-20 this year.

Coral Reef Conservation Action by National Center for Sustainable Coastal Management:

❖ As part of Mission Life, the ongoing effort to promote lifestyle principles for the environment, scuba divers from the Center conducted a seabed cleanup and awareness campaign in the coral reefs of Agatti Island, one of the human inhabited islands in the Union Territory of Lakshadweep. Located in the Arabian Sea off the south-west coast of India, this island has an extremely diverse and vibrant coral reef ecosystem.

❖ In this seabed cleanup campaign, NCSCM partnered with Ammathi scuba to conduct seabed cleanup and sensitization program in the coral reefs of Agatti Island. Divers recovered approximately 5 kilograms of seafloor litter, including empty bottles, abandoned, lost, or discarded fishing gear (ALDFG), ropes, packing materials, and food wrappers. This public awareness campaign aims to improve the health of the oceans

through collective action and large-scale community participation.

❖ Lakshadweep holds immense ecological and economic importance and is considered a biodiversity hotspot due to its rich marine life. The coral reefs of these islands support a wide variety of organisms, including fish, mollusks and other invertebrates. Tourists from all over the world come here to see it. The pristine beauty of these coral reefs with their colorful corals and diverse marine life makes them a favorite destination for snorkeling, scuba diving and other water-based recreational activities. Tourism associated with these coral reefs contributes to the local economy and provides employment opportunities. It is extremely important to protect and conserve the coral reefs of Lakshadweep in view of their ecological, economic and cultural importance. Sustainable management practices, community engagement and awareness campaigns can play an important role in ensuring the survival and long-term health of these valuable ecosystems. However, Lakshadweep has faced several environmental challenges in recent years, including marine litter.

Short Issues

Bengaluru Water Crisis

Why in News:

Bengaluru is facing one of its worst water scarcity and drought like situation. In last few years Bengaluru has been dwindling between extreme weather conditions of flooding, water scarcity and droughts.

About water crisis:

➢ A water crisis is a situation when the supply of safe, drinkable water in a particular area falls short of the demand. According to the World Bank, water scarcity occurs when the annual per-capita availability is below 1000 cubic meters.

Current situation of Bengaluru:

➢ Almost half of the 14,781 borewells managed by the Bengaluru Metropolitan Region Development Authority and Bengaluru Water Supply and Sewerage Board no longer yield water.

➢ Data from the Karnataka State Natural Disaster Management Centre reveals that key reservoirs in the Cauvery Basin, such as Harangi, Hemavathi, KRS, and Kabini, are only at 39% of their total capacity as of February 28.

➢ Presently, Bengaluru is grappling with a severe water shortage, with its nearly 14 million residents requiring 2,600-2,800 million litres of water per day, while the city struggles to supply even half of this amount.

Water Reservoirs in 15 States Below 10-year Average

% departure from decadal-average
- < -25%
- -25 to 0%
- 0 to 25%
- > 25%

Punjab -16%
Rajasthan -15%
Uttar Pradesh -33%
Bihar -44%
Chhattisgarh -22%
Karnataka -28%
Andhra Pradesh -49%
Tamil Nadu -20%

Data not available
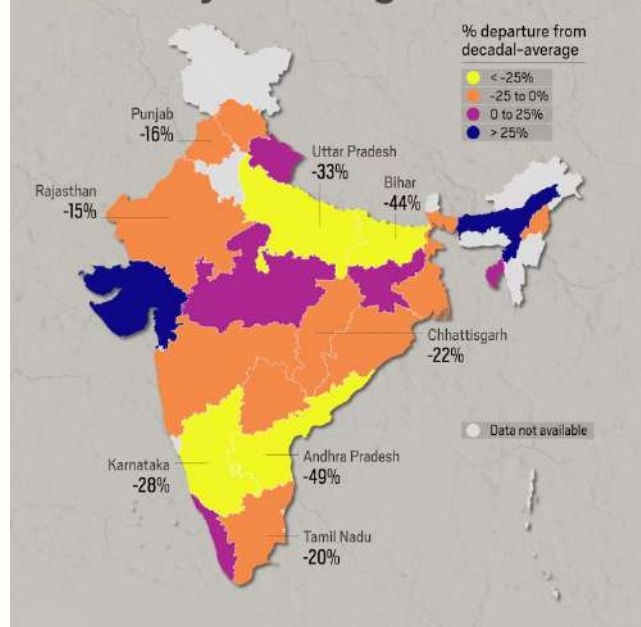
Reasons behind the water scarcity in Bengaluru:

➢ Until about three decades ago, Bengaluru primarily relied on its man-made lakes to meet a significant portion of its drinking water needs. Unlike many other major Indian cities, Bengaluru lacks proximity to a major river or coastline. However, as the city expanded, particularly emerging as India's IT hub, it lost these

vital water reservoirs due to urban development.

➢ Encroachments led to the degradation of lake catchments, converting them into dumping grounds for waste and debris. Insufficient rainfall has also contributed to a significant decline in water levels in the Cauvery River, impacting both agricultural irrigation and drinking water availability. The situation worsens due to the depletion of borewells, indicating an urgent need for action.

-: Prelims Insights :-

Bengaluru lies between the Cauvery and Dakshina Pinakini (Ponnaiyar) watersheds, causing rainwater to flow into either river through smaller rivers or streams, forming a valley system.

Historically, Bengaluru relied on groundwater and lake water. However, due to increasing demand, water was pumped initially from Hesarghatta lake (1894), then from the Thippagondanahalli reservoir on the Arkavathy river (1933), and finally from the Cauvery water scheme, pumping water from above Shivanasamudra falls. Currently, water is pumped over a hundred kilometers and for an elevation of a thousand feet to meet the city's needs.

Impact of such Crisis:

Economic Impact:

➢ According to the World Bank, India's GDP could decline by up to 6% by 2050 due to water scarcity.

➢ Water scarcity might further lead to a decline in food production, affecting India's food security and the livelihoods of farmers and farm laborers.

➢ Such scarcity will also impact industrial production as sectors such as textiles and thermal power plants depend on water supply.

Social Impact:

➢ Consumption of contaminated water can deteriorate children's health, reducing human capital and affecting the poorest and most vulnerable populations.

➢ Women may face increased hardships, such as school dropouts, fetching water in drought-prone regions.

Ecological Impact:

➢ Water scarcity threatens the extinction of flora and fauna. Further, contamination by heavy metals like arsenic, cadmium, and nickel, as well as oil spills in rivers and oceans, poses a threat to marine biodiversity.

Impact on Federal Relations:

➢ Inter-state water disputes, like the Kaveri and Krishna, may intensify, leading to new disputes in the future.

Possible Solutions:

➢ **Mihir Shah Committee Report:** This report emphasizes restructuring water governance in India. This includes establishing a National Water Commission by merging the Central Water Commission (CWC) and Central Groundwater Board (CGWB) to ensure integrated management of surface and groundwater resources.

➢ **Traditional Water Conservation:** Encourage rainwater harvesting to capture monsoon runoff and revive traditional water conservation practices like Kudimaramath in Tamil Nadu, Ahar Pynes in Bihar, and Bamboo Drip Irrigation System in the North-East.

➢ **Involving local communities:** States can adopt a participatory approach involving local communities. For instance, the revival of Johads in the Rajasthan desert by Rajendra Singh and the Swajal model in Uttarakhand.

Conclusion:

Implementing nature-based solutions, such as artificial floodplains to increase water retention and forest management can also help in reducing sediment loadings. These solutions mimic natural processes to provide human, ecological, and societal benefits.

Corbett Tiger Reserve

Why in News:

The Supreme Court has ordered the setting up of a committee to address the environmental damage caused by animal safaris, illegal construction and felling of trees within the Corbett Tiger Reserve. The committee will also suggest the measures for wellbeing of tigers. The committee will determine responsibilities for the damage and suggest recovery measures. It will also issue guidelines for tiger safaris in the buffer zone and recommend eco-friendly tourism practices.

Why tiger is so important?

➢ It is a top predator and is at the apex of the food chain.

➢ The presence of tigers in the forest is an indicator of the well-being of the ecosystem.

- Tigers are both a Flagship and Umbrella species.
- As a Flagship species they are important for conservation and as Umbrella species, conservation of tigers leads to conservation of other species.

About Jim Corbett National Park and Tiger Reserve:

- Established in 1936 as Hailey National Park, later declared a Tiger Reserve in 1973, Jim Corbett National Park is India's first national park and the inaugural partner in the Project Tiger initiative. Located in the Shivalik Hills of the Himalayas, it extends to Pauri Garhwal, Nainital and Almora districts of Uttarakhand. Recognized for its global prominence, the reserve recorded an impressive tiger density of 260 in 2022.
- The reserve is traversed by rivers such as the Ramganga and Sonanadi and is characterized by local grasslands known as chaur. Its vegetation consists mainly of tropical dry and moist deciduous forests.

About Project Tiger:

- Project Tiger was launched on 1st April 1973 by the Central Government to promote tiger conservation.
- First launched in Jim Corbett National Park.
- A centrally sponsored scheme of the Ministry of Environment, Forest and Climate Change, providing central assistance to tiger states for tiger conservation in designated tiger reserves.

Conclusion:

Focuses on the conservation of big cats and ensuring the preservation of their natural habitat as tigers are at the top of the food chain.

National Dolphin Research Centre

Why in news:

Bihar's Chief Minister Nitish Kumar inaugurated India's first Centre for research on conserving the endangered Gangetic river dolphin, National Dolphin Research Centre (NDRC). The center is located close to Ganga River near Patna.

About National Dolphin Research Centre:

- The NDRC project was approved in 2013 by then Deputy Chairman of the Planning Commission, Montek Singh Ahluwalia on the request of Professor R.K. Sinha also known as the Dolphin Man of India.
- The National Dolphin Research Centre aims to assist scientists and researchers in studying Gangetic

dolphins comprehensively, delving into various aspects such as changing behavior, survival skills, food habits, causes of death, and more.

- The Centre will also provide training to fishermen on how to conserve and protect dolphins during fishing.
- Spanning at 4,400 square meter plot on the premises of Patna University near the Ganga, the centre offers a strategic location for researchers to closely observe dolphins in their natural habitat.

About Gangetic River Dolphin:

- The Gangetic river dolphin is one of four freshwater dolphin species in the world. The other three are found in the Yangtze River in China (now extinct), the Indus river in Pakistan and the Amazon river in South America.
- Recognized as India's national aquatic animal, Gangetic River Dolphin is a Schedule I animal under the Wild Life (Protection) Act, 1972.
- The International Union for Conservation of Nature has declared it as an endangered species. It falls under Appendix I of CITES.
- It is found in India, Bangladesh and Nepal. Since it is blind, it finds its way and prey in river waters through echolocation.
- Bihar is home to around half of the estimated 3,000 Gangetic dolphins in India.

Conclusion:

The presence of dolphins in a river is crucial for a river's ecosystem. If there are more number of dolphins in a river, it indicates good river ecosystem. Bihar accounted for 50 per cent of the world's river dolphin population. Their habitat however is under threat now. The Centre will also aid in further strengthening the conservation initiatives for dolphins.

International Big Cat Alliance

Why in News:

Union Cabinet chaired by Prime Minister Narendra Modi approved the establishment of International Big Cat Alliance headquartered in India with a one-time budgetary support of Rs 150 crore for a period of five years from 2023-24 to 2027-28.

About International Big Cat Alliance (IBCA):

- International Big Cat Alliance is a mega global alliance launched by India in April 2023 during the 50th anniversary of Project Tiger. The alliance aims at conservation of world's seven principal big cats, which

include the tiger, lion, snow leopard, leopard, jaguar, puma, and cheetah.

➤ The International Big Cat Alliance has been conceived as a multi-country, multi-agency coalition of 96 big cat range countries, non-range countries interested in big cat conservation.

➤ It includes conservation partners and scientific organizations working in the field of big cat conservation besides business groups and corporates willing to contribute to the cause of big cats.

➤ It will establish networks and develop synergies in a focused manner so as to bring a common platform of centralized repository of successful practices and personnel, backed by financial support which can be leveraged to strengthen the conservation agenda in the field to arrest the decline of big cat population.

Benefits of International Big Cat Alliance:

➤ The Coalition will strengthen existing species-specific intergovernmental platforms, networks and international initiatives on conservation and protection. Frontline staff in member countries will be trained to mobilize local support for research and development into big cat conservation and wildlife monitoring.

➤ The International Big Cat Alliance recognizes the importance of integrating biodiversity policies with Sustainable Development Goals (SDGs) to achieve holistic and inclusive conservation outcomes.

GENUS PUMA

Closely related to the domestic cat, this genus has **only one extant species,** the cougar.

COUGAR

PUMA CONCOLOR
SIZE: 40-100KG
STATUS: LEAST CONCERN

The Cougar is the **second-largest cat in the Americas;** jaguar is largest. Cougars are also called mountain lion/panther across their range from the Canadian Yukon to the Southern Andes. Concolor is latin: "of uniform colour".

GENUS ACINONYX

This is a unique genus within the cat family, with **only one living member,** the cheetah.

CHEETAH

ACINONYX JUBATUS
SIZE: 20-70KG
STATUS: VULNERABLE

Fastest land mammal; only cat **without retractable claws**— the grip helps it accelerate faster than a sports car (0-100 km/hr in 3secs). They are not aggressive towards humans; they have been tamed since the Sumerian era. They don't breed well in captivity— females play hard to get. Cheetahs are not big; they hunt during the day to avoid competing with other big cats.

GENUS PANTHERA

Large wild cats that roar but can't purr. Among them, the **lion, leopard,** and **jaguar** are more closely related; the other strand has the **tiger** and **snow leopard.** The snow leopard is an exception in that it can't roar.

TIGER

PANTHERA TIGRIS
SIZE: 75-300KG
STATUS: ENDANGERED

Jim Corbett's "large-hearted gentleman with boundless courage", the **solitary and strongly territorial tiger** is the largest of all wild cats and the most ancient of the Panthera. Primarily a forest animal, its range is the Siberian taiga to the Sunderban delta. It's the **national animal of India,** Bangladesh, Malaysia, and South Korea.

LEOPARD

PANTHERA PARDUS
SIZE: 30-90KG
STATUS: VULNERABLE

Similar in appearance to the jaguar with a rosette patterned coat, the leopard was described by Jim Corbett as "the most beautiful of all animals" for its "grace of movement and beauty of colouring". The **most adaptable of all big cats,** they occupy diverse habitats at all altitudes across Africa and Asia. Like black jaguars, melanistic leopards are called black panthers.

SNOW LEOPARD

PANTHERA UNCIA
SIZE: 25-55KG
STATUS: VULNERABLE

Ghost of the mountains, this smokey grey cat lives above the snow line in **Central and South Asia.** The most elusive of big cats, **it cannot roar,** and has the **longest tail of all**— which comes in handy for balance while hunting along cliffs, and also gives warmth when wrapped around the body. The snow leopard is the state animal of Ladakh and Himachal.

LION

PANTHERA LEO
SIZE: 100-250KG
STATUS: VULNERABLE

Native to **Africa** and **Asia,** the lion is the most social cat, and **lives in groups** called 'prides'. They prefer open forests such as scrubland, and adult males have a prominent mane. The lion is among the most widely recognised of animal symbols— from the pillar of Ashoka to the main entrance of Buckingham Palace to the logo of MGM.

JAGUAR

PANTHERA ONCA
SIZE: 50-110KG
STATUS: NEAR THREATENED

The **largest cat in the Americas,** the jaguar has the **strongest bite** force of all wild cats, enabling it to bite directly through the skull of its prey. Melanistic (black) jaguars are common, and are often called black panthers. Jaguar was a powerful motif in the Mayan and Aztec civilisations.

About International Big Cat Alliance governance:

➢ IBCA governance consists of Assembly of Members, Standing Committee and a Secretariat with its Headquarter in India. Host Country Agreement has been prepared by the Government of India on the lines of ISA.

Conclusion:

The alliance ensures sustainable use of natural resources and mitigates challenges emanating from climate change. By safeguarding big cats and their habitats, the IBCA contributes to natural climate adaptation, water and food security and well-being of thousands of communities reliant on these ecosystems. It also recognises the conservation efforts of India regarding big cat family.

UNEP Global Waste Management Outlook 2024

Why in News:

The Global Waste Management Outlook 2024 report was recently released under the title, 'Titled Beyond an age of waste: Turning rubbish into a resource'.

About the Report:

➢ The report is jointly published by UNEP and the International Solid Waste Association (ISWA).

➢ It provides an update on global waste generation and the cost of waste and its management from 2018.

➢ The report uses life cycle assessments to examine what the world might gain or lose from continuing business as usual, adopting half-measures, or fully committing to zero waste and circular economy societies.

➢ The report also evaluates three possible scenarios of municipal waste generation and management, examining their impacts on society, the environment and the global economy.

Key findings of the Report:

➢ Municipal solid waste generation is projected to increase from 2.3 billion tonnes in 2023 to 3.8 billion tonnes by 2050.

➢ In 2020, the global direct cost of waste management was estimated at US$252 billion. When the hidden costs of pollution, poor health and climate change from poor waste disposal practices are taken into account, the cost rises to US$361 billion.

➢ Without urgent action on waste management, this global annual cost could almost double to US$640.3 billion by 2050.

➢ The report's modelling shows that bringing waste under control by taking waste prevention and management measures could limit the net annual cost to US$270.2 billion by 2050.

➢ However, estimates show that a circular economy model, where waste production and economic growth are decoupled by adopting waste avoidance, sustainable business practices and complete waste management, could yield a net profit of US$108.5 billion per year.

About the United Nations Environment Program (UNEP):

➢ UNEP is the leading environmental authority in the United Nations system. It provides leadership and encourages partnerships in the care of the environment by inspiring, informing and enabling nations and people to improve their quality of life without compromising future generations.

➢ Founded: 5 June 1972.

➢ Headquarters: Nairobi, Kenya

About ISWA:

➢ The International Solid Waste Association (ISWA) is the world's leading international network of waste professionals and experts.

➢ Its mission is to promote and develop sustainable and professional waste management worldwide and the transition to a circular economy.

➢ Established: 1970

Conclusion:

The report suggests that the world should treat waste as a resource, implement zero-waste practices and ensure a just transition for informal workers. The report also suggests the socio-economic development of communities that collect waste.

High Seas Treaty

Why in News:

The Blue Leaders High-Level Event on Biodiversity Beyond National Jurisdiction (BBNJ) was held in Belgium on March 7, 2024. During the meeting, it urged the nations to ratify a new treaty to protect the high seas from pollution, climate change and overfishing.

Decisions at the meeting:

➢ Blue Leaders High-Level Event on Biodiversity Beyond National Jurisdiction decided to use the United Nations Ocean Conference to be held in 2025 as a platform to bring the BBNJ Treaty (also known as High Seas

Treaty) into force.

About the High Seas Treaty:

➢ All countries agreed to a new treaty for the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction in March 2023.

➢ The treaty aims to increase the percentage of protected areas on the high seas. Despite covering more than two-thirds of the global ocean only 1.44% of the high seas are protected yet now .

➢ The treaty will also ensure that profits from marine genetic resources (MGR) such as materials of plant, animal or microbes are shared equitably and fairly among nations.

➢ The treaty provides ground rules for Environmental Impact Assessments (EIA), which deal with identifying and evaluating the potential impacts an activity could have on the ocean. Carbon sequestration activities or deep-sea mining will have to do EIAs.

➢ 88 countries are signatories to the treaty. Only two countries Chile and Palau have ratified it so far. The BBNJ will enter into force when at least 60 countries ratify it.

➢ India is yet to sign the treaty.

About High Seas:

➢ The high seas refer to the ocean water that lies beyond the boundaries of national jurisdiction of countries, also known as areas beyond national jurisdiction (ABNJ).

➢ The high seas are areas beyond 200 nautical miles from the exclusive economic zones of coastal countries.

Challenges:

After the treaty is ratified, countries will still have to address several challenges such as:

➢ Agreeing on the rules of procedure, budgets and even where the Secretariat will be based.

➢ How to conduct EIA in high sea?

➢ How to maintain balance between development and protection?

Conclusion:

In 2022, governments agreed to protect at least 30% of marine life by 2030 as the 15th Conference of Parties to the United Nations Convention on Biological Diversity adopted the Kunming-Montreal Global Biodiversity Framework. The high seas, which make up two-thirds of the ocean, will be key to achieving this target. Thus, it is need of the hour to early ratify the treaty so that protect at least 30% of marine life by 2030 target can be achieved.

State-Specific Disaster

Why in News:

Kerala has declared man animal conflict as a state specific disaster and has become the first state to make such type of declaration.

Reasons behind such declaration:

➢ Increasing number of deaths due to man-animal conflict

➢ Anger in local people about their safety.

➢ Court interference through Wildlife Protection Act.
  » At present, the Chief Wildlife Warden only takes a call on a wild animal wreaking havoc in human settlement
  » However, when such conflict is declared state specific disaster, DM can directly take action with overriding power of all other statute.
  » As per Section 71 of the Disaster Management Act, no court (except the Supreme Court or a High Court) shall have jurisdiction to entertain any suit or proceeding in respect of anything done by relevant authorities.

What changes after declaration?

➢ At present, managing man-animal conflict is the responsibility of the forest department, which acts according to the Wildlife Protection Act. Once the issue is declared a state-specific disaster, the onus to deal with such conflict shifts to the state disaster management authority. This authority is powered by the Disaster Management Act and therefor can take quicker and more decisive action.

➢ Once an issue is declared a state-specific disaster or a national disaster, the disaster management authority can take quick decisions and actions that can override all other norms. Also, district collectors can directly intervene in their capacity as the chairman of the district disaster body.

Other state-specific disasters

➢ In 2015, Odisha had declared snakebite a state-specific disaster.

➢ In 2020, Kerala declared Covid as a state specific disaster.

➢ Besides, heat waves, sunburn and sunstroke have been declared state specific disaster in 2019, the phenomenon of soil piping in 2017, and lightning and coastal erosion in 2015.

Conclusion:

Declaring state specific disaster for human animal conflict

is a very short-term solution. To reduce human-wildlife conflict, states should re-evaluate the relationships between human and animals, especially direct interactions to improve our coexistence in the future.

Sea Surface Temperature and Climate Change

Why in News:

According to the Copernicus Climate Change Service (C3S), the average global Sea Surface Temperature (SST) (the temperature of the water at the ocean surface) for February 2024 stood at 21.06°C, the highest ever in the dataset that goes back to 1979.

Average temperature for Ocean Water:

➢ An average sea surface temperature typically lies around 20°C. However, it may change and vary depending upon the climatic conditions and locations. In warm tropical regions, the temperature can exceed 30°C , while at high latitudes, it can drop below 0°C.

Increase in Ocean Surface Temperature:

There are several factors which have led to a spike in ocean surface temperatures including:

➢ **Climate Change:** Human activities such as burning fossil fuels have released high levels of greenhouse gases (GHGs) in the atmosphere. Carbon dioxide, methane, ozone, and nitrous oxide are some of the notable GHGs, which essentially trap heat in the atmosphere and contribute to global warming.

➢ Consequently, the average global temperature has risen at least 1.2°C above pre-industrial times.

➢ **El Niño:** El-Nino is a weather pattern that leads to an abnormal warming of surface waters in the equatorial Pacific Ocean which in turns contributes to abnormal ocean warming and increased surface temperatures.

➢ **Winds at Sahara desert:** Dust blowing off the Sahara Desert forms a "giant umbrella that shades" the Atlantic water and reduces ocean temperatures. Due to less dust blowing off due to weaker-than-average winds, the temperature of the ocean rises.

Impact of such temperature rise:

➢ **Ocean currents:** Sea surface temperature rise impact ocean current circulation and their stability. These circulations distribute heat and nutrients throughout the planet, which in turn contributes to the weather patterns and economies and any change in such circulations will disrupt the stability.

  » Atlantic Meridional Overturning Circulation (AMOC), one of the most important tipping points in Earth's climate system, is at the brink of collapse.

➢ **Ocean stratification:** Warmer oceans lead to an increase in ocean stratification, the natural separation of an ocean's water into horizontal layers by several factors. Usually, ocean ecosystems, currents, wind, and tides mix these layers but due to temperature rise these water layers do not mix which decreases their capabilities to absorb carbon di oxide and regulate the ecosystem.

➢ **Coral bleaching:** Sea temperature rise contributes to coral bleaching which in turns disturbs the ecosystem, impacts their productivity and disturbs the marine environment.

➢ **Frequent and intense storms:** Warmer temperatures at sea lead to a higher rate of evaporation as well as the transfer of heat from the oceans to the air. When storms travel across hot oceans, they gather more water vapour and heat, resulting in more powerful winds, heavier rainfall, and more flooding.

Conclusion:

The impact of climate change in oceans can be a lot worse in terms of climate impacts, because a lot of that heat is not only kept at the surface, it's taken to depths which can have several future implications.

World Air Quality Report 2023

Why in news:

Swiss air quality monitoring body, IQAir, has released the 'World Air Quality Report 2023' declaring India as the third-most polluted country in 2023, after Bangladesh and Pakistan.

Highlights of the report:

➢ India had the third worst air quality out of 134 countries in 2023 after Bangladesh (79.9 micrograms per cubic metre) and Pakistan (73.7 micrograms per cubic metre) with an average annual PM2.5 concentration of 54.4 micrograms per cubic metre.

➢ In 2022, India was ranked as the eighth most polluted country with an average PM2.5 concentration of 53.3 micrograms per cubic metre.

➢ **Polluted cities:** Among the list of the top 50 most polluted cities in the world 42 cities were in India.

➢ Begusarai was the most polluted metropolitan area of 2023, followed by Guwahati and then Delhi. Of the top ten most polluted cities in the world, 9 belong to

India.

➤ Other Indian cities that were listed in the top 50 most polluted cities of the world included Greater Noida (11), Muzzafarnagar (16), Gurgaon (17), Arrah (18), Dadri (19), Patna (20), Faridabad (25), Noida (26), Meerut (28), Ghaziabad (35) and Rohtak (47).

Global findings of the report:

➤ As per the report, top 5 most polluted countries in the world in 2023 included Bangladesh, Pakistan, India, Tajikistan and Burkina Faso. The countries which met the WHO annual PM2.5 guideline (annual average of 5 μg/m3 or less) included Australia, Estonia, Finland, Grenada, Iceland, Mauritius, and New Zealand.

➤ Canada was the most polluted country in Northern America, with the region's 13 most polluted cities located within its borders which was for the first time in the history of the report.

➤ China also saw PM2.5 rise 6.3% to 32.5 micrograms in 2023, after five consecutive annual declines. Africa on the other hand remains the most underrepresented continent, with a third of the population still lacking access to air quality data.

Conclusion:

Air pollution must be acknowledged as a human rights issue, not just an environmental problem, and should be aligned with the goal of achieving net zero emissions by 2070. Further it is crucial to develop frameworks that can attract private financing for clean-air solutions in India. Green sectors like clean energy and e-mobility also provide tangible solutions to enhance air quality.

WMO Designates 2023 as Warmest Year

Why in News:

➤ In the annual State of the Climate Report, the WMO has designated 2023 as the warmest year on record, while calling the past decade (2014-23) the warmest ever.

Highlights of the Report:

➤ As per WMO, the global mean surface temperature in 2023 was 1.45 degrees Celsius, which is higher than the average of the 1850-1900 pre-industrial period. This temperature is significantly higher than the 1.29 degrees Celsius increase from pre-industrial times that was recorded in 2016.

➤ The decadal average of the global mean surface temperature between 2014 and 2023 was 1.2 degrees Celsius higher than the pre-industrial average, making it the warmest 10-year period on record.

Concentration of Green House Gases:

➤ The report observed concentrations of three main greenhouse gases carbon dioxide, methane and nitrous oxide also touched new records in 2022.

➤ Carbon dioxide concentrations in 2022 had reached 417.9 parts per million, 150 per cent of the levels seen in the pre-industrial times, while methane concentrations were 1,923 parts per billion, which was 264 per cent of pre-industrial levels.

➤ Nitrous oxide concentrations in 2022 were observed at 335.8 parts per billion, which was 124 per cent of pre-industrial level.

Impact of such temperature rise:

➤ **Frequent Disasters:** Earth's rising temperatures are leading to longer and hotter heat waves, more frequent droughts, heavier rainfall, and more powerful hurricanes

➤ **Loss of Permafrost:** Antarctica has lost nearly four trillion metric tons of ice since the 1990s, and the Arctic permafrost is thawing. Continued burning of fossil fuels at the current pace could accelerate ice loss, causing sea levels to rise several meters in the next 50 to 150 years, impacting coastal communities worldwide.

➤ **Biodiversity degradation:** The risk of wildfires is increasing due to melting glaciers, early snowmelt, and severe droughts. Cities, farms, and forests will experience more pests, heat waves, downpours, and flooding, harming agriculture and fisheries.

➤ **Coral bleaching:** Coral reefs and alpine meadows could be damaged, leading to the potential extinction of many plant and animal species.

➤ **Impact of human civilizations:** Certain groups, such as indigenous peoples, persons of color, and economically marginalized individuals, are more severely harmed. These groups have contributed the least to climate change but are more exposed to its effects due to inequities in housing, healthcare, and labor systems, known as environmental racism.

Conclusion:

Promoting efficient natural resource use, halting deforestation, and improving sustainable agriculture and transitioning from fossil fuels to renewable energy like solar and wind is key to curb temperature rise. Along with this, using cost-effective technologies to reduce energy and water usage, encouraging carpooling, public transport, and electric vehicles can play crucial role in cutting CO_2 emissions.

Science & Technology
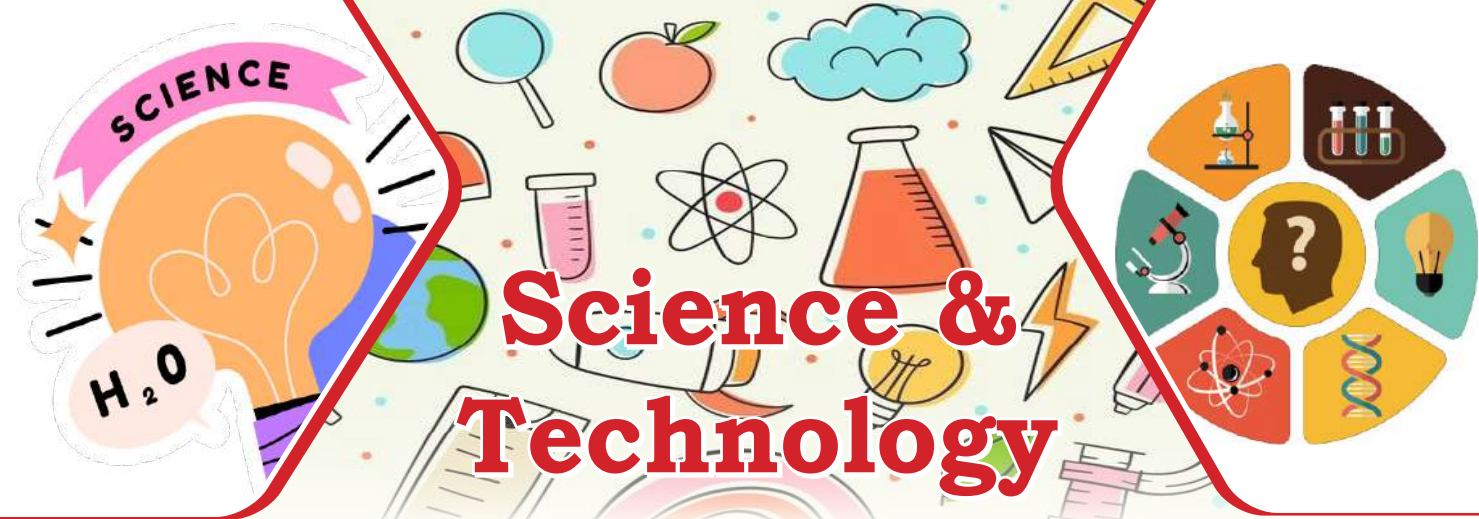
Pressurised Heavy Water Reactor: An Important Acheivement for India's Nuclear Programme

"India had foreseen the potential of the peaceful utilization of atomic energy at a time when the pioneering activities in this field were geared essentially for military use. More than a year before the traumatic demonstration of the destructive force of atomic energy in Hiroshima, Dr. Homi Bhabha, the architect of the Indian nuclear programme, had declared that "when nuclear energy has been successfully applied for power production in say, a couple of decades from now, India will not have to look abroad for its experts but will find them ready at hand". This statement captures the essence of India's efforts over the last three decades for the peaceful utilization of atomic energy, namely, the development of scientific and technological ability within the country to design and execute projects right from the laboratory stage to the industrial scale largely on the basis of its own efforts."

What is Pressurized Heavy Water Reactor?

❖ A pressurized heavy-water reactor (PHWR) is a nuclear reactor that uses heavy water (deuterium oxide D_2O) as its coolant and neutron moderator. PHWRs frequently use natural uranium as fuel, but sometimes also use very low enriched uranium.

Three stages of India's Nuclear Programme:

❖ India's three-stage nuclear power programme was formulated by Homi Bhabha, the well-known physicist, in the 1950s to secure the country's long term energy independence, through the use of uranium and thorium reserves. The ultimate focus of the programme is on enabling the thorium reserves of India to be utilised in meeting the country's energy requirements.

Stage I – Pressurised Heavy Water Reactor:

❖ In the first stage of the programme, natural uranium fuelled pressurised heavy water reactors (PHWR) produce electricity while generating plutonium-239 as by-product. PHWRs was a natural choice for implementing the first stage because it had the most efficient reactor design in terms of uranium utilisation, and the existing Indian infrastructure in the 1960s allowed for quick adoption of the PHWR technology. Heavy water (deuterium oxide, D_2O) is used as moderator and coolant.

Stage II – Fast Breeder Reactor:

❖ In the second stage, fast breeder reactors (FBRs) use a mixed oxide (MOX) fuel made from plutonium-239, recovered by reprocessing spent fuel from the first stage, and natural uranium. In FBRs, plutonium-239 undergoes fission to produce energy, while the uranium-238 present in the mixed oxide fuel transmutes to additional plutonium-239. Thus, the Stage II FBRs are designed to "breed" more fuel than they consume. Once the inventory of plutonium-239 is built up thorium can be introduced as a blanket material in the reactor and transmuted to uranium-233 for use in the third stage.

❖ The surplus plutonium bred in each fast reactor can be used to set up more such reactors, and might thus grow the Indian civil nuclear power capacity till the point where the third stage reactors using thorium as fuel can be brought.

Stage III – Thorium Based Reactors:

❖ A Stage III reactor or an Advanced nuclear power

system involves a self-sustaining series of thorium-232–uranium-233 fuelled reactors. This would be a thermal breeder reactor, which in principle can be refuelled – after its initial fuel charge – using only naturally occurring thorium. According to the three-stage programme, Indian nuclear energy could grow to about 10 GW through PHWRs fuelled by domestic uranium, and the growth above that would have to come from FBRs till about 50GW.

Nuclear Power Plants under operation in India

RAJASTHAN ATOMIC POWER PLANT-1 (RAPS-1), (RAPS-2), (RAPS-3), (RAPS-4), (RAPS-5), (RAPS-6)
KOTA, RAJASTHAN

NARORA ATOMIC POWER PLANT-1 (NAPS-1), (NAPS-2)
NARORA, UTTAR PRADESH

KAKRAPAR ATOMIC POWER PLANT-1 (KAPS-1), (KAPS-2)
TAPI, GUJARAT

TARAPUR ATOMIC POWER PLANT-1 (TAPS-1), (TAPS-2), (TAPS-3), (TAPS-4)
BOISAR, MAHARASTRA

MADRAS ATOMIC POWER PLANT-1 (MAPS-1), (MAPS-2)
KALPAKKAM, TAMIL NADU

KAIGA GENERATING STATION-1 (KGS-1), (KGS-2), (KGS-3), (KGS-4)
KAIGA, KARNATAKA

KUDANKULAM NUCLEAR POWER STATION-1 (KKNPS-1), (KKNPS-2)
KUDANKULAM, TAMIL NADU

Status of India's Nuclear Energy:

❖ Among all the developing nations, India is the only one to have generated electricity using indigenously developed, demonstrated, and deployed nuclear reactors.

❖ India ranks third in terms of electricity production worldwide. Nuclear energy is the fifth-largest source of electricity for India. Nuclear power currently provides 3% of electricity generation. According to the Department of Atomic Energy, India is planning to more than treble its nuclear electricity generation from the current 6,780 megawatts to 22,480 megawatts by 2031.

❖ India also stands at seventh position in terms of the number of nuclear reactors, with over 22 nuclear reactors in 7 power plants across the country which produces 6780 MW of nuclear power. Further, 10 reactors totalling 8000MW, are at various stages of construction. Meanwhile, the government has accorded administrative approval and financial sanction for 10 more reactors which will add 7000MW.

Evolution of PHWRs:

❖ Nuclear power for civil use is well established in India. Since building the two small boiling water reactors at Tarapur in the 1960s, its civil nuclear strategy has been directed towards complete independence in the nuclear fuel cycle. As a result, India's nuclear power programme has proceeded largely without fuel or technological assistance from other countries.

❖ The pressurized heavy-water reactor (PHWR) design was adopted in 1964, since it required less natural uranium than the Boiling Water Reactors, needed no enrichment, and could be built with the country's engineering capacity at that time. The PHWR technology in India started in the late nineteen sixties with the construction of the first 220 MWe reactor, Rajasthan Atomic Power Station, RAPS-1 with a design similar with that of the Douglas Point reactor in Canada under the joint Indo-Canadian nuclear co-operation. Canada supplied all main equipment for this first unit. India retained responsibility for construction, installation and commissioning activities.

❖ For the second unit (RAPS-2), import content was reduced considerably and indigenization was taken up for major pieces of equipment. Following the complete withdrawal of the Canadian support in 1974 after Pokhran-1, Indian nuclear engineers completed the construction and the plant was made operational with majority of the components being made in India.

❖ From the third PHWR unit (Madras Atomic Power Station, MAPS-1) onwards, the evolution and indigenisation of the design began with the objective of keeping abreast with evolutionary changes taking place worldwide and of meeting new safety criteria.

❖ The main reasons for selecting PHWRs in the 1960s for the First Stage of the Indian nuclear power programme have been the use of natural uranium oxide as the fuel, the best utilisation of mined uranium in energy production and the prospect of establishing a completely self-reliant technology.

❖ Over four decades of relentless research, design and development work in Bhabha Atomic Research Centre and Nuclear Power Corporation and the matching contributions of some of their industry partners have enabled India in establishing the technology in totality.

Advantages of PHWRs:

❖ As far as the safety is concerned, the PHWR technology

scores well in terms of its several inherent safety features. The biggest advantage of the PHWR design is the use of thin walled pressure tubes instead of large pressure vessels used in pressure vessel type reactors. The consequence of an accidental rupture of the pressure boundary in such a design will have a much less severity than that in a pressure vessel type reactor.

❖ In addition, the Indian 700 MWe PHWR design has enhanced safety through dedicated Passive Decay Heat Removal System which has the capability of removing decay heat from core without requiring any operator actions similar with the technology adopted for Generation III+ plants to address the Fukushima type accident.

❖ The 700 MWe Indian PHWR has steel-lined containment to reduce the leakages and containment spray system to reduce the containment pressure in case of a loss of coolant accident and for scrubbing radio nuclides in case of their release beyond the design limit.

Prospects of PHWRs:

❖ Mastering the entire fuel cycle including prospecting of minerals, mining, processing and manufacturing of fuel and structural materials, reprocessing of spent nuclear fuel and immobilization of radioactive waste has given India a unique position of self-reliance in the atomic energy domain.

❖ The constraint of a limited reserve of uranium in the country which earlier impeded a rapid growth in nuclear power has now been eased by augmented production of indigenous uranium and import of uranium under the civil nuclear co-operation agreements with several countries.

❖ The decision that 10 PHWRs of 700 MWe will be installed in the immediate future will generate enough enthusiasm in the industry for taking up the challenge of serial production of nuclear components of exacting specifications. The expansion in nuclear power activity will not only broaden the supplier base but also make the participating industry more quality conscious. They can even qualify to be exporters of nuclear grade components. A reduction in the gestation period of construction of nuclear plants will have a strong impact in reducing the cost of electricity.

❖ India is now in a position to embark upon building 900 MWe Pressurised Water Reactors (PWRs) of her own design. The capability of making large size pressure vessel is now available within the country and our own isotope enrichment plants will be able to supply a part of the required enriched uranium fuel within a decade. These will be in addition to imported PWRs from Russia, France and USA with the aim of an accelerated growth of nuclear energy in the country.

❖ The convenience of operation and a high average capacity factor have made PWRs the most sought after nuclear power reactors in the world, nearly 85% of all power reactors being the PWR type. There will be a special advantage of operating a mix of PWRs and PHWRs in India as the spent fuel of the former which will contain more than 1% of uranium-235 can be reprocessed and further utilized as the fuel in PHWRs operating in tandem. This evolving fuel cycle will eventually extend the power generation from the First Stage of the well- known three stage programme quite significantly.

❖ Plutonium recovered by reprocessing of spent fuel from operating PHWRs has been used in making the plutonium-uranium mixed oxide fuel for the full core of the Prototype Fast Breeder Reactor (PFBR) which has initiated the commissioning activities before commencing operation. With the entry of India in her Second Stage of nuclear power programme in which Fast Breeder Reactors will not only enable the growth of the installed nuclear capacity, but also generate more fissile materials, plutonium-239 and uranium-233 by conversion of fertile isotopes, uranium-238 and thorium-232 respectively.

❖ An enhanced scope and an accelerated implementation of the First Stage of the programme will make a far-reaching impact on securing the energy self-reliance of the country. By operating multiple recycles in the uranium-plutonium fuel cycle the supply of fissile material is expected to be enhanced by a factor of 60 and by using the huge reserve of thorium, the current estimate being four times that of uranium, India can sustain the supply of clean nuclear energy for several centuries.

Way Forward:

India is on the path of nuclear energy resurgence and scaling up its nuclear power generation capacity. Government's announcement for the plan of construction of ten new Pressurised Heavy Water Reactors (PHWR) of 700 MWe capacity vindicates the confidence in the indigenous PHWR technology which has been built over a period of nearly four decades. The performance of the present sixteen indigenously built PHWRs is demonstrated by an average capacity factor of about 80% over last five years. More than anything else is the fact that 100% of all their components are manufactured by the Indian industry.

Short Issues

IndiaAI Mission

Why in News:

On March 7, the Union Cabinet approved the IndiaAI Mission with an outlay of Rs 10,372 crore for the next five years, under which the government will allocate funds towards subsidising private companies looking to set up AI computing capacity in the country. The mission will be implemented by 'IndiaAI' Independent Business Division (IBD) under Digital India Corporation (DIC).

About IndiaAI Mission:

The IndiaAI Mission has various components which include:

- **IndiaAI Compute Capacity:** The government will look to establish a computing capacity of more than 10,000 GPUs. It will also help to develop foundational models with a capacity of more than 100 billion parameters trained on datasets covering major Indian languages for priority sectors like healthcare, agriculture, and governance.
- **Deeptech startups:** The Cabinet has approved the financing of deeptech startups at various levels of growth by the government. Of the total outlay, roughly Rs 2,000 crore has been earmarked towards this.
- **IndiaAI Datasets Platforms:** As part of the programme these platforms will look at leveraging the quality, access, and use of non-personal datasets for AI innovation. The platform will be tasked with hosting identified "high-quality" AI-ready datasets.
- **IndiaAI Innovation Research Centre:** The government will set up the IndiaAI Innovation Research Centre, which will undertake the development and deployment of large foundational models, with focus on indigenous Large Multimodal Models and domain-specific foundational models.
- **IndiaAI FutureSkills:** It is conceptualized to reduce the barriers for entry into AI programs and will enhance AI courses at undergraduate, postgraduate level and PhD. Program.
- **IndiaAI Startup Financing:** It is conceptualized to support and accelerate deep-tech AI startups and provide them streamlined access to funding, to enable future AI projects.
- **Safe and Trusted AI:** The Secure and Trustworthy AI will enable the implementation of responsible AI projects including development of indigenous tools and frameworks, self-assessment checklist for innovators and other guidelines and governance frameworks.

Computing capacity and necessity of such step:

- Computing capacity, or compute, is among the most important elements of building a large AI system apart from algorithmic innovation and data sets.
- **Driver of economy:** The government has identified electronics manufacturing as one of the key economic driver and hence it is willing to give initial thrust to boost production.
- **Utilising human capital:** India has a large pool of engineers and software developers, with a growing emphasis on upskilling and reskilling in AI technologies.
- **Data utilization:** With its vast population, India generates massive data sets, offering a unique advantage for AI and machine learning models.

Other Initiatives for AI:

- **National Strategy for Artificial Intelligence:** Launched by NITI Aayog, the national strategy outlines a vision to position India as a leader in AI. It emphasizes leveraging AI for societal needs, such as healthcare, education, agriculture, and smart cities.
- **AI for All:** This strategy focuses on increasing the accessibility of AI benefits to the entire Indian population addressing language diversity, enhancing skill development and promoting ethical AI use.
- **Digital India:** While not exclusively focused on AI, this campaign aims to digitize government processes and services, creating a fertile ground for AI-based solutions.

Challenges:

- **Regulation:** Although AI holds several innovative potential, its downsides cannot be ignored. While private sector innovates rapidly, legislative guardrails and regulations are still something lawmakers are grappling with.
- **Data quality:** AI models currently are in phase of infancy and in a way lack extensive, unbiased and high quality datasets. There is need for datasets that are representative and free from bias.
- **Quality over quantity:** The AI often takes the creativity out, focusing extensively on quantity over quality.

Conclusion:

The approved IndiaAI mission will promote innovation and build domestic capabilities to ensure India's technological sovereignty. It will also create highly skilled employment opportunities to harness the country's demographic dividend. This will promote responsible, inclusive growth of India's AI ecosystem. The IndiaAI mission will help India show the world how this transformative technology can be

used for social good and enhance its global competitiveness.

New Launch Port of ISRO

Why in News:

Prime Minister Modi laid the foundation stone of the second rocket launchport of ISRO at Kulasekarapattinam, in Tamil Nadu.

Need for a New Launchport:

➢ **Rising Commercial Demands:** India's recent policy shift opening up the space sector to private players is expected to create a huge surge in commercial launches. To accommodate this increased demand, the establishment of a new launchport becomes imperative.

➢ **Preventing Overload:** The existing Satish Dhawan Space Centre (SDSC) SHAR in Sriharikota, ISRO's primary launch facility, may face overburdening if tasked with handling both heavy-lift-off missions and smaller payload launches. Hence, the new facility will alleviate this strain by focusing on smaller satellite launches.

Why is the new launchport located in Tamil Nadu?

➢ The Kulasekarapattinam launchport offers a strategic advantage due to its location, allowing for direct southward trajectories ideal for launches using the Small Satellite Launch Vehicle (SSLV).

➢ SSLVs, designed for light payloads and carrying less fuel, benefit from shorter and more efficient launch trajectories, which Kulasekarapattinam facilitates.

➢ Current launches from the Satish Dhawan Space Centre (SDSC) SHAR in Sriharikota require the vehicle to skirt eastwards around Sri Lanka before taking a southward flight, consuming additional fuel.

➢ Kulasekarapattinam's westward location relative to Colombo eliminates the need for this detour, enabling straight southward flights and fuel savings, crucial for SSLV missions.

➢ Both launchports are located in Southern India near the equator, offering benefits in terms of velocity imparted by Earth's rotation.

➢ Closer proximity to the equator enhances the velocity imparted by Earth's rotation, leading to increased payload capacity for launch vehicles, particularly beneficial for geostationary satellites.

About SSLVs:

➢ SSLV is the small satellite launch vehicle developed by ISRO to cater for the launch of small satellites weighing between 10 to 500kg into the Low Earth Orbit.

➢ It has a three-stage launch vehicle, having a lift-off weight of about 120 tonnes and is 34 meters in length and 2 meters in diameter.

➢ They are low on cost and intended satellite insertion into orbits takes a shorter flight time.

Conclusion:

The new launchport is poised to attract private players keen on entering the space industry. These entities can utilize the facility to develop space-qualified sub-systems, construct satellites, and even launch vehicles, fostering innovation and collaboration within the sector. With a focus on on-demand commercial launches, the launchport will offer dedicated infrastructure to support these activities, ensuring efficient operations and facilitating the growth of India's commercial space industry.

Mission Divyastra: Agni-5 Missile with MIRV Technology

Why in News:

India has successfully tested Agni-5 missile equipped with Multiple Independently Targetable Re-Entry Vehicle (MIRV) technology. The flight test was named Mission Divyastra.

About Mission Divyastra:

➢ Under Mission Divyastra a single missile was deployed targeting different battlefields.

➢ The system is equipped with indigenous avionics systems and high accuracy sensor packages.

➢ With the successful testing of Mission Divyastra, India has joined the select group of countries which have MIRV capability.

About MIRV Technology:

➢ A multiple independently targetable reentry vehicle (MIRV) is a ballistic missile payload containing several warheads, each capable of being aimed to hit a different target.

➢ A missile armed with MIRVs can release its warheads at different speeds and even in different directions.

➢ It also has the specialty that it can be taken anywhere by road.

➢ This facility was not present in earlier Agni missiles but now Agni-5 missile has also been upgraded with this technology.

About Agni 5 Missile:

➢ Agni 5 missile is the longest range missile of the Agni

series with a range of over 5000 km. India successfully test-fired the nuclear-capable Agni-5 ballistic missile with a range of over 5000 km in December 2022.

Strategic importance of Mission Divyastra

➢ MIRV-equipped missiles enable simultaneous attack on multiple targets, overwhelming enemy defenses and maximizing damage potential.

➢ These missiles pose a significant challenge to missile defense systems, as multiple warheads with independent trajectories can defeat interception efforts.

➢ For countries with a no first use nuclear weapons policy, such as India, MIRV technology enhances the credibility of retaliatory strikes, acting as a powerful deterrent against aggression.

Conclusion:

Although MIRVs were not initially made to defeat ballistic missile defences, they are much more difficult to defend against than traditional missiles. Possession of MIRV technology not only exhibits a country's nuclear prowess but plays a crucial role in shaping international security and nuclear deterrence strategies.

Advanced Medium Combat Aircraft

Why in News:

The Cabinet Committee on Security (CCS) has cleared a Rs 15,000 crore project to design and develop the Advanced Medium Combat Aircraft (AMCA), India's fifth-generation fighter multirole fighter jet.

More about the Development:

➢ The Aeronautical Development Agency (ADA) under the Defence Research and Development Organisation (DRDO) will be the nodal agency for executing the programme and designing the aircraft.

➢ The aircraft will be manufactured by state-owned Hindustan Aeronautics Limited (HAL).

Features of AMCA:

➢ The AMCA will be India's indigenous fifth-generation fighter aircraft. The indigenous Light Combat Aircraft (LCA) Tejas is a 4.5-generation single-engine multirole aircraft.

➢ The 25-tonne twin-engine aircraft, which will be bigger than other fighters in the Indian Air Force inventory, will have advanced stealth features to avoid detection by enemy radar.

➢ The aircraft will have a large, concealed internal fuel tank of 6.5-tonne capacity, and an internal weapons bay for a range of weapons, including indigenous weapons.

➢ The AMCA Mk1 variant will have the US-built GE414 engine of the 90 kilonewton (kN) class, while the more advanced AMCA Mk2 will fly on the more powerful 110kN engine.

➢ The aircraft will further include other features such as a diverterless supersonic inlet for controlling air flow into the engines, and a serpentine air intake duct to shield the engines from radar emissions.

What are Fifth-generation Fighters ?

➢ Fifth-generation fighter jets have stealth capabilities such as an internal weapons bay and a bigger internal fuel tank and can cruise at supersonic speeds without engaging afterburners.

➢ The aircraft will be aided by the inclusion of a comprehensive Integrated Vehicle Health Management (IVHM) system to keep track of multiple structural components, and to assess the condition of the aircraft in real-time.

➢ Possessed by just Russia, China and the US, these fighters possess multi-spectral low-observable design features, self-protection, radar jamming capabilities, and integrated avionics.

➢ The list of the aircraft currently in service includes the F-22 Raptor and F-35A Lightning II of the US, the Chinese J-20 Mighty Dragon, and the Russian Sukhoi Su-57.

Conclusion:

The IAF currently has around 30 fighter squadrons against the sanctioned strength of 42. This number is expected to go down further as squadrons of MiG-21s, MiG-29s, Jaguars, and Mirage 2000s are scheduled to be phased out by the middle of the next decade. With the need to increase its self-reliance in the defense sector and bolster its air defenses against its enemies, India needs to increase its air power capability with AMCA.

INFAAR Report by FAO

Why in News:

The Food and Agriculture Organization of the United Nations and the Indian Council of Agricultural Research have recently published the surveillance data of the Indian Network for Fishery and Animal Antimicrobial Resistance (INFAAR) for 2019-22.

About the Report:

This is the first report on antimicrobial resistance (AMR) surveillance trends in fisheries and livestock sector from India. In total, 3,087 farms spanning 42 districts in 12 states of India were included in the survey.

Within the fisheries sector, three key production systems were covered freshwater, brackish-water and marine.

The panel of antibiotics tested included amikacin, ampicillin, amoxicillin-clavulanic acid, aztreonam, cefotaxime, cefepime, cefoxitin, ceftazidime, chloramphenicol, co-trimoxazole, enrofloxacin, gentamicin, imipenem, meropenem and tetracycline.

Across all three systems, resistance was profiled for Staphylococcus aureus, coagulase negative Staphylococcus species (CONS) and Escherichia coli.

Additionally, freshwater systems were analysed for Aeromonas species, while both shrimp aquaculture and mariculture were assessed for Vibrio parahaemolyticus and Vibrio sp

Major Findings of the Report:

While acknowledging the limited coverage of all regions in India, the report underscored that it provides a baseline data for further understanding AMR trends in India, in the animal food sector and for evaluating the effectiveness of interventions.

The report showed low levels of resistance in both the fisheries and animal sectors to certain less commonly used antibiotics (such as chloramphenicol).

The report also analysed multidrug resistance (MDR) patterns in E coli isolates of aquaculture origin, revealing that 39% of isolates exhibited MDR, which indicates resistance to three or more antimicrobial classes.

About INFAAR:

INFAAR is a network of laboratories established under ICAR, along with technical support from FAO and the United States Agency for International Development (USAID). It is dedicated to AMR surveillance in fisheries and livestock sectors.

It currently encompasses 20 laboratories, including 17 ICAR Research Institute Laboratories, one Central Agriculture University Laboratory, one State Agriculture University Laboratory, and one State Veterinary University.

Conclusion:

Antibiotic use in food animal production is known to be a driver for AMR. In this context, data generated on AMR trends will be helpful to inform policy and decision making for AMR containment. The observations suggested by the report highlight need for judicious antibiotic use in food animal production systems like aquaculture and livestock.

Fast Breeder Reactor

Why in News:

Recently, PM of India has commenced core loading of India's fast breeder reactor at kalapakkam, Tamilnadu.

About the Fast Breeder Reactor

Government had approved in 2003, the creation of Bhartiya Nabhikiya Vidyut Nigam Ltd (BHAVINI) to construct and operate India's most advanced nuclear reactor-Prototype Fast Breeder Reactor (PFBR).

PFBR has been fully designed and constructed indigenously by BHAVINI with significant contribution from more than 200 Indian industries including MSMEs. Once commissioned, India will only be the second country after Russia to have commercially operating Fast Breeder Reactor.

The Fast Breeder Reactor (FBR) will initially use the Uranium-Plutonium Mixed Oxide (MOX) fuel. The Uranium-238 "blanket" surrounding the fuel core will undergo nuclear transmutation to produce more fuel, thus earning the name 'Breeder'.

The use of Throium-232, which in itself is not a fissile material, as a blanket is also envisaged in this stage. By transmutation, Thorium will create fissile Uranium-233 which will be used as fuel in the third stage of the Nuclear Power Program. FBR is thus a stepping stone for the third stage of the program paving the way for the full utilization of India's abundant thorium reserves.

Benefits of Fast Breeder reactor:

PFBR is an advanced third generation reactor with inherent passive safety features ensuring a prompt and safe shut down of the plant in the event of an emergency.

Since it uses the spent fuel from the first stage, FBR also offers great advantage in terms of significant reduction in nuclear waste generation, thereby avoiding the need for large geological disposal facilities.

India's 3 Stage Nuclear Power Program:

The three-stage nuclear power programme was formulated by Homi Bhabha in the 1950.

The 3 Stage nuclear power program in India was designed to exploit the country's huge thorium-232 supplies.

- It is worth noting that India possesses the world's third biggest thorium deposits. However, thorium cannot be utilised as a fuel in its natural condition.
- The 3 stage Program is based on a closed nuclear fuel cycle.
- The 3 stages of nuclear power program are:
  - » Pressurised Heavy Water Reactors (PHWRs) using Natural uranium.
  - » Fast breeder reactors (FBRs) using plutonium-based fuel.
  - » Advanced nuclear power systems using thorium.

Conclusion:

The growth of the Indian nuclear power program is imperative to meet the twin goals of energy security and sustainable development. As a responsible nuclear power with advanced technology, India remains committed to expand peaceful applications of nuclear technology, both in power and non-power sector, while ensuring the security of nuclear and radiological materials.

Anti-Drone Systems

Why in News:

The Ministry of Defence has signed a Rs. 200 crore contract for anti-drone systems to be used by the Indian Army and Indian Air Force (IAF) with Big Bang Boom Solutions Private Limited (BBBS). This is the largest contract signed by the MoD under the Innovations for Defence Excellence (iDEX) initiative.

Reasons for selection of BBBS's Vajra:

- BBBS's Vajra Sentinel System is a state-of-the-art solution designed to detect, track and neutralise drones at extraordinary ranges. It utilises passive RF sensor technology to eliminate false alarms. Its sensor and jammer combination meets stringent military standard specifications for durability and reliability.

What is anti-drone system?

- Anti-Drone System is a technology that blocks or tracks Unmanned Aerial Devices (UAVs). This technology can detect enemy drones and destroy them using radio frequency. As drones are used by enemies to gather sensitive information, Anti-Drone systems are necessary for the safety of a nation.
- Anti-drone systems are essential for the security of government departments, military sites, airports, and sensitive areas such as energy or industrial facilities. Additionally, they can be used for public safety by providing a secure perimeter against malicious and unwitting intruders.

About iDEX initiative:

- The iDEX initiative was launched by the Hon'ble PM in April 2018.
- iDEX aims to achieve self-reliance and foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, start-ups, individual innovators, R&D institutes and academia.
- iDEX has partnered with leading incubators in the country to provide handholding, technical support and guidance to the winners of iDEX challenges.

Conclusion:

The government has taken substantial steps to make the country self-reliant by developing indigenous advanced technologies and complex system. Defense Acquisition Procedure (DAP 2020) has been promulgated to maximize the acquisition of defense equipment through indigenous sources and promote domestic manufacturing. Provisions for government funding have been introduced for Make-I, Technology Development Fund (TDF) and Innovation for Defense Excellence (iDEX) projects. The new deals with BBBS will strength air defence system of India.

Lancet study on Obesity

Why in News:

A new study published in The Lancet has recently revealed that worldwide obesity rates among children and adolescents have increased four times from 1990 to 2022, while obesity rates among adults have more than doubled.

About the study:

- The study was conducted by the NCD Risk Factor Collaboration (NCD-RisC), in collaboration with the World Health Organization.
- Researchers in more than 190 countries analyzed weight and height measurements of over 220 million people aged five years or older analyzing the Body Mass Index (BMI) to understand how obesity and underweight have changed worldwide from 1990 to 2022.
- The study points out that total number of children, adolescents and adults worldwide living with obesity has surpassed one billion. In 2022 around 159 million children and adolescents, and 879 million adults were obese.

Parameters for obese and underweight:

- **Body Mass Index:** According to the Centers for Disease Control and Prevention, BMI is a person's weight in kilograms divided by the square of height

in meters.

For Obesity:

➢ **Adults:** Anyone over the age of 20 years are considered to be obese, if they have a body mass index (BMI) of 30 kg/m^2 or more.

➢ **School-aged children and adolescents:** Anyone between the ages of 5 and 19 years are considered obese, if their BMI is two standard deviations more than the mean.

For Underweight:

➢ An adult is considered underweight if their BMI is less than 18 kg/m^2. School-aged children and adolescents are considered underweight if their BMI is two standard deviations below the mean.

Obesity in India:

➢ In India, both obesity and underweight continue to co-exist.

➢ Obesity in women has increased from 1.2% in 1990 to 9.8% in 2022 with 44 million women with obesity in India in 2022.

➢ Obesity in men increased by 4.9% points during the same period, with 26 million men living with obesity in 2022.

➢ In the prevalence of obesity category for girls and boys, India ranked 174th highest in the world in 2022 with 3.1% of obese girls and 3.9% of obese boys

➢ 13.7% of women and 12.5% of men were underweight. Thinness, which is a measure of being underweight in children, in Indian girls was found to be the highest in the world, with a prevalence of 20.3%. Thinness was the second highest in Indian boys, with a prevalence of 21.7%.

Conclusion:

Obesity and underweight should not be considered in isolation as the underweight-obesity transition can occur rapidly, leaving their combined burden unchanged or higher. The attention must be on programs that enhance healthy nutrition, such as targeted cash transfers, food assistance as subsidies or vouchers for healthy foods, free healthy school meals and primary care-based nutritional interventions. In addition there must be programs supporting weight loss in those with obesity, along with making healthy food affordable and accessible.

Obelisks

Why in News:

The scientists from Stanford University have recently identified obelisks which represent a distinct class of virus-like entities residing within the human body.

About Obelisks:

➢ Obelisks are a new class of virus-like entities, which are composed of diverse RNA molecules that reside within the human body.

➢ These obelisks bridge the gap between viruses and viroids in terms of complexity, adding a new category to the existing spectrum of life forms.

➢ Their genetic sequences are approximately 1,000 nucleotides long, with no recognisable similarity to known biological agents.

➢ While preliminary findings suggest a possible link to the bacterial species Streptococcus sanguinis, which is commonly found in the human mouth.

Concerns related to Obelisks:

➢ As Streptococcus sanguinis is easy to grow and experiment on in the laboratory, this will provide a valuable model for understanding the fundamentals of obelisk biology.

➢ This is critical, as nothing is known about the broader evolutionary and ecological significance of obelisks. They may be parasitic and harm host cells, or they may be beneficial.

➢ If obelisks change or upset the human microbiome, this may in turn have implications for human health. They may even have therapeutic potential.

About virus and viroids:

➢ A virus is a submicroscopic infectious agent that replicates only inside the living cells of an organism. Viruses infect all life forms, from animals and plants to microorganisms, including bacteria and archaea etc.

➢ Viroids are small single-stranded, circular RNAs that are infectious pathogens. Unlike viruses, they have no protein coating. All known viroids are inhabitants of angiosperms, and most of them cause diseases.

➢ Viruses and viroids differ primarily in the aspect that viruses are little infectious organisms that can only reproduce within living cells. Viroids, on the other hand, are the smallest infectious agents that assault plants. Viroids are RNA particles, whereas viruses are nucleoprotein particles having DNA or RNA nucleic acid.

Conclusion:

The discovery of obelisks raises further questions about their genome replication, transmission, pathogenicity, evolution, and potential roles in human health and disease. Hence, more research will be needed to unravel the mysteries

surrounding the obelisks, shedding light on their ecological significance and impact on human health.

Lyme Disease in Kerala

Why in News:

A 56-year-old individual from Koovappady in Ernakulam district has been diagnosed with Lyme disease. The patient exhibited symptoms of the illness since last December, however, the National Institute of Virology gave confirmation recently.

About Lyme Disease:

➤ Lyme disease is a bacterial infection primarily transmitted to humans through the bite of infected black-legged ticks.

➤ It is caused by the bacterium Borrelia burgdorferi. Under microscope, the Lyme disease bacteria appear as corkscrew shaped.

➤ Lyme disease is non communicable disease and cannot be transmitted between humans, from pets to humans, or through air, food, or water.

➤ It predominantly affects the Northern Hemisphere, mainly in North America, Europe, and Asia. Specific regions within the United States, such as the upper Midwest, the northeastern and mid-Atlantic states, are particularly affected by the disease.

Symptoms and diagnosis:

➤ Common symptoms of Lyme disease comprise symptoms such as fever, headache, fatigue, and a characteristic "bull's-eye" rash.

➤ If these symptoms are left untreated, they can lead to more severe complications affecting the joints, heart and nervous system.

➤ **Erythema migrans:** It is a distinctive skin rash often associated with Lyme disease and serves as a hallmark sign for early diagnosis of the disease.

➤ It is circular or oval-shaped rash with a central clearing resembling a bull's-eye and typically appears within 3 to 30 days post-infection.

➤ It gradually expands outward and may be accompanied by flu-like symptoms such as fver, fatigue, and headache.

➤ Its diagnosis often relies on clinical evaluation and laboratory tests.

Treatment:

➤ The standard treatment for Lyme disease typically involves antibiotics, such as doxycycline or amoxicillin, particularly in the early stages.

➤ In later stages of the disease, intravenous antibiotics may be necessary. Intravenous antibiotics are directly administered into a vein to quickly enter the bloodstream, bypassing absorption in the gut.

Conclusion:

Addressing the complexities of Lyme disease requires a comprehensive approach along with recognizing the diverse array of symptoms and addressing the diagnostic hurdles and advocating for timely treatment. By maintaining vigilance and staying informed, the repercussions of Lyme disease can be easily mitigated.

National Action Plan for Prevention and Control of Snakebite Envenoming in India

Why in News:

With a vision to reduce snakebite deaths, Ministry of Health and Family Welfare launched the National Action Plan for Prevention and Control of Snakebite Envenoming in India.

About NAPSE:

➤ National Action Plan for Prevention and Control of Snakebite Envenoming in India provides a broad framework for management, prevention and control of Snake bite envenoming in India and for states to develop their own action plan for management, prevention and control of snakebites through the 'One Health' approach.

➤ **Vision:** To prevent and control snakebite envenoming in order to halve the numbers of deaths and cases of disability that it causes by 2030.

➤ **Mission:** To progressively reduce the morbidity, mortality and its associated complications in humans due to Snake bite.

➤ It aims at systematic reduction of snakebite envenoming risk through sustained availability of anti-snake venom, capacity building, referral mechanism and public education.

Snakebite envenoming:

➤ Snakebite envenoming is a potentially life-threatening disease following the bite of a venomous snake. Venomous snake bites can result in medical issues which can be deadly or lead to permanent impairment if timely and appropriate treatment is not given.

➤ As per the Central Bureau of Health Investigation (CBHI) reports (2016-2020), the average annual

frequency of snakebite cases in India is around 3 lakhs and about 2000 deaths occur due to snakebite envenoming.

Snakebite in India

➢ In India, around 90% of snakebites are caused by the 'big four' among the crawlers common krait, Indian cobra, Russell's viper and saw scaled viper.

➢ In India, around 50,000 deaths occur of an estimated 3-4 million snakebites annually which accounts for half of all snakebite deaths globally.

➢ Only a small proportion of snake bite victims across countries report to the clinics and hospitals and actual burden of snake bite is grossly underreported.

➢ Administration of polyvalent anti-snake venom (ASV) containing antibodies against 'big four' is effective in 80% of the snakebite cases. However, lack of trained human resources and health facilities to treat snakebite patients remains a cause of concern.

➢ The unavailability of data on incidence, morbidity, mortality, socio-economic burden, treatment patterns etc. are the major hindrances in planning for mitigation of snakebite in India.

Conclusion

The NAPSE has defined joint monitoring mechanisms with specific indicators for both human, wildlife and animal health components at all levels, independent component wise monitoring by the concerned stakeholder and independent external evaluation of the state action plan. This document describes phase wise activity matrix and road map for State action plans.

Dialysis Patterns in India

Why in News:
Nationwide private hemodialysis network findings reveal survival variation among patients in India, emphasizing the importance of standardizing care across centers. The 2016 National Dialysis Service launch aims for accessible, affordable systems.

About Dialysis:
➢ Dialysis is a vital procedure for individuals with end-stage renal disease (ESRD) or acute kidney injury (AKI) when kidneys fail to filter waste and excess fluids. It mimics kidney function, removing toxins and regulating fluid balance.

➢ **Hemodialysis:** Blood is filtered outside the body through a dialyzer, removing waste

➢ and excess fluid, before being returned to the body.

➢ **Peritoneal dialysis:** The abdomen's lining serves as a natural filter, with dialysate introduced into the abdominal cavity through a catheter. Waste products pass into the dialysate, which is then drained, removing waste.

➢ Dialysis occurs multiple times weekly, each session lasting hours for hemodialysis or multiple times daily for peritoneal dialysis.

➢ Adherence to dialysis schedule crucial for maintaining health in kidney failure.

➢ Dialysis not a cure but crucial for prolonging and improving quality of life.

Mortality rate
➢ 180-day survival rate ranged from 83% to 97%.

➢ Rural center mortality 32% higher than urban centers, likely due to unmeasured differences, highlighting rural challenges.

Patient characteristics associated with mortality included:
➢ Catheter access had higher mortality than fistula or graft.

➢ Government or private insurance support had lower mortality than out-of-pocket payments.

➢ Longer dialysis vintage linked to 17% lower mortality.

➢ Diabetes presence associated with higher mortality.

➢ Including center-level factors reduced survival variability by 31%.

Challenges:
➢ Bolster access nationwide, especially in rural areas, through infrastructure expansion, increased healthcare staffing, and equitable resource distribution.

➢ Standardize protocols, implement quality improvement initiatives, and ensure adherence to evidence-based guidelines to optimize patient outcomes.

➢ Ensure affordability and accessibility of dialysis treatment for all patients, regardless of socioeconomic status, through financial support mechanisms.

➢ Educate patients on adherence to dialysis schedules and managing comorbidities like diabetes and hypertension to improve outcomes and quality of life.

Conclusion:
The study on dialysis outcomes in India highlights the need to address ESRD management challenges. With 1,75,000 dialysis patients in 2018, improving healthcare is crucial. The study, involving 23,600+ patients, identified factors influencing survival rates, emphasizing tailored interventions. Rural-urban disparities are significant, underscoring challenges. Addressing these disparities is vital for equitable ESRD healthcare in India.

Economy

NSO's Assessment of the Actual Situation of the Unemployment Rate in India

The recent NSO data revealing India's unemployment rate at a three-year low of 3.1% in 2022-23 has ignited widespread discussions, highlighting a superficially improving economy but also exposing deeper labour market issues.

The data, showing urban unemployment at 5.8% and rural at 2.2%, raises concerns about job quality and the significant urban-rural divide. This divide not only highlights geographic disparities in job availability but also raises critical questions about the quality and nature of employment across these demarcations.

- Under the broad definition of employment used in the survey, anyone engaged in any economic activity for at least an hour has been counted as employed. Criticisms include the broad definition of employment used by the PLFS, which may mask underemployment and the prevalence of insecure, low-quality jobs, especially in the gig and informal sectors.

- The impact of COVID-19, persistent gender disparities in workforce participation, and high youth unemployment further complicate the narrative, suggesting that the figures don't fully capture the challenges of job satisfaction, work-life balance, and regional inequalities. Addressing these issues requires a comprehensive strategy focusing on human capital development, gender equality, and youth empowerment to ensure sustainable, inclusive growth and a robust labour market that benefits all segments of society.

The Decline in unemployment: Implications

The decline in unemployment is a positive development for the Indian economy and has following implications:

Gender-wise Trend

- **Females:** The unemployment rate among females declined to 3 per cent in 2023, down from 3.3 per cent in 2022.

- **Males:** Among males, the unemployment rate dropped to 3.2 per cent during the same period, compared to 3.7 per cent in the preceding year.

- **Labor Force Participation Rate (LFPR):** The LFPR, which measures the proportion of the working-age population actively participating in the labour force, increased to 59.8 per cent in 2023. This rise from 56.1 per cent in 2022 indicates a growing engagement of individuals in economic activities.

- **Urban Unemployment:** India's urban areas also witnessed a decline in unemployment. Between October–December 2022 and October–December 2023, the unemployment rate decreased from 7.2 per cent to 6.5 per cent for individuals aged 15 years and above. This trend reflects positive strides in urban employment opportunities.

The Gig Economy and Informal Employment:

- India's labour market has been significantly transformed by the rise of the gig economy and the expansion of informal sector employment. While these shifts have indeed contributed to a reduction in unemployment figures, they bring to light the concerns regarding job security, workers' rights, and the quality of employment.

- The gig economy, though offering flexibility and potential income opportunities, often lacks the social security and stability associated with traditional employment.

- Similarly, the informal sector, which employs a vast

majority of India's workforce, is characterized by precarious working conditions and limited regulatory oversight.

COVID-19's Lingering Impact:

❖ COVID-19 pandemic has undeniably reshaped the employment landscape, with its economic fallout forcing many into precarious jobs out of sheer necessity. While the immediate crisis has subsided, the long-term impact on the labour market is yet to be fully understood.

❖ The pandemic's disruption has highlighted the fragility of employment for the most vulnerable and raises questions about the sustainability of the recovery and the nature of jobs being created in its wake.

THE JOB STATUS (in %)
Annual unemploymnet rate (UR) (all ages)
Rural UR — Urban UR — Rural+Urban UR
7.8 6.3
6.1 4.1
5.3 3.2
PLFS 2017-18 PLFS 2021-22
Source : NSO

QUARTERLY UNEMPLOYMENT RATE IN URBAN AREAS (in %)
Male — Female — Unemployment rate
12.7 7.2
9.7 9.6
8.9 6.5
July-Sep, '18 Oct - Dec, '22
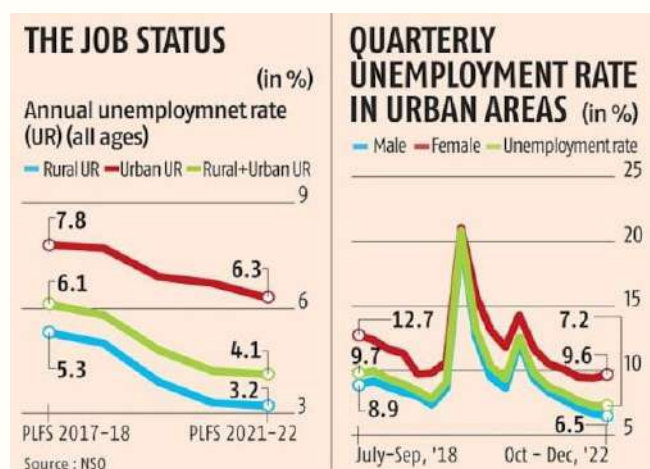
Gender Disparities and the Labor Force:

❖ One of the more concerning aspects revealed by the NSO data is the gender disparity in unemployment rates, albeit slight, with women facing a marginally higher unemployment rate than men. This statistic barely scratches the surface of the profound gender imbalances in India's labour market, marked by one of the world's lowest female labour force participation rates.

❖ The challenges for women extend beyond mere employment statistics, delving into socio-cultural norms, access to education and skill-building opportunities, and the need for supportive policies and infrastructure to enable women's entry and retention in the workforce.

The Youth Unemployment Conundrum:

❖ Perhaps most alarming is the youth unemployment rate, standing at 12.7% for individuals aged 15-29 years. This figure not only signifies wasted potential

but also poses significant risks for social stability and economic development.

❖ India's demographic dividend, often touted as a strategic advantage, risks turning into a demographic liability if the energies and aspirations of its youth are not channelled into productive employment.

Beyond the Numbers: Quality, Satisfaction, and Regional Disparities

❖ While the NSO's data provides a valuable quantitative assessment of unemployment, it falls short of capturing the qualitative aspects of employment, including job satisfaction, work-life balance, and the overall well-being of India's workforce.

❖ Additionally, the regional disparities in employment, with some states faring significantly better than others, point to an uneven landscape of opportunity that could exacerbate existing inequalities if left unaddressed.

Challenges faced by Indian Job Market:

❖ **High Unemployment Rate:** India grapples with a high unemployment rate, especially among the youth, reaching around 7% and even peaking at 14% due to the economic fallout from the COVID-19 pandemic.

❖ **Informal Sector Dominance:** The dominance of the informal sector in employment poses challenges as it lacks formal contracts, social security benefits, and job stability, making workers vulnerable to economic shocks.

❖ **Skill Mismatch:** There is a significant gap between the skills possessed by job seekers and those required by employers, leading to underemployment or unemployment. Bridging this gap is crucial for enhancing employability.

❖ **Rural-Urban Divide:** Disparities exist between rural and urban areas in terms of job opportunities. Rural regions face limited prospects, agricultural distress, and inadequate infrastructure, while urban areas witness fierce competition for jobs.

❖ **Gender Disparities:** Gender disparities persist in the labour market with limited access to education and employment opportunities for women, wage gaps, and societal biases affecting their participation.

❖ **Underemployment:** Underemployment is a significant concern where individuals are overqualified for the jobs they hold, leading to inefficiencies in utilizing skills and qualifications effectively.

❖ **Lack of Labor Reforms:** The Indian labour market lacks comprehensive labour reforms essential for growth and adaptability, hindering progress in addressing employment challenges.

❖ **Skilled Labor Shortage:** There is an acute shortage of skilled labour in sectors like engineering and automotive, posing challenges for manufacturers and impacting overall productivity.

❖ Addressing these challenges requires a multi-faceted approach involving policy reforms, skill development initiatives, promoting entrepreneurship, enhancing industry-academia linkages, fostering a positive work culture, and creating more inclusive opportunities for all segments of society. By tackling these issues effectively, India can work towards a more robust and inclusive job market that benefits both job seekers and employers alike.

Way Forward:

❖ Confronting the multifaceted challenges of India's labour market requires a holistic and multi-pronged strategy.

❖ **Redefining definitions:** There is a pressing need to refine the definition of employment and adopt measures that more accurately capture the nuances of underemployment and the quality of jobs.

❖ This should be complemented by policies aimed at fostering sustainable job creation, with a particular focus on sectors poised for growth and capable of absorbing a large workforce, such as renewable energy, technology, and healthcare.

❖ Investments in education and skill development must be ramped up, ensuring that the workforce is equipped with the competencies needed in a rapidly evolving job market including technical skills as well as soft skills that enhance employability in diverse roles.

❖ Furthermore, enhancing vocational training and creating stronger linkages between industry and academia can bridge the gap between education and employment.

❖ **Targeted initiatives for gender disparities:** This could include support for women entrepreneurs, gender-sensitive policies at workplaces, and investments in childcare and transportation infrastructure that alleviate some of the practical barriers to women's employment.

❖ **Skill development:** For India's youth, creating avenues for skill development, entrepreneurship, and apprenticeships could be transformative.

❖ Government and private sector collaboration is crucial in this regard, ensuring that young people are prepared for the jobs of tomorrow, not just those of today.

Conclusion: A Call for Collective Action

❖ The NSO's latest unemployment figures present a paradoxical view of India's labor market, characterized by both progress and persistent challenges. While the decrease in the overall unemployment rate is a positive development, the underlying issues of job quality, gender disparity, and youth unemployment remain formidable obstacles to inclusive economic growth.

❖ Addressing these challenges necessitates a concerted effort from all stakeholders, including the government, private sector, civil society, and international organizations. Only through collaborative and innovative approaches can India aspire to not only reduce unemployment but also enhance the quality of employment, ensuring that economic growth is both inclusive and sustainable.

❖ As India continues to navigate its path towards becoming a global economic powerhouse, the real measure of success will be how well it empowers its most valuable asset: its people. The task ahead is not simply to create jobs but to build a labor market that is resilient, equitable, and capable of fulfilling the aspirations of its diverse workforce.

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Short Issues

e-Kisan Upaj Nidhi

Why in News:
Union Minister for Consumer Affairs, Food & Public Distribution Piyush Goyal launched 'e-Kisan Upaj Nidhi' (Digital Gateway) of Warehousing Development and Regulatory Authority (WDRA).

About e-Kisan Upaj Nidhi:
➢ This initiative aims to ease the farmers' warehousing logistics with the help of technology and aid the farmers in receiving fair prices for their produce by reducing security deposit charges at WRDA registered warehouses from 3% to 1%.

➢ It will facilitate simplified digital process for easing the procedure of farmers' storage at any registered WDRA warehouse for a period of 6 months at 7% interest per annum.

➢ With its no collateral and extra security deposit policy, it can prevent distress sale by farmers who often have to sell their entire harvest at cheaper rates due to poor post-harvest storage opportunities.

About Warehousing Development and Regulatory Authority:
➢ Warehousing Development and Regulatory Authority is a statutory body under the Department of Food and Public Distribution headquartered at New Delhi.

➢ It was established in October 2010 under Warehousing (Development and Regulation) Act, 2007 to develop and regulate warehouses, promote negotiability of warehouse receipts, and facilitate orderly growth of warehousing business in India.

About Negotiable Warehouse Receipt:
➢ The Negotiable Warehouse Receipt (NWR) system allows the transfer of ownership of a commodity stored in a warehouse without having to deliver it physically. Launched in 2011, NWR has been enabled by enabling the financing of warehouse receipts through the Warehouse (Development and Regulation) Act, of 2007.

➢ The NWRs issued by WDRA, aids farmers to seek loans from banks against NWRs which on turn avoids distress sales of agricultural products and avoid post-harvest storage loss.

➢ 136 agricultural commodities have been identified for issuing negotiable warehouse receipts, including cereals, pulses, oil seeds, spices, rubber, tobacco, coffee etc. along with 24 horticultural commodities for cold storage and 9 non agricultural commodities.

Conclusion:
e-Kisan Upaj Nidhi on the lines of e-NAM will aid farmers in utilizing the technology of an interconnected market. This in turn would benefit them above and beyond selling their produce to the Government at Minimum Support Price (MSP) and getting a fair price for selling their harvest.

National Cooperative Database

Why in News:
Union Home and Cooperation Minister Amit Shah inaugurated the National Cooperative Database. The database is a web-based digital dashboard capturing information about over 8 lakh registered cooperative societies, involving more than 30 crore people. Additionally, the 'National Cooperative Database 2023: A Report' was released which highlighted the progress made in computerizing all primary agricultural credit societies (PACS) in the country.

About the Cooperative Societies:
➢ A co-operative society is a voluntary association of individuals having common needs who join hands for the achievement of common economic interest.

➢ Its aim is to serve the interest of the poorer sections of society through the principle of self-help and mutual help.

➢ The cooperative movement is as old as India's Independence.

97th Constitutional Amendment Act 2011:

> It established the right to form cooperative societies as a fundamental right (Article 19).
> It included a new Directive Principle of State Policy on the Promotion of Cooperative Societies (Article 43-B).
> It added a new Part IX-B to the Constitution titled "The Co-operative Societies" (Articles 243-ZH to 243-ZT).
> It authorizes the Parliament to establish relevant laws in the case of multi-state cooperative societies (MSCS) and state legislatures in the case of other cooperative societies.

Significance:

> Co-operatives have great potential to rejuvenate growth, formalise the economy, and reduce inequality besides improving the standard of living of the poor.

Ministry of Cooperation:

> The Union Ministry of Cooperation was formed in 2021, its mandate was looked after by the Ministry of Agriculture before.
> Currently, there are about 10 lakh cooperatives, of which 1.05 lakh are financial cooperatives.

Issues:

Dispute over jurisdiction:

> The founding fathers of the Indian Constitution have kept 'cooperatives' in the State List while 'banking' is included in the Union List.

Poor corporate governance:

> Poor corporate governance has been the main reason behind the failure of many cooperative banks.

Conclusion:

The initiative is felt important in guiding the development of the cooperative sector. It is believed that the database would help identify and address gaps through comprehensive analysis, acting as a compass for the sector's growth. The data base will play a major role in connecting primary agricultural credit societies (PACS) to apex bodies, villages to cities, mandis to global markets, and state databases to international databases, thereby promoting the expansion of cooperatives.

Study on Gig workers

Why in News:

According to a recent study, gig workers in India mainly suffer due to improper compliance of social security and rules related to gig workers. The study has been developed by the People's Association in Grassroots Action and Movements and the Indian Federation of App-Based Transport Workers with technical support from the University of Pennsylvania and the German Foundation Friedrich-Ebert-Stiftung India.

Main points of study:

> The direct impact of social inequality is visible on gig workers, for example, 60% of Scheduled Caste and Tribe workers work more than 14 hours, whereas only 16% of the general category workers work more than 14 hours a day.
> The study reports that more than 43% of the study participants earn less than Rs. 500 per day or Rs. 15,000 per month after deducting all their costs. The study found that 34% of app-based delivery persons earn less than Rs. 10,000 per month, while 78% of them are spending more than 10 hours at work every day.
> Noting differences between workers of different castes, the report says these income disparities exacerbate pre-existing social inequalities and perpetuate cycles of poverty and crisis within these communities.
> The study found that the 10-minute delivery policy at the door causes drivers to become physically exhausted, and increases the risk of road traffic accidents. Lack of social and job security creates additional stress and potentially leads to health problems.
> 72% of cab drivers said they face difficulty in managing expenses, while 76% of delivery persons are struggling to make ends meet. The report urges better compensation and support for these workers.
> More than 80% of app-based cab drivers were not satisfied with the fares offered by the companies, while more than 73% of app-based delivery persons showed dissatisfaction with their rates.

About Gig Worker:

> Employees hired on the basis of payment for work are called Gig Workers.
> Example:
>> Freelance contract workers.
>> Employees working for online platforms.
>> Employees of contract firm.
>> Staff available to work on call.
>> Temporary employee.

Conclusion:

The report recommended stronger social protections for workers, and called on the government to monitor the fairness of the algorithms and mechanisms used by platforms to monitor such workers.

UNNATI Scheme

Why in News:

The Union Cabinet chaired by Prime Minister Narendra Modi approved the Uttar Poorva Transformative Industrialization Scheme, 2024 (UNNATI – 2024) for a period of 10 years at a total cost of Rs. 10,037crore.

About the scheme:

➢ UNNATI (Uttar Poorva Transformative Industrialization Scheme), is a central sector scheme for the development of industries and generation of employment in the states of North East Region. The scheme's main objective is to generate gainful employment, which will lead to the area's overall socio-economic development. It will create productive economic activity in the manufacturing and service sectors.

Uttar Poorva Transformative Industrialization Scheme, 2024 (UNNATI-2024)

- Cabinet approves UNNATI – 2024 for a period of 10 years for development of Industries and generation of employment in North East Region
- Scheme will be effective from the date of Notification and up to 31.03.2034 along with 8 years of committed liabilities
- Financial outlay of Rs.10,037 crore for the scheme period from the date of notification for 10 years. (Additional 8 years for committed liabilities)
- Eligible Industrial Units to commence their production or operation within 4 years from the grant of registration
- Districts categorized into Zone A (Industrially Advanced Districts) & Zone B (Industrially Backward Districts)
- Scheme envisages approximately 2180 applications

Salient features of the scheme:

➢ **Scheme period:** The scheme will be effective from the date of Notification and up to 31.03.2034 along with 8 years of committed liabilities.

➢ **Application period for registration:** Industrial unit will be allowed to apply for registration from the date of notification up to 31.03.2026.

➢ **Commencement of production or operation:** All eligible industrial units to commence their production or operation within 4 years from the grant of registration.

➢ **Districts are categorized in two zones:** Zone A (Industrially Advanced Districts) & Zone B (Industrially Backward Districts).

Implementation Strategy:

➢ DPIIT will implement the scheme in cooperation with the states. Implementation will be overseen by following committees at the national and state levels.

➢ **The Steering Committee,** headed by the Secretary, DPIIT, will decide upon any interpretation of the scheme within its overall financial outlay and issue detailed guidelines for execution.

➢ **State Level Committee,** headed by the state's Chief Secretary, will monitor implementation, checks and balances, ensuring transparency and efficiency.

➢ **Secretary Level Committee,** headed by the senior secretary of the state (Industries), will be responsible for implementing the scheme, including the recommendation of registration and incentives claims.

Conclusion:

There is a need to give a renewed thrust to industrial development in the North-East region with emphasis on employment generation, skill development and sustainable development by attracting new investments and nurturing existing investments.

CRISIL Prediction Regarding India

Why in News:

The global credit rating agency CRISIL has recently predicted India's GDP growth at 6.8 per cent in the financial year 2025. The agency said that India can achieve upper-middle status by 2031.

Prediction by CRISIL:

➢ The country's economic progress will be supported by domestic structural reforms and cyclical factors. Crisil anticipates that India could potentially even surpass its growth prospects, aiming to become the world's third-largest economy by 2031.

➢ It said that the next seven fiscals (2025-2031) will see the Indian economy crossing the USD 5 trillion mark and expand to USD 6.7 trillion by fiscal 2031.

➢ India, with a GDP size of USD 3.6 trillion, is currently

the fifth largest economy in the world, after the US, China, Japan and Germany.

➢ Fiscal 2031 will mark the year when India enters the club of upper middle-income countries with per-capita income rising to USD 4,500.

➢ As per the World Bank definition, lower-middle income countries are those with per-capita income of USD 1,000-4,000, and upper-middle income countries are those with per capita income between USD 4,000-12,000.

Push factors for India's GDP growth:

➢ India's manufacturing sector is at a sweet spot due to high-capacity utilisation.

➢ Opportunities from global supply-chain diversification.

➢ High infrastructure investment.

➢ Green-transition of India.

➢ Strong balance sheets of lenders.

➢ Continuous reforms by the government.

➢ Enhanced global competitiveness and moving up the value chain will boost the share of manufacturing in India's GDP beyond the projected 20 per cent in fiscal 2031.

Challenges for India:

➢ Geopolitical conflicts.

➢ Slowing potential growth from an uneven global recovery.

➢ Climate change.

➢ Technological disruptions.

About CRISIL:

➢ CRISIL, formerly Credit Rating Information Services of India Limited, is an Indian analytical company providing ratings, research, and risk and policy advisory services.

➢ It is a subsidiary of the American company S&P Global.

Conclusion:

The projection given by CRISIL is a really big achievement for India and validates the government's effort of structural reform of the Indian economy. Initiatives like GST, e-way bill, and note ban are some of the examples that have provided a huge push for the long-term growth of the Indian economy.

PM-SURAJ

Why in News:

The Ministry of Social Justice and Empowerment has

recently launched a nationwide initiative Pradhan Mantri Samajik Utthan evam Rozgar Adharit Jankalyan portal. It is aimed at offering credit support to the marginalized segments of society.

About PM-SURAJ:

➢ The 'Pradhan Mantri Samajik Utthan and Rozgar Adharit Jankalyan' (PM-SURAJ) is a national online portal.

➢ It will be implemented by the Ministry of Social Justice and Empowerment.

➢ The portal is being launched to set up as a one-stop point where people from disadvantaged sections of society can apply for and monitor the progress of all loan and credit schemes already available to them and being implemented by the Ministry of Social Justice and Empowerment and its departments.

➢ The credit support will be provided to eligible persons across the country and facilitated through banks, NBFC-MFIs, and other organisations.

Government initiatives for upliftment of marginalized:

➢ The National Commission for Backward Classes was given constitutional status for more targeted efforts for the upliftment of backward communities.

➢ The assistance provided to the marginalized by various institutions has been doubled in the last 10 years.

➢ The government has provided almost one lakh 60 thousand crore rupees for the welfare of the SC community in the current fiscal year.

➢ **Mudra Yojna:** It provided financial assistance worth about Rs. 30 lakh crore to the poor, including SC, ST, and OBC communities.

➢ The government has launched Standup India Scheme and Venture Capital Fund Scheme to promote entrepreneurship among SC and ST communities.

➢ Additionally, the government has also launched the Ambedkar Social Innovation and Incubation Mission to promote entrepreneurship among Dalits.

Conclusion:

The true goal of Viksit Bharat can be only achieved by 2047 when facilities like gas connection, bank accounts & toilets are made available to all including dalits, backwards, deprived and tribals. The country is made from its people and when the country provides with the much needed inclusivity, the spirit of Unity of Diversity is achieved in its true sense.

Breaking the Gridlock: Reimagining Cooperation in a Polarised World

Why in News:

The United Nations Development Programme (UNDP) report 'Breaking the Gridlock: Reimagining cooperation in a polarised world' was released. According to the report India has moved up a rank on the global Human Development Index (HDI).

Major highlights of the Report:

- **India's ranking:** As per the report, India ranked 135 in 2021, and has moved up to 134 in 2022. A total of 193 countries were ranked in 2022 while 191 countries were ranked in 2021.
- Life expectancy at birth in India has slightly improved from 67.2 years in 2021 to 67.7 years in 2022.
- **Expected Years of Schooling (EYS):** There is an overall increase of 5.88% in EYS from 11.9 years to 12.6 years, leading to an improvement of 18 places.
- The Gross National Income (GNI) per capita also improved from $6,542 to $6,951.
- **Gender equality:** With regard to reducing gender inequality, India has shown improvement, ranking 108 out of 166 countries in the 2022 Gender Inequality Index (GII). The GII assesses gender disparities in three main areas: reproductive health, empowerment and the labor market.
  - » With a GII value of 0.437, India outperforms both the global average of 0.462 and the South Asian average of 0.478. Notably, India's reproductive health performance surpasses that of other nations in the medium human development group or South Asia.
  - » In 2022, India's adolescent birth rate improved to 16.3 births per 1,000 women aged 15-19, down from 17.1 in 2021.
  - » India, struggles with one of the widest gender gaps in labor force participation, with a significant 47.8 percentage point difference between women (28.3%) and men (76.1%).

Position of India's neighboring countries:

- India's southern neighbour Sri Lanka has been ranked much ahead at 78, while China is ranked at 75 both categorised under the High Human Development category.
- India also ranks below Bhutan (125) and Bangladesh (129). India, Bhutan and Bangladesh are all in the Medium Human Development category. Switzerland has been ranked number one.
- Nepal (146) and Pakistan (164) have been ranked lower than India.

Other highlights:

- **Widening human development gap:** The report highlights a reversal in the two-decade trend of reducing inequalities between wealthy and poor nations, despite the deep interconnections within the global societies.
- The lack of collective action in addressing climate change, digitalization, poverty, and inequality not only impedes human development but also exacerbates polarization and undermines trust in individuals and institutions on a global scale.
- 9 in 10 people worldwide endorse democracy, but over half of the respondents expressed support for leaders who may undermine it, by bypassing fundamental rules of the democratic process.
- Half of the survey respondents indicated a lack of control or limited control over their lives, while over two-thirds expressed the belief that they have little influence on their government's decisions.
- Political polarization within countries is also accountable for the adoption of protectionist or inward-focused policy approaches.
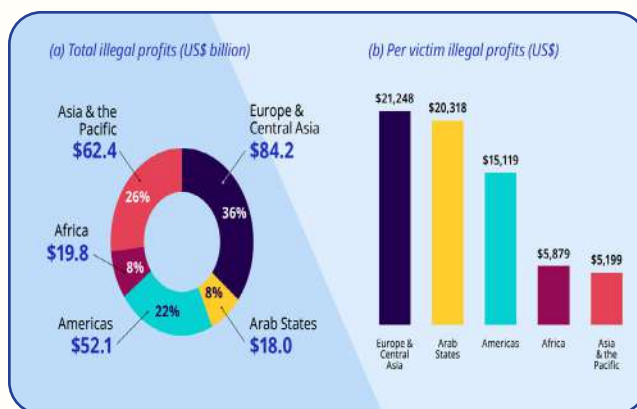
About Human Development Report:

- The Human Development Index (HDI) is a tool utilized by the United Nations Development Programme's Human Development Report to assess a country's development.
- Alongside the HDI, the report includes:
  - » Multidimensional Poverty Index (MPI),
  - » Inequality-adjusted Human Development Index (IHDI),
  - » Gender Inequality Index (GII) since 2010, and

» Gender Development Index (GDI) since 2014.

Conclusion:

In a world characterized by escalating polarization and division, failing to invest in each other presents a grave threat to our wellbeing and security.

Profits & Poverty: The Economics of Forced Labour

Why in News:

The international labour organization has recently released a report, titled 'Profits and poverty: The economics of forced labour', in Geneva.

Highlights of the study:

➢ The study found that forced labour generates illegal profits worth $36 billion per year which is 37% increase of such profits since 2014. This increase is fuelled by both a growth in the number of people forced into labour, as well as higher profits generated from the exploitation of victims .

➢ Furthermore, forced commercial sexual exploitation accounts for more than two-thirds (73%) of the total illegal profits, despite accounting for only 27% of the total number of victims in privately imposed labour.

➢ After this, industrial sector leads in annual illegal profits from forced labor, totaling US$35 billion, followed by the services sector at US$20.8 billion, agriculture at US$5.0 billion and domestic work at US$2.6 billion.

➢ **Number of people:** As per the report, there were 27.6 million people engaged in forced labour on any given day in 2021 that is 3.5 people for every 1,000 people in the world. The number of people in forced labour increased by 2.7 million between 2016 and 2021.

➢ **Region wise analysis:** Total annual illegal profits from forced labour were highest in Europe and Central Asia ($84 billion), followed by Asia and the Pacific ($62 billion), the Americas ($52 billion), Africa ($20 billion), and the Arab States (US$18 billion).

Recommendations made by the report:

➢ **Strengthening enforcement measures:** The report highlights the pressing need for investment in enforcement measures to disrupt illegal profit flows and ensure accountability for perpetrators.

➢ Recommendations include strengthening legal frameworks, providing training for enforcement officials, expanding labor inspections into high-risk sectors, and improving coordination between labor

and criminal law enforcement.

➢ **Addressing root causes:** The report recommends promoting fair recruitment processes , given that forced labour cases can often be traced back to recruitment-abuses as well as the apparent importance of unlawful recruitment fees and costs as a source of illegal profit from forced labour.

➢ **Rights of workers:** Ensuring the freedom of workers to associate and to bargain collectively is also essential to building resilience to the risks of forced labour.

Conclusion:

The illegal profits derived from forced labor represent wages that should rightfully belong to workers but are instead retained by their exploiters due to coercive practices. This perpetuates cycles of poverty and exploitation, fundamentally undermining human dignity.

Government Approves E-Vehicle Policy

Why in News:

The Union Government has greenlit a scheme to promote India as a manufacturing hub for cutting-edge electric vehicles (EVs).

Objective:

➢ Encourage investments in the electric vehicle (EV) sector by renowned global manufacturers.

➢ Provide Indian consumers access to cutting-edge technology.

➢ Strengthen the Make in India initiative.

➢ Foster healthy competition among EV manufacturers to enhance production volumes and lower production costs.

➢ Reduce reliance on crude oil imports.

➢ Mitigate air pollution, especially in urban areas, for improved public health and environmental sustainability.

Policy Details:

➢ **Minimum investment required:** Rs 4150 crore (approximately USD 500 million).

➢ No maximum limit on investment.

➢ **Manufacturing timeline:** Establish manufacturing facilities within 3 years, commence commercial production of EVs, and achieve 50% domestic value addition (DVA) within 5 years.

➢ **Domestic value addition (DVA) targets:** Achieve 25% localization by the 3rd year and 50% by the 5th

year of manufacturing.

- **Customs duty:** Applicable at 15% for vehicles with a minimum CIF value of USD 35,000 or more, for a period of 5 years, contingent upon setting up manufacturing facilities within 3 years.
- **Duty foregone limit:** Capped at the investment made or 6484 crore (equal to incentive under PLI scheme), whichever is lower. Maximum import of 40,000 EVs at a rate not exceeding 8,000 per year if the investment exceeds USD 800 million.
- **Bank guarantee:** Required to back the investment commitment, invoked in case of non-achievement of DVA and minimum investment criteria.

Initiatives to Promote E-Vehicles in India:

- **FAME I & II:** Provides incentives for EV purchases and charging infrastructure installation.
- **NEMMP:** Aims for 30% electric vehicles on Indian roads by 2030.
- **Tax Benefits:** Proposed additional income tax deduction of INR 1.5 Lakh on interest paid for EV loans.
- **PLI Scheme:** Intended to boost domestic manufacturing and attract global investment.
- **NTTM:** National Technical Textiles Mission to promote technical textiles, including in EV industry.
- **Battery Manufacturing Units:** Establishment to bolster EV usage.
- **Promotion in Public Transport:** Financial assistance to states for electric bus procurement (e.g., E-buses in Delhi).
- **Last-Mile Connectivity:** Fleet deployment for lastmile mobility (e.g., Chennai's fleet of over 5,000 vehicles).
- **E-Vehicles in Government:** Replacement of government vehicles with EVs.
- **Phased Manufacturing Programme (PMP):** Encourages indigenous EV manufacturing and components assembly.
- **National Mission on Transformative Mobility and Storage:** Drives strategies for transformative mobility and EV components manufacturing.

13th World Trade Organization Ministerial Conference

Why in News:

The 13th World Trade Organization (WTO) Ministerial Conference (MC13) took place from February 26 to March 2, 2024 in Abu Dhabi, United Arab Emirates. The conference brought together WTO members, or customs unions, to discuss the future of the WTO and to review the functioning of the multilateral trading system. The WTO's Ministerial Conference is the highest decision-making body of the WTO and usually meets every two years. At MC13, WTO members adopted a Ministerial Declaration.

About Ministerial Declaration:

The declaration from MC13 includes the following key points:

- **Special and differential treatment (S&DT):** Provisions will be used to support the development of developing and least developed countries (LDCs).
- **Dispute settlement system:** Member countries have committed to a fully functional system by 2024.
- **E-commerce duties:** On hold till 2026.
- **Environment:** WTO members will take up the environment in thematic sub-groups.
- **Accessions:** Comoros and Timor-Leste have joined the WTO.
- A commercially significant outcome of MC13 was the agreement reached on implementing new disciplines for domestic regulation of services, integrating them into the WTO framework.

Issues faced by WTO:

- Noticeable erosion of multilateralism with increasing trade disputes and the rise of unilateral trade actions in recent time.
- The MC13 also failed to make progress on key issues like fisheries subsidies, reflecting serious divisions among 166 member countries.
- The WTO's dispute settlement mechanism has faced a crisis in recent years.
- Least-developed countries (LDCs) often lack the resources and technical assistance needed to capitalise on trade opportunities, perpetuating their marginalisation in the global economy.
- The WTO faces the challenge of adapting its rules and agreements to accommodate the evolving nature of digital trade while ensuring a level playing field for all member countries.
- At MC13, members failed again to reach a consensus on the scope, balance, and timeline of agriculture negotiations.

Conclusion:

The World Trade Organization (WTO) should undertake visionary reforms to sustain its legitimacy and central role in the rapidly evolving global economy. It should prioritizing inclusivity to ensure the voices of all member countries are heard, adapting swiftly to emerging challenges and

opportunities through modernisation and innovation, and upholding transparency and accountability to build trust among stakeholders.

Regulated Entities of RBI

Why in News:
On Thursday, the Reserve Bank of India (RBI) announced the completion of the Omnibus Framework for acknowledging Self-Regulatory Organizations (SROs) for its Regulated Entities (REs).

Provisions:
- Each sector of regulated entities (RE), such as fin-techs, will have separate SROs.
- The RBI will accept applications from entities seeking SRO status following the finalization of the framework.
- The growth of REs, along with increased adoption of innovative technologies and enhanced customer outreach, prompted the need for better industry standards for selfregulation.
- The omnibus framework outlines objectives, responsibilities, eligibility criteria, governance standards, and the application process for SRO recognition.
- Sector-specific guidelines, like the number of SROs and membership criteria, will be issued separately by the relevant departments of the Reserve Bank for each sector.
- An SRO is expected to operate with credibility, objectivity, and responsibility under regulatory oversight to enhance regulatory compliance and foster sustainable sectoral development.

Regulations by RBI:
Regulatory Evolution:
- The Banking Regulation Act, 1949 grants the RBI authority to inspect and supervise commercial banks.
- Initially, the Department of Banking Operations and Development (DBOD) handled both regulatory and supervisory functions.
- In 1993, the Department of Banking Supervision (DBS) was established to oversee commercial bank supervision, leading to the creation of the Board for Financial Supervision (BFS) in 1994.
- In August 1997, the Department of Supervision split into DBS and Department of Non-Banking Supervision (DNBS) for focused oversight.

On-Site Inspection:
- Annual on-site inspections of banks cover head offices, controlling offices, and specific branches to ensure adequate coverage of advances.
- The inspection focuses on solvency, liquidity, and operational health based on the CAMELS model (capital adequacy, asset quality, management, earning, liquidity, and system and control).

Off-Site Monitoring:
- Introduced in 1995, off-site surveillance monitors banks' financial health between on-site inspections, identifying potential supervisory concerns.
- Periodic off-site returns track asset-liability management, liquidity, and interest rate risk.

Corporate Governance:
- Various measures, including concurrent audit systems, independent audit committees, and RBI nominee appointments on bank boards, aim to strengthen corporate governance.
- Implementation of Jilani Committee recommendations on internal control systems is monitored during annual financial inspections.

Supervisory Initiatives:
- Quarterly monitoring visits, appointment of monitoring officers, and direct monitoring of problem areas enhance supervisory effectiveness.
- The department provides secretarial support to BFS, attends to auditor appointments, handles complaints, and monitors fraud cases.

Core Principles Implementation:
- Efforts are underway to align regulatory and supervisory practices with the 25 core principles of effective banking supervision outlined by the Bank for International Settlements (BIS).

Supervision over Financial Institutions (FIs):
- FIs were brought under prudential regulation by the RBI in 1994.
- The CAMELS approach is applied to regulate FIs, considering their developmental and supervisory roles.
- A dedicated division supervises ten all-India financial institutions, implementing an off-site surveillance system for continuous monitoring.

Income Inequality in India

Why in News:
According to a paper released by the World Inequality Lab, India's top 1% income and wealth shares have reached record levels, ranking among the highest globally.

Income and Wealth Distribution:

➤ According to the report, by 2022-23, the top 1% income share in India stood at 22.6%, while the wealth share was 40.1%, surpassing that of South Africa, Brazil, and the US.

➤ Wealth concentration is notably high, with the top 1% owning 39.5%, and significant portions owned by the top 0.1%, 0.01%, and 0.001%.

➤ The income disparity is stark, as the top 1% earns 23 times more than the average Indian, while the bottom 50% and middle 40% earn substantially less.

Trends and Analysis:

➤ Historical trends indicate a decline in inequality postindependence until the early 1980s, followed by a sharp rise.

➤ Top-end inequality, particularly wealth concentration, has risen significantly since 2014-15, impacting the distribution of wealth among percentiles.

➤ The rise in top 10% shares has coincided with a decline in shares of the bottom 50% and middle 40%, indicating a widening gap.

Policy Recommendations:

➤ To address these disparities, the paper recommends restructuring the tax code to account for both income and wealth disparities.

➤ It also emphasizes the need for broad-based public investments in health, education, and nutrition to benefit the average Indian.

➤ A proposed 2% super tax on the net wealth of the 167 wealthiest families could create fiscal space for such investments.

Concerns and Challenges:

➤ The report raises concerns about the regressive nature of India's income tax system concerning net wealth.

➤ There are also concerns about compromised institutional integrity, potentially leading to India's slide towards plutocracy.

Data Quality and Estimates:

➤ The report acknowledges the poor quality of economic data in India, noting a recent decline, which suggests that the estimates may represent a lower bound of actual inequality levels.

New Toll Collection System

Why in News:

The Road Transport and Highways Minister Nitin Gadkari has informed the Parliament that the government plans to implement a new highway toll collection system based on the global navigation satellite system.

About the New Highway Tolling System:

➤ The tolling system will involve an On-Board Unit (OBU), or a tracking device, fitted inside a vehicle whose location can be mapped using GAGAN, the Indian satellite navigation system with an approximate accuracy of 10 metres.

➤ To set toll rates and calculate toll amounts, the government will use digital image processing to log the coordinates of all national highways. Software will then calculate the toll based on the distance traveled by a vehicle and deduct it from the linked OBU wallet.

➤ The system will additionally have gantries, or arches mounted with CCTV cameras, at various points on a highway for enforcement purposes.

➤ The aim of the technology is to provide users the benefit of paying toll only for the actual distance travelled on a highway, or pay-as-you-use. The government also hopes that it will eventually allow barrier-free movement.

Challenges:

➤ **Recovering Unpaid Toll:** If a road user fails to pay toll after a journey, such as when their digital wallet linked with the On-Board Unit (OBU) is empty, it will be a challenge to recover the toll amount.

➤ **Challenges with Non-Compliant Vehicle:** Non-compliance issues such as when a vehicle travels without a linked OBU, when the OBU is deliberately switched off to avoid payment, or when an OBU meant for a car is installed on a truck to pay less toll.

➤ Gantry-mounted Automatic Number-Plate Recognition (ANPR)-based systems can capture such violations, but such infrastructure presently lacks across India.

➤ **Amendments to Rules:** The government will be required to change the National Highways Fee Rules to recover unpaid tolls, define offenses, and require vehicles to have an On-Board Unit (OBU).

Conclusion:

The global navigation satellite system is cheaper to use than FASTags because it doesn't require toll plazas or as many entities for toll collection. To protect privacy, the government will use the GAGAN satellite system instead of GPS, which is owned by the U.S. Additionally, the Digital Personal Data Protection Act, 2023, passed in parliament last year, will also address privacy concerns.

MARCOS: Leading India's Counter Piracy Operations in Blue Waters

Seas and oceans worldwide are vital for all countries, irrespective of their size, as they serve as essential trade routes. Whether a nation is large or small, sea trade is a necessity. This is why it's often stated that when the seas are safe, prosperity is assured. Have we ever wondered about the intricacies of energy trade from Middle Eastern countries to major economies like US, China, and India? The significance of the Suez Canal route, traversing the Red Sea, on Europe's trade? Or how oil and manufactured goods are transported via ships from the Arabian Sea to India's western coast? The answer to this is through important maritime trade routes.

These maritime trade routes are known as International Sea Lines of Communication (ISLOC), which are open to every country based on international conventions. This grants every nation the freedom of navigation in all parts of the oceans. However, these rights are currently under threat. After China, pirates are the most significant disruptors of maritime trade. Piracy remains a persistent threat in many parts of the Indian Ocean. Pirates hailing from countries like Somalia, Ethiopia, Eritrea, and Djibouti are actively involved in looting cargo ships at sea. However, the Indian Navy has emerged as a formidable force, effectively curbing their activities.

❖ The Indian Navy conducted maritime surgical strikes in the Arabian Sea and the Gulf of Aden, capturing 35 pirates and bringing them to Mumbai. This operation, led by INS Kolkata, targeted pirates operating off the coast of Somalia. The pirates were caught off the coast of the African country Somalia under the anti-sea piracy operation and handed over these pirates to the Mumbai Police for further action.

❖ The Indian Navy furthered this operation under the name Operation Sankalp, deploying its ships in the Arabian Sea and the Gulf of Aden. Since then, the Indian Navy has garnered international recognition for its relentless efforts. The US Navy has acknowledged the Indian Navy's contributions, forging a strong partnership. This stands as a proud moment for the Indian Navy.

❖ It's noteworthy that over the past decade, the Indian government has remained steadfast in modernising the Indian Navy, addressing its challenges head-on. This commitment has significantly bolstered the Navy's capabilities today. The MARCOS Commandos have been a source of immense pride for both the Indian Navy and the nation. As a special wing of the Indian Navy, the MARCOS Commandos have not only been instrumental in safeguarding marine disasters but have also played a pivotal role as hunters of pirates and other criminals.

Indian Navy: Aggressive as well as Humanitarian

❖ The Indian Navy has conducted numerous successful operations against pirates, rescuing over 100 individuals, including 27 Pakistanis and 30 Iranians. Currently, the Indian Navy is actively engaged in the anti-piracy operation 'Operation Sankalp' in the Arabian Sea. Among its various missions, the Indian Navy has responded to 13 attack incidents, saving the lives of 110 individuals, including 45 Indians and 65 international citizens.

❖ To enhance its capabilities in the Arabian Sea, the Indian Navy has deployed 10 warships, along with surveillance aircraft, to counter piracy and drone attacks. This deployment includes P-8I surveillance

aircraft, Sea Guardian drones, and a significant number of personnel. These efforts aim to conduct anti-piracy and drone operations, ensuring the security of Indian and international cargo traffic in the Arabian Sea and surrounding areas.

Role of Indian Navy's Marcos:

❖ Marcos stand for Marine Commandos. Marcos, a special wing of the Indian Navy, are trained for lethal operations in water, air, and land. Their unique targeting methods and ability to adapt to any environment make them formidable. They are also known as "Samandar Ka Sikandar" and "Walking Ghosts." Recently, the Marcos rescued individuals stranded on the MV Leela Norfolk, a cargo ship under the flag of Liberia in the Arabian Sea. The ship, loaded with iron ore, was en route from Rio de Janeiro, Brazil, to Khalifa Bin Salman Port in Bahrain.

❖ While passing through the coast of Somalia, MV Leela was attacked by 5 to 6 armed pirates who seized control of the ship. Of the 21 crew members, 15 were Indian nationals. The Indian Navy and the Marcos, known as the best of the best in the Navy, swiftly responded. However, by the time the Marcos reached the ship to carry out the rescue operation, all the pirates had already abandoned the ship and fled.

Marcos instil dread in Robbers:

❖ Marcos are often compared to the US Navy SEALs and on some occasions are considered to be even more effective. It's noteworthy that the Navy SEALs are an elite force within the US Navy. The SEALs gained international recognition for their operation in 2011, where they successfully eliminated Osama Bin Laden in his compound in Abbottabad, Pakistan. SEALs stand for Sea, Air, and Land, reflecting their ability to engage in combat across various environments.

❖ Similar to the Navy SEALs, each branch of the Indian Armed Forces has its own elite force. The Indian Army's Para Special Forces, the Air Force's Garud Commandos, and the Navy's Marcos are all highly skilled and specialized units. Marcos earned the nickname "Crocodile" due to their ability to conduct underwater missions with stealth, akin to a crocodile. Their motto is, "The Few, The Fearless,"

❖ Marcos are among the country's most powerful commando forces, alongside units like the National Security Guard, Para Commandos, Garud, and Force One. Established in India in 1987, Marcos is renowned for its elite status, comprised of soldiers trained through the most rigorous programs. Trained akin to the American Navy SEALs, known for their swift and covert operations, Marcos undergo exceptionally hard training before joining the Marine Commando Force of the Indian Navy.

❖ Marcos specialized in underwater operations, excelling in missions involving unconventional warfare, hostage rescue, and personnel recovery. They are trained to confront death-defying situations in water, making them experts in aquatic combat. Marcos have played pivotal roles in various campaigns, including Operation Cactus, Operation Leech, Operation Pawan, and Cyclone Operations. During the 26/11 attacks, Marcos demonstrated exceptional Combat capabilities and unmatchaed bravery, particularly in the initial stages of the Taj Hotel attack in 2008.

HELMET
Light, bullet-proof Kevlar combat helmet, offers special protection against handgun fire

COMMUNICATION
VHF/UHF wireless systems

BULLET-PROOF JACKET
Kevlar bullet-proof vests contain soft armour with positive buoyancy and were specially designed for special forces operations in an aquatic environment. Floating bullet proof vests help in swimming with the weight of all the equipment

WEAPON
Tavor-21 (5.56 mm) assault rifle; an Israeli gun. It has firing speed of 750-900 rounds per minute. It is an advanced rifle which is water-proof and weighs less than 4 kg, with an effective range of 400 metres

SHORT-RANGE WEAPON
A 9 mm semi-automatic pistol for close combat use

UNIFORM
Fire retardant digital camouflage, a high-technology fabric with a durable, water repellent coating. Protects against fire

BOOTS
Para boots; light-weight, offer firm grip on every type of terrain and have layers of steel

Horn of Africa: Famous for Piracy

❖ Situated in the eastern part of the African mainland, the Horn of Africa is the fourth largest peninsula globally. It stretches along the southern border of the Red Sea and extends hundreds of kilometres into the Guardafui Channel, the Gulf of Aden, and the Indian Ocean. This region lies equidistant from the Equator and the Tropic of Cancer. Known for its biodiversity, the Horn includes the Ethiopian Plateau, the Ogaden Desert, and the highlands of the Eritrean and Somali coasts.

❖ The Horn of Africa region encompasses countries like Djibouti, Eritrea, Ethiopia, and Somalia. This area has a history marked by imperialism, neo-colonialism, the Cold War, ethnic conflict, intra-African conflict, poverty, disease, and famine. In countries like Somalia, Ethiopia, Eritrea, and Djibouti in the Horn of Africa, extreme poverty, high unemployment rates and lack of basic amenities have driven many individuals to resort to piracy as a means of livelihood.

Importance of Horn of Africa:

❖ India is increasingly interested in Africa for political, economic and security reasons, especially the sub-region- Horn of Africa. The Horn of Africa is strategically important because it is close to the oil-producing region of the Middle East. About 40% of the oil produced in the Middle East passes through the shipping lanes of the Red Sea. Djibouti is a key point on this shipping route. This is why countries like the United States, France and China have military bases in Djibouti. With India's dependence on new sea lines of communication for economic development, Delhi has declared that its national interests are no longer limited to the subcontinent but extend from "Aden to Malacca".

## Why do incidents like piracy occur and what is the solution:

❖ Several factors contribute to piracy, including illiteracy, poverty, hunger, malnutrition, unemployment, and lack of development. Additionally, there has been increased discussion about a possible connection between climate change and maritime crime. Researchers have examined the correlation between sea temperature and piracy in the South China Sea and East African waters over the last 15 years, both of which have experienced significant piracy incidents. Interestingly, the impact of climate change in these regions is diametrically opposite.

❖ Rising sea temperatures have had contrasting effects in East Africa and the South China Sea. In the South China Sea, rising sea temperatures have led to an increase in fish populations while in East Africa, these temperatures are linked to a decline in fish production, which has, in turn, contributed to an increase in piracy. This decline has negatively impacted economic opportunities in the region. In the South China Sea, where some species of commercially harvested fish thrive much better in warm waters, the increase in fish production has increased the income of families involved in fishing, which has reduced the incentive towards crime.

❖ Previous researches have suggested that economic insecurity plays an important role in driving individuals towards criminal activities. Industries such as fishing, which are closely associated with environment are particularly vulnerable to the impacts of climate change. According to researcher Bo Jiang, the results show that as the climate continues to change, it will have a complex effect on violence and criminal behaviour.

❖ According to Jiang, this also reveals who is or can be a criminal. Economic hardships can influence individuals to engage in criminal behaviour, such as piracy. When economic conditions deteriorate, fishermen may turn to crime, but they may abandon these activities when conditions improve. These findings underscore the significant impact of climate change on the global economy.

❖ Professor Gary LaFree has highlighted that these regions are crucial for global trade, amounting to several billion dollars. Ignoring the issue of piracy in these areas could have a significant economic impact. Therefore, it is imperative to seriously address the escalating effects of climate change, which has made piracy a profession for many individuals.

Necessity to deal with piracy in the Indo-Pacific region:

❖ The Indian Ocean and the Pacific Ocean serve as vital hubs for global maritime trade, necessitating concrete actions to protect these regions from piracy. Operations such as Operation Ocean Shield, Operation Atlanta, and Operation Prosperity Guardian have been initiated against pirates and other maritime criminals. Such actions are crucial for safeguarding economic interests.

❖ About 95 per cent of the country's trade by volume and 68 per cent by value is done through maritime transport. That is why the Government of India has formed the Multi-Agency Maritime Security Group (MAMSG) which is a major effort of the Central Government to ensure maritime security. In the first meeting of MAMSG, it was decided that the governments of the Gulf of Guinea, East Africa, West Asia, South Asia and Southeast Asia would meet regularly and share intelligence on security-related issues.
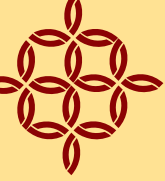
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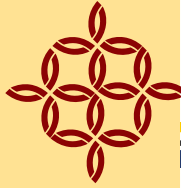
Women, Business & the Law Report, 2024

Why in News:
The World Bank has released the report titled, Women, Business and the Law, presenting in-depth analysis of the challenges obstructing women's entry into the global workforce, hindering their ability to contribute to prosperity for themselves, their families and their communities.

Key Highlights of the Report:
- The report points out that, the legal rights for women worldwide are significantly lower than initially perceived. When considering legal distinctions related to violence and childcare, women are found to have less than two-thirds or 64% of the rights enjoyed by men.
- The new index measured performance on legal frameworks across 10 indicators: Safety, mobility, workplace, pay, marriage, parenthood, childcare, entrepreneurship, assets and pension.
- According to World Bank, two of these indicators were crucial; these are safety from violence and access to childcare services.
- The report highlights eliminating discriminatory laws and practices hindering women from working or initiating businesses could result in a more than 20% increase in global gross domestic product.

Global Highlights:
- In 2023, governments made strides in advancing legal equal-opportunity reforms in three categories:
  - Pay
  - Parental rights
  - Workplace protections
- However there was poor performance in the two new categories:
  - Access to childcare
  - Women's safety
- Women's safety emerged as a significant weakness, with a global average score of just 36, indicating that women have barely a third of the required legal protections against domestic violence, sexual harassment, child marriage and femicide.
- There is a substantial implementation gap, with countries, on average, establishing less than 40% of the required systems for full implementation. While 98 economies have enacted laws mandating equal pay for women, less than 5 countries have adopted measures or mechanisms addressing the pay gap.

Mobility – Examines constraints on freedom of movement
Workplace – Analyzes laws affecting women's decisions to work
Pay – Measures laws and regulations affecting women's pay
Marriage – Assesses legal constraints related to marriage
Parenthood – Examines laws affecting women's work after having children
Entrepreneurship – Analyzes constraints on women's starting and running businesses
Assets – Considers gender differences in property and inheritance
Pension – Assesses laws affecting the size of a woman's pension

Highlights with respect to India:
- India's rank has marginally improved to 113, with a score of 74.4%. The country's score has remained constant since 2021, its ranking witnessed a decline from 122 in 2021 to 125 in 2022 and further to 126 in the 2023 index.
- Indian women have just 60% of the legal rights compared to men, slightly below the global average of 64.2%. India has outperformed its South Asian counterparts, where women have only 45.9% of the legal protections enjoyed by men.
- For constraints related to freedom of movement and related to marriage, the country got a full score. India scored higher than both the global and South Asian averages in supportive frameworks.
- India receives one of its lowest scores in the indicator evaluating laws impacting women's pay. The lowest indicator in frameworks was childcare.

Conclusion:
The report underscored the obstacles women face in entrepreneurship, pay disparities and retirement age inequalities. Urgency is emphasized in reforming laws and enacting public policies to empower women to work and engage in business.

Zero-Food Children

Why in News:
A study published in the JAMA Network Open journal

found the prevalence of 'zero-food children' in India is at 19.3%, drawing attention to extreme food deprivation among children.

About the Study:

➢ The study used data from the Union health ministry's national family health survey for 2019-2021 and has estimated India's prevalence of zero-food children at 19.3%, the third highest after Guinea's 21.8% and Mali's 20.5%.

➢ The figures are much lower in Bangladesh (5.6%), Pakistan (9.2%), DR Congo (7.4%), Nigeria (8.8%) and Ethiopia (14.8%).

Who are Zero-food Children?

➢ Zero-food children are infants or toddlers aged between six months and 24 months who have not received any milk or solid or semisolid food over a 24-hour period.

➢ Breastfeeding cannot provide infants with the necessary nutrition after they are six months old. Introducing solid or semi-solid foods alongside breastfeeding plays a pivotal role in early childhood growth and development.

➢ According to the Food and Agricultural Organization (FAO), the share of other food contributing to calorific requirements should be about 50% for children aged 9 to 11 months (300 out of 700 Kcal/day), while the share of breastmilk should be greater than other food for children aged six-eight months (400 out of 600 Kcal/day).

Circumstances responsible:

➢ **Lack of support:** Feeding younger children takes time and energy, women generally in the households lack adequate support for complementary feeding.

➢ **Economical disadvantages:** Mothers in many economically disadvantaged households, whether in rural areas or in urban slums, have to work to earn wages while also managing their household chores.

➢ **Inadequate access:** Government is running several schemes such as Poshan Abhiyan along with many maternity entitlements and childcare services, however many women don't have access to such services.

Conclusion:

Data regarding zero-food children is likely to reflect not a lack of access to food but at times, the inability of many mothers to provide appropriate feeding care to their infants. More research needs to be done to unravel the underlying causes, the barriers to optimal adequate child-feeding practices, and the ways socioeconomic factors might influence child-feeding behavior.

IOM Report on Migrants

Why in News:

International Organization for Migration's (IOM) under the Missing Migrants Project said that year 2023 has been the deadliest year on record for migrants, with at least 8,565 deaths. This tragic figure represents a 20% increase compared to 2022, underscoring the urgent need for action to prevent further loss of life.

Data on Migrant Deaths 2014-2023:

➢ The total number of migrant deaths in 2023 surpassed the previous record year of 2016, which saw 8,084 deaths. Since the inception of the Missing Migrants Project in 2014, slightly more than half of the deaths were a result of drowning, with 9% caused by vehicle accidents and 7% by violence.

Deadliest Migration Routes:

➢ The Mediterranean crossing remains the deadliest route for migrants on record, with at least 3,129 deaths and disappearances in 2023, the highest death toll in the region since 2017.

➢ Unprecedented numbers of migrant deaths were also recorded across Africa (1,866) and Asia (2,138), with most deaths in Africa occurring in the Sahara Desert and the sea route to the Canary Islands, and hundreds of deaths of Afghan and Rohingya refugees recorded in Asia.

About the Missing Migrants Project:

➢ Missing Migrants Project since 2014, records people who die in the process of migration towards an international destination, regardless of their legal status.

Importance of the Missing Migrants Project:

➢ The Missing Migrants Project serves as the sole indicator measuring the level of 'safety' of migration in the Sustainable Development Goals and the Global Compact for Safe, Orderly and Regular Migration. Its upcoming report will provide detailed analysis of missing migrants data from 2023 and key facts and figures over the last ten years.

About IOM:

➢ The International Organization for Migration (IOM) is the principal United Nations Related Organization working in the field of migration. Established in 1951, IOM is the leading intergovernmental organization that works closely with governmental, intergovernmental and non-governmental partners. With 175 member states, a further 8 states holding

observer status and offices in 171 countries, IOM is dedicated to promoting humane and orderly migration for the benefit of all. It does so by providing services and advice to governments and migrants.

National Framework for Early Childhood

Why in News:

Ministry of Women and Child Development has said that it will launch National Curriculum for Early Childhood Care and Education for children aged three to six years and a National Framework for Early Childhood Stimulation for children from birth to three years. The documents have been prepared by the National Institute for Public Cooperation and Child Development (NIPCCD) in collaboration with an internal committee and development partners.

About curriculum:

➢ Since 85% of brain development occurs before the age of six years, the Ministry recognizes the critical role of the early years in development and strives to strengthen the Early Childhood Care and Education (ECCE) landscape.

➢ The National Curriculum for ECCE 2024 in respect of children aged three to six years covers all areas of development as per the National Curriculum Framework for Foundation Stage 2022.

➢ It aims to improve the quality of ECCE conducted in Anganwadi Center by prioritizing competency-based lesson plans and activities presented in a simple and user-friendly manner.

➢ The curriculum has been designed to fit into a weekly calendar consisting of 36 weeks of active learning, eight weeks of reinforcement and four weeks of initiation along with 5+1 days of play-based learning and activities day.

➢ It offers a combination of activities, including in-centre and at-home, indoor and outdoor, child-led and teacher-led activities.

➢ For children from birth to three years, the National Framework for Early Childhood Motivation 2024 aims to foster optimal development of both body and mind of children, nurturing holistic early childhood motivation through responsive care and early learning opportunities.

➢ This format is designed to provide Anganwadi workers with a basic understanding of how children grow and develop, the importance of brain development and the need for nutritional care.

Programmes implemented by ministry for early childcare:

➢ Ministry of Women and Child Development empowers and supports mothers and their children under six years of age through Mission Shakti, Palana and Pradhan Mantri Matru Vandana Yojana (PMMVY) schemes as well as mission based Anganwadis and Nutrition 2.0.

➢ It aims to ensure comprehensive child care support throughout the day in a safe environment with trained personnel, educational resources, nutritional support and activities for holistic child development.

➢ The ministry runs 13.9 lakh Anganwadi centers across the country, which looks after more than eight crore children under the age of six years.

Conclusion:

The initiatives mark a significant step towards ensuring that every Anganwadi centre becomes a vibrant learning hub, fostering the holistic development of children.

Measles and Rubella Champion Award

Why in News:

India has been bestowed with the prestigious Measles and Rubella Champion Award by The Measles and Rubella Partnership at the American Red Cross Headquarters in Washington D.C.

Why India has been awarded?

➢ India is committed to curbing the spread of measles and rubella among children. The award recognizes India's role in providing regional leadership to the measles & rubella elimination programme.

➢ India has made remarkable progress in reducing measles and rubella cases and preventing outbreaks through various interventions. These include:
   » MR vaccination campaigns in high-risk areas.
   » Innovative strategies to reach underserved populations.
   » Robust surveillance systems.
   » Effective public-awareness initiatives.

➢ The above efforts have resulted in 50 districts consistently not witnessing any measles case while 226 districts have not reported rubella cases in the last 12 months.

➢ Measles and rubella are vaccine-preventable diseases (VPDs) and the MR vaccine has been part of the Universal Immunisation Programme since 2017. The Indian government is working towards eliminating

measles and rubella from the country by 2023.

About Measles:

➤ Measles is a highly contagious viral disease and is a cause of death among young children globally.

➤ It is caused by a single-stranded RNA virus.

➤ It is classified as a member of the genus Morbillivirus in the Paramyxoviridae family.

About Rubella:

➤ Rubella is a contagious and generally mild viral infection that occurs most often in children and young adults.

➤ It is caused by the rubella virus which is an enveloped single-stranded RNA virus.

➤ Rubella isn't the same as measles, but the two illnesses share some signs and symptoms, such as the red rash.

About Measles & Rubella Partnership:

➤ Measles & Rubella Partnership (M&RP) is a partnership led by the American Red Cross, United Nations Foundation, The US Centers for Disease Control and Prevention (CDC), GAVI- The Vaccines Alliance, The Bill and Melinda Gates Foundation, UNICEF and WHO, to achieve the measles and rubella specific targets.

➤ Launched in 2001, as the Measles and Rubella Initiative, the revitalized Partnership is committed to ensuring no child dies from measles or is born with congenital rubella syndrome. The Partnership helps countries plan, fund and measure efforts to permanently stop measles and rubella.

Conclusion:

The award recognises India's effort in health sector particular vaccine sector. During covid-19 world admired India's largest vaccine drive in the world. This award provides further impetus to health sector in India.

Yaounde Declaration

Why in News:

Yaoundé Declaration was adopted by health ministers of High Burden High Impact (HBHI) contries in Africa to pledge the end of malaria deaths. The total number of malaria cases globally is projected to increase from 233 million in 2019 to 249 million in 2022.

What is Yaounde Declaration?

➤ The Declaration committed to the following:

» Providing strong leadership and increasing domestic financing for malaria control programs.

» Ensuring further investment in data technology.

» Applying the latest technical guidance in malaria control and eradication.

» Scaling up malaria control efforts at the national and sub-national levels.

➤ The ministers resolved to increase investment in the health sector to boost infrastructure, personnel and program implementation; enhancing multi-sector cooperation. They also agreed to create partnerships for funding, research and innovation.

Importance of Yaounde Declaration:

➤ Africa remains the epicentre of the malaria crisis, bearing an immense burden. It accounts for 94% of all global malaria cases and a staggering 95% of global malaria-related deaths, totaling an estimated 580,000 deaths in 2022.

➤ The 11 African countries whose health ministers took part in the Yaoundé conference bear the highest burden of global malaria infections and deaths. Thus this declaration is very important to combat global malaria death.

About malaria:

➤ Malaria is a life-threatening disease spread to humans by some types of mosquitoes. It is mostly found in tropical countries. It is preventable and curable. The infection is caused by Plasmodium parasite and does not spread from person to person. The parasite is spread to humans through the bites of infected mosquitoes. There are 5 different types of Plasmodium parasite that cause malaria in humans.

India's Malaria Scenario:

➤ India contributed 1.7% of malaria cases and 1.2% deaths globally. In 2022, India accounted for a staggering 66% of malaria cases in the WHO South-East Asia Region.

➤ Plasmodium vivax, a protozoal parasite, contributed to almost 46% of cases in the region.

Conclusion:

Despite the announcement, experts have stressed the need for concrete action at the ground level. African Union's goal of controlling and eliminating malaria by 2030 faces significant funding gaps, with US$1.5 billion needed to maintain basic malaria services and additional funding for climate adaptation in the health sector.

Uniform Code for Pharmaceutical Marketing Practices 2024

Why in News:

The Department of Pharmaceuticals has notified the Uniform Code of Pharmaceutical Marketing Practices (UCPMP) 2024, which aims to curb unethical marketing practices by pharmaceutical companies.

About the code:

➢ The code prohibits pharma companies from offering gifts and travel facilities to healthcare professionals or their family members.

➢ The Uniform Code for Pharmaceuticals Marketing Practices (UCPMP) 2024 also bans supply of free samples to those who are not qualified to prescribe such product.

➢ The monetary value of samples distributed by a company should not exceed 2% of its domestic sales per year.

➢ The promotion of a drug must be consistent with the terms of its marketing approval and should not be promoted prior to receiving marketing approval from the competent authority.

➢ Information about drugs must be balanced, up-to-date, verifiable, and not misleading.

➢ Medical representatives must maintain a high standard of ethical conduct in the discharge of their duties and comply with all relevant requirements of the code.

Regulatory measures:

➢ Each firm is required to constitute ethics committee which would oversee the ethical prospect of the firm.

➢ CEO of firm is required to adhere to the uniform pharmaceutical code.

➢ If code is breached by any member, ethics committee can suspend or expel the member.

Necessity of the code:

➢ Code clearly lays down what activities are permissible and outlines a complaint procedure involving both industry associations and the Department of Pharmaceuticals. It is a step forward towards industry advancement, prioritising superior patient care and adhering to established norms.

About Indian pharma industry:

➢ According to the government data, the Indian pharmaceutical industry is worth approximately US$ 50 billion with over US$ 25 billion of the value coming from exports. About 20% of the global exports in generic drugs are met by India. Market size of India pharmaceuticals industry is expected to reach US$ 65 billion by 2024, and US$ 130 billion by 2030.

➢ The current market size of the medical devices sector in India is estimated to be US$ 11 billion and its share in the global medical device market is estimated to be 1.5%.

Conclusion:

The Uniform Code of Pharmaceutical Marketing Practices (UCPMP) 2024 is an important step towards promoting ethical marketing practices in the pharmaceutical industry. By prohibiting unethical benefits and enforcing strict guidelines, the code aims to ensure that health care professionals are not unduly influenced by pharmaceutical companies in their prescribing decisions.

GI TAG

Why in News:

The Narasapur crochet lace craft, Majuli masks and Majuli Manuscript Paintings have got the Geographical Indications (GI) tag.

About Narasapur Crochet Lace Craft:

➢ The craft is geographically limited to 19 mandals in West Godavari in the Godavari region of Andhra Pradesh.

➢ The women of the farming community of this region started creating highly attractive artefacts from colourful lace, about 150 years ago.

➢ **Artwork:** The lace work is done using thin threads and these are again woven with thin crochet needles of varying sizes.

➢ The products are available in vibrant colors like orange, green, blue, whitered, and beige.

➢ The crochet lace products are also exported to countries like the UK, USA, France, etc.

Majuli Masks:

➢ **Region:** Both Majuli Mask of Assam & Assam Majuli Manuscript Painting find its root in the river island district of Majuli of the state.

➢ Majuli, the largest river island in the world and the seat of Assam's neo-Vaishnavite tradition, has been home to the art of mask-making since the 16th century.

➢ **Art work:** These are handmade masks and are traditionally used to depict characters in bhaonas, or theatrical performances with devotional messages under the neo-Vaishnavite tradition.

➢ The masks can depict gods, goddesses, demons, animals and birds.

➢ The masks are made of bamboo, clay, dung, cloths, cotton, and wood.

➢ **Background:** It was introduced by the 15th-16th

century reformer saint Srimanta Sankardeva.

Art Practised in Monasteries:

➤ Majuli has 22 sattras, and the mask-making tradition is by and large concentrated in four of them Samaguri Sattra, Natun Samaguri Sattra, Bihimpur Sattra and Alengi Narasimha Sattra.

➤ Sattras are monastic institutions established by Srimanta Sankardev and his disciples as centres of religious, social and cultural reform.

Majuli Manuscript Painting:

➤ It is a form of painting, originating in the 16th century, done on sanchi pat, or manuscripts made of the bark of the sanchi or agar tree, using homemade ink.

➤ The uniqueness lies in manuscript writing styles Gargayan script, Kaithall, and Bamunia.

➤ These Paintings depict Hindu epic tales, particularly Lord Krishna's Bhagavata Purana narratives, showcasing cultural heritage and artistic finesse.

About GI Tag:

➤ A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.

➤ Geographical Indications are part of the intellectual property rights (IPR) that come under the Paris Convention for the Protection of Industrial Property.

➤ In India, Geographical Indications registration is administered by the Geographical Indications of Goods (Registration and Protection) Act of 1999.

➤ Geographical indications are typically used for agricultural products, foodstuffs, wine and spirit drinks, handicrafts, and industrial products.

➤ The registration of a geographical indication is valid for a period of 10 years, it can be renewed from time to time for a further period of 10 years each.

Conclusion:

The Act provides legal protection to Geographical Indications in India which in turn boost exports. It prevents unauthorised use of a Registered Geographical Indication by others. It promotes economic prosperity of producers of goods produced in a geographical territory.

Bharat Shakti Exercise

Why in News:

Recently, the Prime Minister of India witnessed the Bharat Shakti exercise in Pokhran, Rajasthan.

About Bharat Shakti exercise:

➤ It is a massive tri-service military exercise, and a coordinated display of indigenous defense capabilities in the form of a tri-service live fire and maneuver exercise.

➤ It demonstrated the 'surprise and awe' effect that the armed forces seek to achieve in an operational situation with maneuver and combat capabilities.

➤ LCA Tejas, ALH Mk-IV, Mobile Anti-Drone System, T90 Tank, Dhanush, K9 Vajra and Pinaka Rocket and Satellite System were displayed.

Displayed Technologies and Systems:

➤ Integration of individual communication systems of the tri-services, 'e-Tarang' software tools, GIS-related systems, topographic maps, hydrographic charts and air navigation charts with analysis and operational planning capabilities.

➤ Integrated systems and platforms implementing the use of artificial intelligence (AI).

➤ Aspects of the operations of the three services as well as India's cyber and multi-domain operational capabilities.

Importance of the Exercise:

➤ 'Bharat Shakti' showcased a range of indigenous weapon systems showcasing India's indigenous defense capabilities and the strength of the country's self-reliance initiatives.

➤ This was a testament to India's growing self-reliance in defence manufacturing and commitment to the security of its borders.

➤ It simulated realistic, coordinated, multi-domain operations showcasing the integrated operational capabilities of the Indian Armed Forces to counter threats in land, air, sea, cyber and space domains.

Conclusion:

It highlights the resilience, innovation, and strength of India's domestic defense capabilities on the global stage towards realizing the idea of Aatmanirbharta in defense.

Pandavula Gutta: Geo-Heritage Site in Telangana

Why in News:

Pandavula Gutta has been recognised as the sole geo-heritage site of Telangana.

About Pandavula Gutta:

➤ Situated in Jayashankar Bhupalpally district of

Telangana, this geological wonder is older than the Himalayan mountains and hosts numerous prehistoric settlement sites.

➤ It was discovered in 1990 and boasts a rich history, featuring rock shelters and habitation spanning from the mesolithic to medieval eras.

➤ The area is abundant in cave paintings, showcasing intricate geometrical designs and impressions in various pigment colors including green, red, yellow, and white.

➤ These cave paintings provide a unique insight into prehistoric life and the artworks associated with the prehistoric man. These paintings are identified on the walls, ceilings, and isolated boulders of caves and rock shelters.

➤ Depictions of wildlife such as bison, antelope, tiger, and leopard, as well as symbols like the swastika, circles, squares, and weaponry such as bows, arrows, swords, and lances, are prominently featured in these paintings.

What are Geo-heritage sites?

➤ Geo-heritage is a comprehensive term denoting sites or areas with significant geological features, encompassing scientific, educational, cultural, and aesthetic value.

➤ **Geological Survey of India:** GSI is the parent body which is making efforts towards identification and protection of Geological Heritage Sites/national geological monuments in the country.

➤ It declares Geological Heritage Sites/ National Geological Monuments for protection and maintenance.

Conclusion:

Geoheritage sites encompass a diverse range of features that hold scientific, educational, cultural, and aesthetic significance. Scientifically and educationally, these sites provide essential resources for geological research and education. Culturally they link geological features with historical or cultural events, enriching our understanding of human history. Additionally, their aesthetically captivating landscapes shaped by geological processes attract tourists and contribute to local economies.

Tawi Festival

Why in News:

The Tawi Festival was recently celebrated in Jammu & Kashmir from March 1st to 4th, 2024. The festival highlighted the rich cultural past of the area through literature, folklore, art, and food. It was organised on the banks of the Tawi River that flows through Jammu City. The festival was jointly organized by the Tourism Department, Jammu Municipal Corporation and prominent cultural institutions of the city.

Objective of the festival:

➤ Highlight J&K's focus on cultural regeneration under the current administration.

➤ Instill cultural pride and conservational ethic among Jammu's youth.

➤ Boost cultural tourism footfalls beyond staple destinations like Vaishno Devi.

➤ Extend visibility among domestic and foreign visitors to Jammu's composite heritage.

Significance of the festival:

➤ Tourism stakeholders consider the event an apt occasion to position Jammu as the pivot of the state's multi-dimensional cultural essence. Jammu acts as the gateway tying together Kashmir, Ladakh and Himachal regions by virtue of its geographical centrality.

➤ Its location within lush forests at the foothills of the Trikuta mountains has fostered a unique blend of Dogri, Pahari, Gojri and Punjabi influences. The Tawi festival seeks to encapsulate this composite regional identity of Jammu.

➤ For local businesses battered by recent turmoil, the festival promises renewed focus and livelihood sources by reviving cultural tourism. With cuisine, arts, wellness and eco-tourism emerging as key trends, stakeholders envision the event as a curtain-raiser for the annual Amarnath Yatra pilgrimage which will follow later in the summer.

Culture of Jammu and Kashmir:

➤ **Cultural Diversity:** Jammu and Kashmir (J&K) boasts a rich and diverse heritage, encompassing music, dance, festivals, literature, and cuisine, among other aspects. It is a state with a kaleidoscopic culture influenced by Buddhism, Sufism, and Hinduism.

➤ The region exhibits a blend of South Asian (Northern part) and Central Asian culture, amalgamating Muslim, Hindu, Sikh, and Buddhist philosophies.

➤ Jammu's Dogra culture and tradition bear similarities to those of Punjab and Himachal Pradesh.

➤ **Festival Celebrations:** The people of Jammu and Kashmir enthusiastically celebrate festivals like Eid, Shivaratri, and Buddhist festivals, with participation from people of all faiths.

➤ Various regional festivals such as Chaitr Chaudash in Jammu and Bhand Pather in Kashmir contribute to the unique cultural identity of each region.

➤ **Arts and Crafts:** The state is renowned for its arts

and crafts, including woven carpets, silk carpets, rugs, woollen shawls and pottery.

➢ **Language Diversity:** The language of J&K is unique among modern Indo-Aryan languages and Kashmiri language has Dardi and Shina origins with influences from Persian and Sanskrit.

➢ Other important languages in the region include Dogri, Ladakhi, Pashto, Gojri, Balti, Urdu, and Pahari.

World Happiness Report 2024

Why in News:

On March 20, to mark the UN's International Day of Happiness, the World Happiness Report 2024 was released, revealing a global happiness index. India is ranked 126th out of 143 nations in the report.

Highlights of the Report:

➢ Finland topped the list of the happiest countries in the world for the seventh successive year while other countries in the top ten include Denmark, Iceland, Sweden, Israel, the Netherlands, Norway, Luxembourg, Switzerland, and Australia. Afghanistan is at the bottom of the list..

➢ The report also provides separate rankings by age groups which differ significantly from the overall rankings.

➢ The US, ranked 23rd, has fallen out of the top 20 for the first time since 2012, due to a significant decline in the well-being of Americans under 30.

➢ The age gap in well-being is also notable in Canada and Japan, and to a lesser extent in France, Germany, and Britain, all of which lost ground in this year's rankings.

Findings with respect to India:

➢ India has the world's second-largest older population, with 140 million people aged 60 and over, trailing only behind China with 250 million. The average growth rate for Indians aged 60 and above is three times higher than the country's overall population growth rate.

➢ In India, satisfaction with living arrangements, perceived discrimination, and self-rated health emerge as the top three predictors of life satisfaction.

➢ The report said that older age is associated with higher life satisfaction in India. Older men in India are more satisfied with life than older women.

➢ Additionally, older adults with secondary or higher education and those of dominant social castes report higher life satisfaction than counterparts without formal education and those from Scheduled Castes and

Scheduled Tribes.

About World Happiness Report:

➢ The WHR is a partnership of Gallup, the Oxford Wellbeing Research Centre, the UN Sustainable Development Solutions Network, and the WHR's editorial board.

➢ Launched in 2012 to support the United Nations' sustainable development goals, the initiative was adopted by the UN General Assembly based on a resolution tabled by Bhutan.

➢ In 143 countries and territories, people are asked to evaluate their life on a scale from zero to 10, with 10 representing their best possible life. The ranking is created by averaging results from the past three years.

➢ It measures three main well-being indicators: life evaluations, positive emotions, and negative emotions (described in the report as positive and negative affect).

➢ The report considers six key factors: social support, income, health, freedom, generosity, and the absence of corruption.

India is not that happy

According to World Happiness Index 2024

Ranking of happiness based on a 3-year average 2021-23

Finland topped for 7th year in a row; India's ranking unchanged from last year; Afghanistan at bottom again

Country	Rank
Finland	1
Iceland	3
Israel	5
Canada	15
UK	20
US	23
Saudi Arabia	28
Japan	51
China	60
Russia	72
Indonesia	80
Nepal	93
State of Palestine	103
Ukraine	105
Pakistan	108
Myanmar	118
INDIA	126
Sri Lanka	128
Bangladesh	129
Afghanistan	143

Conclusion:

The report uses the terms happiness and life satisfaction" interchangeably, linking these scores to individuals' access to economic and social resources. Furthermore, since life satisfaction is self-reported in the study, there is a potential for misreporting due to concerns about social stigma.

State-Based Current Affairs

Ban on protests in the state for the next 6 months

* The Uttar Pradesh government invoked the Essential Services Maintenance Act (ESMA) in February 2024, banning strikes by government employees in all state government departments, corporations and authorities for a period of six months.
* This decision came during the farmers' strike called by various union organizations. This was earlier implemented by the Uttar Pradesh government during the COVID-19 pandemic.
* In the exercise of powers under sub-section (1) of Section 3 of the Uttar Pradesh Essential Services Maintenance Act, 1966, the State Government has stayed the strike for a period of six months.
* The Act empowers the police to arrest without warrant any employee violating any provision punishable with imprisonment of up to one year or a fine up to Rs 1,000 or both.

CSR funds to be used for development project

* The Uttar Pradesh government has decided to utilise the state's Corporate Social Responsibility (CSR) funds for socio-economic development projects.
* Uttar Pradesh is among the top five states that receive the highest CSR funds from companies. Other states in this list include Maharashtra, Karnataka, Gujarat and Tamil Nadu.
* In the financial year 2014-15, UP received only Rs 148 crore, which increased to Rs 435 crore in 2017-18. The revenue increased to Rs 1,321 crore in 2021-22, while around Rs 1,500 crore in 2022-23.
* The State has also acknowledged the contribution of leading private sector companies such as Vedanta Group, HCL, NCL, Reliance Foundation, Shiv Nadar Foundation, ITC Limited and NTPC for CSR funds.
* Section 135 of the Companies Act, 2013 orders certain companies to allocate 2 per cent of their average profits for the last three financial years to CSR activities.

* Cumulative CSR spending in India is estimated to exceed Rs 2 trillion. Even though UP has seen a steady increase in its CSR funds, the amount collected remains very low compared to its geographical size and population base.

Uttar Pradesh: First state to have 21 airports

* Emphasizing the rapid growth of the aviation sector, the Uttar Pradesh Chief Minister has announced that UP is set to become the first state in India to have 21 airports.
* In the year 2014, there were only 6 airports in Uttar Pradesh, now with the construction of 10 more airports in the state, its number has increased to 16.
* 5 more airports are being built in UP which include Azamgarh, Aligarh, Moradabad, Shravasti and Chitrakoot.
* In the budget for the financial year 2024-25, the government allocated Rs 1,150 crore for the international airport at Jewar in Gautam Buddha Nagar.
* This proposed funding is in line with the objectives of the Regional Connectivity Scheme (RCS-UDAN) of the Government of India and the Uttar Pradesh Civil Aviation Promotion Policy.
* The Regional Connectivity Scheme of the Government of India was launched by the Ministry of Civil Aviation to develop regional airports and enhance regional connectivity.

Increasing possibilites of defence production in Uttar Pradesh

* Chief Minister of Uttar Pradesh, Yogi Adityanath has inaugurated the ammunition manufacturing complex of Adani Group at Defense Corridor in Sadh, Kanpur.
* During the event Chief Minister said that all the six nodes of the defence corridor are actively contributing to India's atmnirbharta in defence manufacturing.
* IIT Kanpur and IIT BHU were designated as Centres of Excellence for the Defense Manufacturing Corridor in Uttar Pradesh.
* The Chief Minister announced that after 46 years of Noida's establishment, the government is setting up a new industrial city in the form of Bundelkhand

Industrial Development Authority.

❖ The Defence Industrial Corridor is an ambitious project aimed at reducing foreign dependence on the Indian aerospace and defence sector which will consist of 6 nodes 'Aligarh, Agra, Kanpur, Chitrakoot, Jhansi and Lucknow'.

❖ Increasing defence production will further promote 'Make in India' which will reduce imports and promote exports of these goods to other countries.

❖ Additionally, this will boost the manufacturing ecosystem which will promote the growth of private domestic manufacturers including MSMEs and start-ups.

Plan to build fire stations at the tehsil level

❖ Chief Minister Yogi Adityanath announced that Uttar Pradesh will soon be the first state in the country to build fire stations at the tehsil level. He inaugurated and laid the foundation stone of 38 fire stations through virtual medium.

❖ Fire and Emergency Services in Uttar Pradesh was established in 1944. Till 2017, only 288 fire stations were established in the state, the number which has now increased to 358.

❖ Building more fire stations will help in reducing the loss of life and property. The state government also established the State Disaster Response Force (SDRF) in the state under Section 48 (1) (A) of the Disaster Management Act, 2005, with its headquarters located in Lucknow.

❖ The Government of India contributes 75% of the SDRF allocation for general category states/UTs, while 90% for special category states/UTs (North-Eastern States, Sikkim, Uttarakhand, Himachal Pradesh, Jammu and Kashmir).

Green Hydrogen Policy of Uttar Pradesh approved

❖ The Uttar Pradesh government approved a five-year green hydrogen policy that sets out a Rs. 50.4 billion (US$608 million) subsidy program to encourage adequate capacity by 2028.

❖ Under the Green Hydrogen Policy, the government will provide financial incentives up to a maximum of Rs 25 lakh per start-up for 5 years to encourage start-ups. Apart from this, incubators will also be encouraged.

❖ About 1 lakh 20 thousand people will get employment in Uttar Pradesh in 5 years under this scheme. UPNEDA will be the nodal agency in the operation of this green hydrogen policy.

❖ For setting up green hydrogen projects, the government will provide Gram Samaj and government land on lease for a period of 30 years. The lease price for public sectors will be Rs 1 per acre per annum and for private investors it will be Rs 15,000 per acre per annum.

❖ To reduce the production cost of green hydrogen and to develop the latest technology, two centres of excellence will be established in which 100% financial incentives up to a maximum of Rs 50 crore will be given to government educational institutions.

❖ A target has been set to produce one million metric tons of Green Hydrogen/Green Ammonia per year in the state by the year 2028. A total financial provision of Rs 5 thousand crore will be made for the implementation of this policy.

Government's Plan to make Bundelkhand the new energy hub

The Uttar Pradesh government is emphasizing on making Bundelkhand the new energy hub of the state. Most of the projects being established here are based on the production of solar energy. The target is to produce more than 3000 MW of electricity through these projects.

Electricity Projects in Bundelkhand:

❖ A 600 MW solar plant is under construction in Jhansi division of Bundelkhand region which will create employment opportunities.

❖ Fourth Partner Energy Private Limited will set up a 100 MW solar plant worth Rs 1200 crore which will create approximately 1000 employment opportunities.

❖ Sun Source Energy will launch a 135 MW open access solar power project worth Rs 600 crore which will create around 2000 jobs.

❖ A 600 MW solar power plant is under construction in Lalitpur district.

❖ 10-15 MW solar power project will be set up by Surya Urja Four Private Limited at a cost of Rs 150 crore.

❖ Avada Ind Solar Private Limited will set up a 750 MW solar power project in Banda at a cost of Rs 350 crore.

❖ 15 MW solar power project is under construction by Sunsure Solar Park Private Limited at a cost of Rs 62 crore.

Telemetric weather station

To monitor drought in Uttar Pradesh, Telemetric Weather Stations (TWS) will be established in tehsils of various districts of the state.

Key Points:

❖ Under this initiative, apart from the seven districts of Bundelkhand, priority will be given to Sonbhadra and Mirzapur because there is a possibility of drought every year.

❖ These seven districts include 'Banda, Chitrakoot, Hamirpur, Jhansi, Lalitpur, Mahoba and Jalaun'.

❖ The problems faced by farmers every year due to drought in the state, it has been decided to establish telemetric weather stations in 100 tehsils of the state in the first phase.

❖ After this, TWS will be installed in all the tehsils of all the districts of the state.

❖ An amount of Rs 10 crore has been released for the project. Necessary guidelines for land marking have been issued by the Additional District Magistrates to all the districts.

Current Affairs: Uttarakhand

Scheme for setting up transit hostel for Home Guards

❖ On the occasion of Home Guards and Civil Defense Foundation Day, Chief Minister Pushkar Singh Dhami announced the scheme to provide transit hostel facilities to Home Guards.

❖ In this context, approval of Rs 13.50 crore has been granted by the government for the construction of transit hostels in eight districts of Uttarakhand.

❖ Out of all the land selected for Home Guard jawans in the state, the biggest area has been selected in Haridwar. The transit hostel will be constructed in Haridwar on approximately 10 acres of land.

❖ The Home Guard soldiers are assigned duties that may require them to handle VIP programs or any other kind of situation.

❖ In the event of such a situation, while they are moving from one area to another, they will be provided with full facilities for their stay in these transit hostels. Additionally, an office building will also be constructed

within the hostel premises.

Uttarakhand budget 2024-25

❖ Chief Minister Pushkar Singh Dhami's government presented a budget of Rs 89,230.07 crore.

❖ In this budget, special focus was given to youth power, Antyodaya card holders, subsidies, tourism and national sports.

Education:

❖ Rs 10 crore were allocated for improving the educational quality of government degree colleges and Rs 2 crore for research schemes under NEP.

❖ A provision of Rs 3 crore was made for Science Center in Champawat in the budget

Sports:

❖ Rs 10 crore were allocated for scholarships to budding players.

❖ Rs 10 crore was given for the State and National Youth Festival and a provision of Rs 5 crore was made for the training camp.

❖ Rs 2 crore were allocated for the Pithoragarh Sports College building.

Subsidies:

❖ A provision of Rs 54 crore was made in the budget to provide free refills of three cylinders in a year to 1,83,419 Antyodaya card holders.

❖ Rs 20 crore were allocated for the food grain scheme and a budget of Rs 390 crore was given for PM Awas Yojana Gramin.

❖ A provision of Rs 44 crore was made for the welfare and corps fund of the state agitators.

❖ A provision of Rs 679.34 crore was made for subsidy in the schemes of various departments.

❖ There is a possibility of a revenue surplus of Rs 4737.13 crore in the budget for the financial year 2024-25, while there is an estimated fiscal deficit of Rs 9416.43 crore, which is 2.38 per cent of the gross state domestic product.

Uttarakhand Public and Private Compensation Recovery Bill

❖ The state of Uttarakhand has become the third state in India after Uttar Pradesh and Haryana to introduce a bill in the assembly for the recovery of property damage caused during movements or violence.

❖ Under this Bill, the damage caused to public and

government property during protests and strikes will be compensated by the accused involved in the disturbance.

❖ A tribunal headed by a retired judge will investigate the charges against the identified accused following a complaint by the government.

❖ The assessment and orders for recovery of loss will be issued by the Tribunal after detailed discussions with the Government and affected parties.

❖ This bill was brought after the violence in Haldwani, Uttarakhand in which several people died and more than 100 were injured.

❖ The violence erupted after the district administration demolished a mosque and a madrassa built on Nazul (government) land in an anti-encroachment drive.

Current Affairs: Bihar

Regional review meeting of the AYUSH Ministry

❖ Union AYUSH Minister Sarbananda Sonowal recently participated in the regional review meeting of six states 'Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha and Uttar Pradesh' organized by the Ministry of AYUSH in Patna, the capital of Bihar.

❖ The Ministry of AYUSH is supporting their efforts through their respective State Annual Action Plans (SAAPs) under the centrally sponsored scheme of the National AYUSH Mission (NAM).

❖ The Union Cabinet has approved the operationalization of 12,500 AYUSH Health and Wellness Centres (AHWC) by the Ministry of AYUSH through State/UT Governments as a component of NAM by the year 2023-24.

❖ Ministry of AYUSH has released Rs 1712.54 crore to 07 States (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Uttar Pradesh and West Bengal) under NAM since 2014-15.

❖ Under NAM, the Ministry has also supported the establishment of a new Ayurvedic Medical College at Ayodhya, a new Homeopathic Medical College at Varanasi and College of Yoga and Naturopathy at Howrah, West Bengal during 2022-23.

Bihar Small Entrepreneur Scheme 2024

❖ Recently, Bihar Small Entrepreneur Scheme was started by the Industries Department of the Government of Bihar, under which approximately 94 lakh beneficiaries were provided with assistance of Rs 2 lakh.

❖ This assistance was given by the Government of Bihar to help financially poor people to start business. For the scheme online registration precess was used and the final list was released on 04 March 2024. Under this scheme, 50 beneficiaries were selected through a computer randomization system.

❖ All these beneficiaries have been selected based on the economic census which was recently conducted by the Bihar government.

Water management of Bihar with the help of World Bank

❖ The Union Finance Ministry has approved the Integrated Water Resources Management Project which is being run by the Bihar Government and has received financial assistance from the World Bank.

❖ The BIWRMP is targeted to be implemented over a period of six years, aligned with the ongoing initiatives of the Government of Bihar, 'Irrigation water to every farm' and 'Jal-Jeevan-Hariyali Abhiyaan'.

❖ Under this project, approximately Rs 4,415 crore will be spent. Out of which Bihar will provide 30%, while the rest amount will be provided by World Bank as loan.

❖ The project will focus on completing the long pending Western Kosi Canal Major Irrigation Project.

❖ Linking of rivers can help in reducing both floods and drought, in which the plan is to include sensitive areas along the banks of rivers Ganga, Gandak, Kosi, Mahananda, Budhi Gandak, Kamla, Bagmati etc.

Bihar made record for issuing Ayushman Bharat cards

❖ The Bihar government has recently conducted a six-day special campaign under the 'Ayushman Bharat Pradhan Mantri Jan Arogya Yojana' (AB PMJAY), resulting in the record-breaking issuance of over one crore Ayushman Bharat cards.

❖ In this, all the ration card holders covered under the National Food Security Act will get five kg of rice and free treatment up to Rs five lakh every year. At present,

about 1.2 crore people in the state are availing the facility of AB PMJAY.

❖ According to data compiled by the state health department, the maximum number of 5, 99,609 Ayushman Bharat cards were issued in Siwan district followed by Muzaffarpur (5, 44018), Patna (5, 00292) and Madhubani (4, 72,977).

❖ Ayushman Bharat Yojana, launched in September 2018, is a national public health insurance scheme of the central government that aims to provide free access to health insurance coverage for low-income people in the country.

Current Affairs: Jharkhand

Jharkhand government also approved the Caste Census

❖ Recently, after the Bihar caste census, Jharkhand Chief Minister Champai Soren has approved conducting a caste census in the tribal state. The Chief Minister has directed the Personnel Department to prepare a draft and submit it before the Cabinet for approval.

❖ This caste-based survey will be based on data collected between January 7 and October 2, 2023.

❖ The census describes the population, while the socio-economic and caste census identifies the beneficiaries supported by the state government.

❖ The first census in India was started by Viceroy Lord Mayo in 1872, after which the decennial census was regularized from the year 1881.

❖ Socio-economic and caste census data was first collected in the year 1931 to obtain information about every Indian household in both rural and urban areas.

National Workshop on Urban Livelihoods

❖ A two-day national workshop was organized by the Ministry of Housing and Urban Affairs in collaboration with the United Nations Development Program (UNDP) under the Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM) in Ranchi.

❖ With the participation of approximately 150 delegates from across the country, the workshop provided a platform for high-level discussions on innovative trends and opportunities in urban livelihoods.

❖ It served as a platform for states to share best practices related to women-led urban livelihoods and economic growth, learn from peers, and spontaneously replicate successful models by other states.

❖ The program also covered other topics such as the Multidimensional Poverty Index and the role of charitable assistance in addressing urban poverty through the identification of priority sectors and innovative financial investments.

Two-day conference on the strengthening of PESA

❖ Vivek Bhardwaj, Secretary, Ministry of Panchayati Raj inaugurated the two-day Regional Conference on Strengthening of PESA in Ranchi, Jharkhand.

❖ The second regional conference on PESA was attended by representatives of Panchayati Raj Institutions from the five participating states 'Andhra Pradesh, Chhattisgarh, Jharkhand, Odisha and Telangana' including Ministry of Tribal Affairs, Ministry of Panchayati Raj, State Departments and other key stakeholders.

❖ The Panchayat Extension to Scheduled Areas i.e. PESA Act 1996 was brought in following the long-standing demand of tribal communities in India to give them greater autonomy and control over their own affairs, which was not included in the 73rd and 74th Constitutional Amendments.

❖ Tribal communities in India have been marginalized from mainstream political and economic systems, leading to challenges such as displacement, loss of land and resources, and cultural degradation.

Current Affairs: Madhya Pradesh

'Queen on the Wheel' initiative

❖ The Madhya Pradesh Tourism Board has launched the 'Queen on the Wheels' women's biking tour, a 1,400-km journey to promote the diversity, beauty and women empowerment of the state.

- On the occasion of International Women's Day on 8th March, the women bikers toured several tourist destinations across the state and concluded in the state capital Bhopal. A group of 25 women bikers from across the country were invited to join this biking expedition, in which a woman from Brazil also participated.
- The initiatives seek to position Madhya Pradesh as a safe, secure and empowering option for women travellers, while also advocating women empowerment and adventurous tourism for women.

Viksit Bharat, Viksit Madhya Pradesh programme

- Prime Minister Narendra Modi addressed the 'Viksit Bharat, Viksit Madhya Pradesh programme' through video conferencing.
- During this program, the Prime Minister laid the foundation stone of several development projects worth about Rs 17,000 crore in Madhya Pradesh and dedicated some of these projects to the nation.
- These projects cater to the needs of many important sectors including irrigation, power, roads, railways, water supply, coal and industry.
- Along with this, the Prime Minister also launched the Cyber Tehsil Project in 55 districts of Madhya Pradesh. This project will provide a digital solution to issues related to name transfer and registry thereby saving people's time and expenses.
- PM also discussed about the recently launched 'world's largest storage project' under which thousands of large capacity warehouses will be constructed and additional storage capacity of 700 lakh metric tons will be added.
- The Prime Minister also reiterated the government's resolve to make villages self-reliant through cooperation. He said that a permanent solution to rural property disputes is being found through the PM Swamtiva Yojana.

Current Affairs: Chhattisgarh

Niyadh Nellanar Scheme

- Chhattisgarh government announced the launch of Niyad Nellanar Scheme under which basic facilities and welfare schemes will be provided to all the beneficiaries in Naxal-affected villages.
- Niyad Nellanar means 'Your Good Village' in the local Dandami dialect, which is often spoken in South Bastar.
- These villages will get facilities similar to the Centre's PM-JANMAN program which is specifically designed to promote the socio-economic welfare of Particularly Vulnerable Tribal Groups (PVTGs).
- About 25 basic facilities will be provided under this scheme, including four free gas cylinders, free rice, gram-salt, jaggery and sugar, ration card, irrigation pump, free electricity, community hall, Anganwadi and Ujjwala gas.

PM Shri Yojana launched in Chhattisgarh

- Union Minister Dharmendra Pradhan launched the PM Shri Yojana in Chhattisgarh. In the first phase 211 schools will be upgraded on the 'Hub and Spoke' model by providing an assistance of Rs 2 crore each.
- Under this, by centralizing the consultancy institute called 'Hub', the consultant will be guided for self-improvement through the secondary branches of services called 'spoke'.
- According to the New Curriculum Framework (NCF) announced by the Education Ministry in August 2023, board examinations will be conducted at least twice a year to give students adequate time and opportunity to perform better. Apart from this, children will also get the option to maintain the best score.
- PM Shri Yojana is a centrally sponsored scheme for the up gradation and development of about 15 thousand schools across the country. This scheme aims to equip selected existing schools with state-of-the-art facilities from among the schools managed by the Central Government/State Government/Local Bodies.

Renovation of Aluminium Park Project in Korba

- The Chhattisgarh government has decided to renovate the Aluminium Park project in Korba to promote small-scale industries.
- The government signed a MoU with Bharat Aluminium Company Limited (BALCO), a subsidiary of Vedanta Limited, to supply raw aluminium at concessional rates

to all small-scale industries.

❖ Under this, the land of Rukhbahari village near Balco Township was identified by the district administration and a consent meeting was organised to obtain the consent of the villagers.

❖ To meet the demand of Aluminium Park in Korba, an initial provision of Rs 5 crore was made in the budget of the Industries Department in the financial year 2024-25.

❖ BALCO was incorporated as the first Public Sector Undertaking (PSU) in India in the year 1965, since then it has been playing an important role in Indian industrial development.

❖ In 2001, the government disinvested 51% of shares of Bharat Aluminium Company Limited (BALCO) to Sterlite Industries Limited, a subsidiary of Vedanta Limited.

Chhattisgarh Climate Change Conclave 2024

❖ Chhattisgarh Chief Minister Vishnu Dev Sai has called for increased efforts to protect nature, citing the significant threat posed by climate change at Chhattisgarh Climate Change Conclave 2024. The Chief Minister highlighted the severity of issues such as irregular rainfall, extended periods of drought, cyclonic rains, and seasonal variations.

❖ The Chief Minister also launched the 'Chhattisgarh State Action Plan on Climate Change', and unveiled a book titled Ancient Wisdom on Traditional Health Practices in Bastar.

❖ In his address, the Chief Minister considered the 2015 Paris Agreement as an important step in the global efforts to tackle climate change and urged for continued cooperation at the global level.

❖ Organised by the Chhattisgarh State Climate Change Central Forest and Climate Change Department with technical support from the Ecological Security Foundation, the conference aimed to facilitate exchange of knowledge among experts, environmentalists, policymakers and tribal communities.

Formation of special agency to deal with naxalism and terrorism

❖ Chhattisgarh Government has decided to constitute a State Investigation Agency (SIA) for speedy and effective investigation in special cases of terrorism, naxalism and left-wing extremism in the state.

❖ The State Investigation Agency will act as the nodal agency of the State for coordination with the National Investigation Agency (NIA). For this, a total of 74 new posts including one Superintendent of Police have been created.

❖ In January 2024, Union Home Minister Amit Shah chaired a review meeting with stakeholders in Raipur on Left Wing Extremism where he ordered to work on a plan to eliminate the naxalite threat in the next three years.

❖ The government also initiated the restoration of the pension scheme for those jailed under the Maintenance of Internal Security Act (MISA), 1971, during the period of Emergency from 1975 to 1977.

Launch of Mahtari Vandan Yojana

❖ To promote women empowerment in Chhattisgarh, Prime Minister Narendra Modi launched Mahtari Vandana Yojana under which eligible married women will be provided financial assistance of Rs 1000 per month in the form of Monthly Direct Benefit Transfer (DBT).

❖ It is envisaged to ensure the economic empowerment of women, provide them financial security, promote gender equality and strengthen the decisive role of women in the family.

❖ This scheme will provide benefits to all eligible married women of the state who are above 21 years of age as of January 1, 2024. Widows divorced and abandoned women will also be eligible for this scheme. About 70 lakh women will benefit from this scheme.

❖ Direct Benefit Transfer (DBT) was launched by the Government of India on January 1, 2013, as a mission to reform the government delivery system.

Current Affairs: Rajasthan

300 MW solar power project of NLC India Limited

❖ Prime Minister Narendra Modi recently laid the foundation stone for a 300 MW solar power project by

NLC India Limited in Barsingsar, Rajasthan. PM also initiated the construction of other solar projects in the state during the programme.

❖ As per information being given by the public sector enterprise, the total cost of NLC India's solar project is estimated at Rs 1,756 crore which is planned to be commissioned in September 2024.

❖ The project is located near the existing Barsingsar Thermal Power Station. This will provide the benefit of power evacuation and general infrastructure facilities through a power transmission network.

❖ The company has signed a power use agreement with Rajasthan Urja Vikas Nigam Limited at the rate of Rs 2.52 per unit for the entire capacity of 300 MW.

❖ NLC India is a Navratna company under the Ministry of Coal.

Focus on innovative financial options to finance road infrastructure

❖ The government of Rajasthan has decided to explore new financing options to tackle the increasing cost of road construction in the state. The government plans to focus on the Public Private Partnership (PPP) model to ensure that revenue supply is not disrupted.

❖ Rajasthan is ranked seventh in India when it comes to highways and second when it comes to national highways. To improve connectivity, the Rajasthan State Highway Authority is implementing new measures to encourage new investments.

❖ In this context, a workshop on 'Financing Models for Road Infrastructure Development' was jointly organized by the Public Works Department (PWD) and India Infrastructure Finance Company Limited (IIFCL) Projects.

❖ IIFCL is a leading public sector infrastructure finance institution that finances approximately 21% of the country's national highway capacity comprising approximately 30,000 km of roads.

❖ A public-private partnership model is an arrangement between a government and the private sector for public assets or public services that allows large-scale public projects to be completed with private financing.

India-Japan joint exercise 'Dharma Guardian' concludes

❖ The 5th edition of the joint military exercise 'Dharma

Guardian' between the Indian Army and Japan Ground Self Defence Force concluded at Mahajan Field Firing Range in Rajasthan. This exercise was conducted from 25 February to 9 March 2024.

❖ Exercise 'Dharma Guardian' is an annual military exercise conducted alternately in India and Japan. The Japanese contingent was represented by soldiers of the 34th Infantry Regiment and the Indian contingent was represented by a battalion of the Rajputana Rifles.

❖ The objective of the exercise is to promote military cooperation and enhance joint capabilities to conduct joint operations in semi-urban conditions under Chapter VII of the United Nations Charter.

❖ Exercise 'Dharma Guardian' will enable both countries to share their best practices in tactics, techniques and procedures in conducting tactical operations which will also help in enhancing inter-operability, camaraderie and cooperation between the troops of both sides.

Supreme Court upheld Rajasthan's 2 children rule for government jobs

❖ Supreme Court has upheld the Rajasthan government's eligibility criteria of two children for getting public employment, saying that it is not discriminatory and does not violate the Constitution. The Rajasthan Various Services (Amendment) Rules, 2001 bar candidates who have more than two children from getting government jobs.

❖ Upholding the two-child norm, the top court dismissed the appeal filed by former soldier Ramji Lal Jat, who had applied for the job of constable in Rajasthan Police on May 25, 2018, after his retirement from the Army in 2017.

❖ The bench said that Rule 24(4) of the Rajasthan Police Subordinate Service Rules, 1989 states that no candidate shall be eligible for appointment to the service that has more than two children on or after June 1, 2002. It is non-discriminatory and does not violate the Constitution.

❖ The court held that the classification, which disqualifies candidates if they have more than two living children, is non-discriminatory and under the purview of constitution as the objective behind the provision was to promote family planning.

Brain Boosters

Ship Building Industries in India

Why in Broadcast

The Standing Committee on Transport, Tourism and Culture submitted its report on 'Status of Ship Building, Ship Repair and Ship breaking industries in the Country'. The report has looked into the reasons for the decline in India's share in the field of ship building and ship repair industries in the past decade at global level.

1. Ship Building in India

- ❖ India has long-standing maritime tradition, with shipbuilding activities documented as early as the Indus Valley Civilization.
- ❖ Coastal regions like Gujarat, Kerala and West Bengal have been centers of shipbuilding for centuries.
- ❖ Modern shipbuilding as an industrial activity gained momentum in the post-independence era.

2. Importance of Ship Building Industry

- ❖ Shipbuilding industry holds strategic significance due to its role in energy security, national defence and its immense direct and indirect linkages with most other leading industries.
- ❖ The shipbuilding industry has the same impact as infrastructure sector due to higher multiplier effect on investment and turnover.
- ❖ The industry has the potential of generating mass employment in remote, coastal and rural areas.
- ❖ Shipping industry is the key component to make India a 'Blue Economy'.

3. Maritime India Vision 2030

- ❖ To develop global standard ports in India, Maritime India Vision (MIV) 2030 has identified initiatives such as:
  - » Developing world-class Mega Ports.
  - » Transhipment hubs.
  - » Infrastructure modernization of ports.
- ❖ It estimates the investments to the tune of INR 1–1.25 lakh crore for capacity augmentation and development of world-class infrastructure at Indian Ports.
- ❖ The ports at Vizhinjam (Kerala) and Vadhavan (Maharashtra) would enable ultra large container and cargo vessels to call on the ports thereby boosting the efforts to make India the world's factory by improving the container and cargo throughput.
- ❖ MIV 2030 has set a target of taking up India to top 10 Ship building country.

4. Financial Assistance Policy

- ❖ To encourage domestic shipbuilding and provide a level playing field vis-a-vis foreign shipyards, the Union Cabinet approved the Shipbuilding Financial Assistance Policy for Indian Shipyards on 09 December, 2015.
- ❖ This policy is applicable for a duration of 10 years.
- ❖ The increase in financial assistance over the years proves that the volume of ship building is steadily increasing in India.

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5. Green Ship Building

- From fossil fuels, Ship building is now happening on hybrid or green fuels. Green vessels are being promoted which will use green fuels such as Methanol/ Ammonia / Hydrogen fuel cells for propulsion.
- India is implementing International Maritime Organization energy efficiency requirements for existing ships and carbon intensity requirements on all its vessels in order to help achieve IMO GHG reduction targets.

7. Constraints

- Higher Turnaround Time as compared to other South-East Asian countries.
- Lack of efficiency in the working process.
- Presence of competing international ship repair yards on major trade routes.
- GST being a major deterrent for ship repair industry.
- Additional taxes on import of raw materials and parts to be used for maintenance & repair of Ships/ Vessels.

6. Strengths of Indian Ship Industry

Geostrategic Location of India:

- India has a long coast line of around 7516 kilometre.
- The country's considerable coastal expanse, featuring numerous all-weather ports shielded from harsh weather conditions.
- It is positioned strategically along major trade and shipping routes, with 7 to 9 % of the global trade passing within 300 nautical miles of its coastline.
- This represents increasing market potential for the ship-repair business, as shipping lines prefer to repair their ships without deviating from their trade routes.
- India is poised well to offer repair services to Indian Navy and US Navy for its 5th and 7th fleet deployed in the Indian Ocean and the Arabian Sea.

Abundance of Labour

- Among the resources required for the Ship Repair Units to function efficiently, labour market plays an important role.
- India has a huge untapped potential in terms of all segments of labour from unskilled to highly skilled.

Competitive Labour Rates

- Apart from abundance of labour, the subcontract labour rates are cheaper in India and are comparable to labour rates in Indonesia and Vietnam.

8. Ship Repair

- The global ship repair market is approximately US$ 12 billion and is expected to be of USD 40 Billion by 2030.
- The global market for ship repair and maintenance service is currently dominated by shipyards in China, Singapore and Middle East.
- India's share in the global ship repair market is currently less than 1%.

9. Initiatives of the Ministry to Promote the Ship Repair Industry

Development of Ship Repair Clusters:

- The initial two Ship Repair Clusters proposed are:
  - » Southern Cluster (Kochi)
  - » Western Cluster (Mumbai / Vadinar)

Development of International Ship Repair Facility and New Dry Dock :

- Cochin Shipyard Limited (CSL) is developing International Ship Repair Facility and New Dry Dock.

10. Ship Recycling

- Ship recycling plays an integral role in the maritime industry's life cycle, addressing the end-of-life phase of vessels.

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11. Benefits of Ship Recycling

❖ The ship recycling industry converts end-of-life ships into usable products for different industries, homes and small businesses.

❖ The transformation of ships into new products positively affects the environment as it avoids extracting iron ore which is energy-intensive process.

❖ The usage of ferrous scrap extracted from vessels promotes the use of Electric Arc Furnaces that usually emit lower amount of CO_2 per ton of steel produced compared to Blast Furnaces.

12. History of Ship Recycling

❖ The history of modern ship breaking dates back to the 1960s and 1970s.

❖ Then ship breaking was largely carried out in large ship building yards of the developed countries such as USA and Europe.

❖ With the development of stringent environmental regulations, demolition of a ship in a safe and sound manner involved high costs.

❖ This led to shifting of the ship recycling business in the early 1990s, to South Asian countries such as Bangladesh, India, China, Pakistan and Turkey.

❖ As per UNCTAD report, in 2022, India (30.98%), Bangladesh (38.13%), Pakistan (17.23%) and Turkey (6.33%) accounted for 92.66% of known ship scrapping across the world.

13. Recycling of Ships Act, 2019

❖ The Recycling of Ships Act of 2019 places restrictions and prohibitions on the use and installation of hazardous materials on ships, regardless of whether they are intended for recycling.

❖ It's important to note that these restrictions or prohibitions regarding hazardous materials do not apply to government-operated warships and non-commercial ships.

14. Challenges During Ship Recycling

❖ Ship recycling poses high risks to human health and the environment if it is not carried out in a proper and safe way, thereby leading to high levels of fatalities, injuries and work-related diseases.

❖ Ships contain many toxic substances, such as PCBs, PVCs, PAHs, TBT, mercury, lead, and asbestos, which can intoxicate workers and can have significant negative effects on the environment when dumped into the soil and coastal waters.

❖ While ship recycling can contribute to a circular economy by recycling valuable materials, if not carried out properly, it can pose significant environmental degradation as well as pose safety risks to the workers in the industry.

15. Blue Economy

❖ Acording to World Bank, blue economy is the "sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem".

16. SDG 14

❖ **SDG14:** Conserve and sustainably use the oceans, seas and marine resources

❖ Goal 14 is about conserving and sustainably using the oceans, seas and marine resources. Healthy oceans and seas are essential to human existence and life on Earth.

❖ The Ocean is intrinsic to our life on earth. Covering three-quarters of the Earth's surface, contain 97 percent of the Earth's water, and represent 99 percent of the living space on the planet by volume.

Smart Cities Mission: An Evaluation

Why in Broadcast

The Standing Committee on Housing and Urban Affairs submitted its report on "Smart Cities Mission: An Evaluation". The Smart Cities Mission (SCM) was launched in 2015 to provide infrastructure, and a clean and sustainable environment to citizens. The Mission period has been extended upto June 2024.

1. Definition of Smart City

Smart cities in common parlance are understood to be cities that use appropriate technologies for improving quality of lives of their citizens. Indian Smart Cities are woven around the following 6 fundamental principles:

- ❖ **Community at the Core:** Communities at the core of planning and implementation.
- ❖ **More from Less:** Ability to generate greater outcomes with the use of lesser resources.
- ❖ **Cooperative & Competitive Federalism:** Cities selected through competition; flexibility to implement projects.
- ❖ **Integration, Innovation, Sustainability:** Innovating methods, integrated and sustainable solutions.
- ❖ **Technology as means, not the goal:** Careful selection of technologies, relevant to the context of cities.
- ❖ **Convergence:** Sectoral and financial convergence.

2. Need for Smart Cities

- ❖ Cities are engines of growth for the economy of every nation, including India.
- ❖ Nearly 31% of India's current population lives in urban areas and contributes 63% of India's GDP (Census 2011).
- ❖ With increasing urbanization, urban areas are expected to house 40% of India's population and contribute 75% of India's GDP by 2030.
- ❖ This requires comprehensive development of physical, institutional, social and economic infrastructure.
- ❖ All are important in improving the quality of life and attracting people and investments to the City, setting in motion a virtuous cycle of growth and development.
- ❖ Development of Smart Cities is a step in that direction.

3. Smart City Features

The core infrastructure elements in a Smart City would include:

- ❖ Adequate water supply.
- ❖ Assured electricity supply.
- ❖ Sanitation, including solid waste management.
- ❖ Efficient urban mobility and public transport.
- ❖ Affordable housing, especially for the poor.
- ❖ Robust IT connectivity and digitalization.
- ❖ Good governance, especially e-Governance and citizen participation.
- ❖ Sustainable environment.
- ❖ Safety and security of citizens, particularly women, children and the elderly.
- ❖ Health and education.

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4. Strategy

- Area-based development will transform existing areas (retrofit and redevelop), including slums, into better planned ones, thereby improving liveability of the whole City.
- Comprehensive development in this way will improve quality of life, create employment and enhance incomes for all, especially the poor and the disadvantaged, leading to inclusive Cities.
- Three models of area-based smart city development are:
  - **Retrofitting** will introduce planning in an existing built-up area to achieve Smart City objectives, along with other objectives, to make the existing area more efficient and liveable.
  - **Redevelopment** will effect a replacement of the existing built-up environment and enable co-creation of a new layout with enhanced infrastructure using mixed land use and increased density.
  - **Greenfield development** will introduce most of the Smart Solutions in a previously vacant area using innovative planning, plan financing and plan implementation tools with provision for affordable housing, especially for the poor.

5. Implementing Agencies Under SCM

Special Purpose Vehicles
- The Smart Cities Mission Statement & Guidelines envisaged implementation of the Mission at the city level by a Special Purpose Vehicle (SPV) created for the purpose.
- They plan, implement, operate and monitor their development projects.

Smart City Advisory Forum (SCAF)
- SCM provide for a structured mechanism for consultation with the public representatives.
- Each Smart City is expected to constitute a Smart City Advisory Forum which includes MP, MLA, Mayor, District Collector, CEO of SPV, local youths, technical experts, and at least one member from the area.

6. Sources Of Funding

- Government of India is providing financial support to the extent of Rs. 48,000 crores to the 100 Smart Cities over the mission period of five years i.e., on an average Rs. 100 crore per city per year which is about 45% of the funding.
- An equal amount on a matching basis is being contributed by the State Government/Urban Local Body (ULB).
- For 13 Himalayan and North-eastern States the sharing ratio has been revised to 90:10.
- The remaining part is as follows:
  - 21% funding has been proposed through convergence with other Missions/programs (AMRUT Scheme, Swachh Bharat Mission, National Heritage City Development and Augmentation Yojana, Digital India, Skill development, Housing for All).
  - 21% from Public-Private Partnerships.
  - 5% from loans.
  - Remaining from other sources.
- The GoI share to each city will be a maximum of Rs. 500 crores.

7. Issues and Challenges Affecting the Progress of Smart Cities Mission

- Frequent changing and dropping of Smart City Projects.
- Lack of Adequate Financial Progress.
- Intercity disparity in physical progress of Smart City projects implementation.
- Lack of Integrated Monitoring Mechanism for Convergence Projects.
- Lack of cross-city reference or cross-learning.
- Frequent Transfer of Smart City CEOs.
- Lack of Defined Governance Structure and Monitoring Capacity of SPVs.
- Lack of consultation with Public Representatives.
- Lack of Execution Capability in smart cities of Himalayan and North-East region and Small UTs.
- Lesser emphasis on core infrastructure projects.

Atmospheric Research Testbed

Why in Broadcast

On March 12, the first phase of India's Atmospheric Research Testbed in Central India (ART-CI) was inaugurated at Silkheda in Sehore district, of Madhya Pradesh. Funded by the Ministry of Earth Sciences (MoES), the facility will house 25 high-end meteorological instruments for studying vital cloud processes associated with the monsoons over central India's Monsoon Core Zone (MCZ).

1. About Atmospheric Research Testbed

❖ ART is an open-field, focused observational and analytical research programme at Silkheda.

❖ The facility aims to conduct ground-based observations of weather parameters and in-situ observations of the transient synoptic systems like low-pressure areas and depressions that form in the Bay of Bengal during the southwest monsoon season from June to September.

❖ Studying these systems and their associated cloud parameters will be used to generate high volumes of data over a long period.

❖ The data generated may be compared with the existing weather models so that improvements can be made to obtain accurate rainfall predictions.

❖ The setup at ART will also be used for calibrating and validating various satellite-based observations, part of weather predictions and forecasting.

2. Importance of Atmospheric Research Testbed

❖ At present, 45% of India's labour force is employed in the agriculture sector.

❖ Much of Indian agriculture is rain-fed, as is cultivation along the Monsoon Core Zone, which spans the central India region from Gujarat to West Bengal.

❖ The southwest monsoon season accounts for 70% of the country's annual average rainfall (880mm).

❖ Throughout India, the majority of Kharif cultivation is undertaken between July and August, which see an average monthly rainfall of 280.4mm and 254.9mm (1971–2020 average), respectively.

❖ During this four-month-long season, several rain-bearing synoptic systems, namely the low pressures or depressions, develop in the Bay of Bengal.

❖ Inherently, these systems move westwards/ northwestwards over to the Indian mainland and pass through the MCZ, causing bountiful rainfall.

3. Reasons for establishing ART in Madhya Pradesh

❖ Silkheda falls directly in line with the path of major rain-bearing synoptic systems. This will facilitate direct monitoring and tracking.

❖ The locality is pristine and free of anthropogenic and other pollutants, making it the best site in central India for setting up sensitive, high-end meteorological instruments and observatories for recording data.

Brain Boosters

4. Importance of having Data About Monsoons Over Central India

❖ Studies have correlated the all-India rainfall performance to the rainfall received over the central India region.

❖ The India Meteorological Department issues rainfall forecasts for the country's four homogeneous regions – north, west, east and south peninsular India.

❖ IMD also issues a special rainfall forecast for the MCZ, which is considered India's food bowl.

❖ However, there is still limited understanding about the role of these synoptic systems, their associated cloud physics, cloud properties and their overall role in enhancing the monsoon rainfall.

❖ Central India, therefore, acts as a natural laboratory for scientists and meteorologists to perform a hands-on study of the Indian monsoons.

❖ They can record data and make observations about the allied systems, clouds, and other associated physical and atmospheric parameters.

❖ Climate change is driving erratic rainfall patterns in the tropical regions, like India.

❖ Climate change has also strengthened the low-pressure systems, which are aided by high temperatures which results in very heavy rainfall during the monsoons.

❖ With the help of ART, scientists will be able to generate and obtain long-term observations on cloud microphysics, precipitation, convection and land-surface properties, among a host of other parameters.

❖ This information will be assimilated and fed into the numerical weather models to enhance forecast output, especially the rainfall forecasts.

5. Importance of Accurate Weather Prediction

❖ Weather forecasting plays a pivotal role in the country's functioning as its correct inputs are essential to agriculture, road and rail transport, flight operations, managing the energy output from power plants and even tourism.

❖ Accurately predicting rain, cyclones, heatwaves and drought are also critical to informed decision-making on disaster management.

6. Instruments used in ART

❖ To obtain continuous observations of convection, clouds, and precipitation, and monitor the major modes of variabilities, the ART is equipped with over two dozen high-end instruments, radars and more.

❖ At 72 metres, ART will house India's tallest meteorological tower.

❖ Some of the instruments deployed are:
  » An aethalometer for performing aerosol studies.
  » A cloud condensation nuclei counter.
  » A laser ceilometer to measure cloud sizes.
  » A micro rain radar to calculate raindrop size and its distribution.
  » A Ka-band cloud radar and a C-band doppler weather radar to help track the movement of rain-bearing systems over this zone.

7. Impact of Climate Change on Extreme Weather Events

❖ The spike in the temperatures has resulted in more frequent and more intense extreme weather events across the world.

❖ These events include heat waves, droughts, floods, hurricanes, and wildfires.

❖ In India, the duration of heat waves has increased by about 2.5 days between 1961 and 2021 due to global warming, according to a 2023 report by the India Meteorological Department.

❖ Climate models show that heat waves might become about 12 times more frequent by 2040s due to climate change.

❖ For every 1 degree Celsius rise in average temperature, the atmosphere can hold about 7% more moisture.

❖ This makes storms more dangerous as it leads to an increase in precipitation intensity, duration and/or frequency, which ultimately can cause severe flooding.

Brain Boosters

Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana

Why in Broadcast

The Union Cabinet chaired by Prime Minister Narendra Modi had approved the "Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)", a Central Sector Sub-scheme under the Pradhan Mantri Matsya Sampada (PMMSY) for formalization of the fisheries sector and supporting fisheries micro and small enterprises with an investment of over Rs. 6,000 crores over a period of four years from FY 2023-24 to FY 2026-27 in all States/Union Territories.

1. About the Fisheries Sector

❖ Fisheries sector contributes to the national income, exports, food and nutritional security as well as employment generation.
❖ Fisheries sector is recognized as the 'Sunrise Sector' and is instrumental in sustaining livelihoods of around 30 million people in India particularly that of the marginalized and vulnerable communities.
❖ With record fish production of 175.45 lakh tons in FY 2022-23, India is the third largest fish producing country in the world accounting for 8% of global production.
❖ It contributes about 1.09% to the country's Gross Value Added (GVA) and over 6.724% to the agricultural GVA.

2. Challenges Faced by Fisheries Sector

❖ Sector is informal in nature.
❖ Lack of crop risk mitigation.
❖ Lack of work based identities.
❖ Poor access to institutional credit.
❖ Sub-optimal safety.
❖ Quality of fish sold by micro & small enterprises.

3. About Pradhan Mantri Matsya Sampada Yojana

❖ The Cabinet on 20th May 2020 approved the Pradhan Mantri Matsya Sampada Yojana with the total investment of Rs 20,050 crore.
❖ PMMSY was launched by the Prime Minister on 10th September 2020 as part of the COVID-19 Relief Package (AatmaNirbhar Bharat package) of the Government of India for implementation in 5 years from FY 2020-21 to FY 2024-25.

4. Targets of PMMSY

Fish Production and Productivity
❖ Increasing fish production to 22 million metric tons by 2024-25 from 13.75 million metric tons in 2018-19.
❖ Enhancing aquaculture productivity to 5 tons per hectare from the current national average of 3 tons.
❖ Augmenting domestic fish consumption from 5 kg to 12 kg per capita.

Economic Value Addition
❖ Increasing contribution of fisheries sector to the Agriculture GVA to about 9% by 2024-25 from 7.28% in 2018-19.
❖ Doubling export earnings to Rs.1,00,000 crores by 2024-25 from Rs.46,589 crores in 2018-19.
❖ Facilitating private investment and growth of entrepreneurship in the fisheries sector.
❖ Reduction of post-harvest losses from the reported 20-25% to about 10%.

Enhancing Income and Employment Generation
❖ Generating 55 lakh direct and indirect employment opportunities along the value chain.
❖ Doubling the incomes of fishers and fish farmers.

Brain Boosters

5. Objectives of PM-MKSSY

❖ Gradual Formalization of the unorganized fisheries sector through self-registration of fishers, fish farmers and supportive workers under a National Fisheries Sector Digital Platform including creation of work based digital identifies of fish workers for improved service delivery.

❖ Facilitating access to institutional financing fisheries sector micro and small enterprises.

❖ Providing one-time incentive to beneficiaries for purchasing aquaculture insurance.

❖ Incentivizing fisheries and aquaculture microenterprises through performance grants for improving fisheries sector value-chain efficiencies including creation and maintenance of jobs.

❖ Incentivising micro and small enterprises through performance grants for adoption and expansion of fish and fishery product safety and quality assurance systems including creation and maintenance of jobs.

6. Fisheries and Aquaculture Infrastructure Development Fund

❖ To address the infrastructure requirement for fisheries sector, Fisheries and Aquaculture Infrastructure Development Fund (FIDF) was created during 2018-19 with a total funds size of Rs 7,522.48 crore.

❖ FIDF provides concessional finance to the Eligible Entities (EEs), for development of identified fisheries infrastructure facilities through Nodal Loaning Entities (NLEs) namely:
  » National Bank for Agriculture and Rural Development (NABARD)
  » National Cooperatives Development Corporation (NCDC)
  » All scheduled Banks

8. Development of 5 Major Fishing Harbours

❖ As per the union budget announcement in FY 2021-22, development of 5 Major fishing harbours (Chennai, Kochi, Paradip, Petuaghat and Visakhapatnam) is being undertaken at a total cost of Rs 518.68 crore with the central share of Rs 199.75 crore.

7. Strategic Priorities of PMMSY

Marine Fisheries
❖ To unlock potential of 5.31 million tons marine production, PMMSY will boost:
  » The number of deep-sea fishing vessels,
  » Upgrade existing vessels,
  » Construct bio-toilets in mechanised devices
  » Establish open sea cages.

Inland Fisheries
❖ PMMSY intends to expand, intensify and diversify inland fisheries through technology infusion, establishing new freshwater hatcheries and brood banks, constructing new rearing and grow-out ponds, constructing cages and pens in reservoirs.

Infrastructure & Post-Harvest Management
❖ Modern fishing harbours and landing centres will be developed and modernized.
❖ Requisite infrastructure for processing, storage, value addition, packaging, transportation and marketing of fish and fisheries products will be enhanced through capital and technology infusion.

Aquatic Health Management
❖ To improve aquatic animals' health and ensure international standards of quality, PMMSY will support the establishment of disease diagnostic and quality testing labs and mobile clinics.

Ornamental Fisheries
❖ With a view to augment domestic demand and boost exports, PMMSY will support ornamental fish cultivation.

Seaweed Cultivation
❖ PMMSY will aim to drive seaweed cultivation and processing through technology facilitation, marketing and logistical support.

Fishermen's Welfare
❖ Through PMMSY, the GoI will strive to promote socio-economic welfare of fishers and fish farmers by providing safety kits, replacement boats and nets, insurance for fishing vessels and fishermen, livelihood and nutritional support to fishermen families during fishing bans and lean periods.

Other Important Activities
❖ PMMSY will undertake a range of strategic activities such as
  » Development of Fish Farmers Producers Organisations(FFPOs),
  » Establishment of integrated Aqua Parks
  » Integrated Model Coastal Villages.

Greening India's Wastelands with Agroforestry

Why in Broadcast

Greening and Restoration of Wasteland with Agroforestry (GROW) report and portal was launched by NITI Aayog. This multi-institutional effort led by NITI Aayog utilized remote sensing and GIS to assess agroforestry suitability across all districts in India. Using thematic datasets, an Agroforestry Suitability Index (ASI) was developed for national-level prioritization. The report provides state-wise and district-wise analysis, supporting government departments and industries for greening and restoration projects.

1. Objectives

❖ Deriving an Agroforestry Suitability Index (ASI) for delineating and prioritisation of suitable areas across the country especially wastelands based on suitable biogeophysical parameters and geospatial technology.

❖ Developing a universal access platform for stakeholders to view suitability regions, statistics, maps at district level for planning greening projects across States and Districts.

2. National Agroforestry Policy

❖ India is the first country in the world to develop and adopt an Agroforestry Policy.

❖ The National Agroforestry Policy of Government of India (2014), seeks to enhance productivity, profitability, diversity and ecosystem sustainability.

❖ Agroforestry is considered a nature based solution (NbS) that works within the functional limits of ecosystems to help societies address a variety of environmental, social and economic challenges in sustainable ways.

❖ In India the total area under Agroforestry is about 28.42 million hectare (Mha) that covers about 8.65% of Total Geographical Area of the country.

❖ The area is varied across 15 Agro-Climatic Zones (ACZ) of the country and is highest in Upper Gangetic Plains Region.

3. Classification of Agroforestry System

❖ **Structural Basis:** Considering the composition of the components, including spatial admixture of the woody component, vertical stratification of the component mix arid temporal arrangement of the different components.

❖ **Functional Basis:** This is based on the major function or role of the different components of the system, mainly of the woody components.

❖ **Socioeconomic Basis:** Considers the level of inputs of management (low input, high input) or intensity or scale of management and commercial goals (subsistence, commercial, intermediate).

❖ **Ecological Basis:** Takes into account the environmental conditions on the assumption that certain types of systems can be more appropriate for certain ecological conditions.

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4. Types of Agroforestry Systems

- ❖ **Farm Forestry:** Farm forestry is the name given to programmes which promote commercial tree growing by farmers on their own land. It is defined as the practice of forestry in all its aspects in and the around the farms or village lands integrated with other farm operations.
- ❖ **Extension Forestry:** It is the practice of forestry in areas devoid of tree growth and other vegetation situated in places away from the conventional forest areas with the object of increasing the area under tree growth. It includes the following.
  - » **Mixed Forestry**: It is the practice of forestry for raising fodder grass with scattered fodder trees, fruit trees and fuel wood trees on suitable wastelands, panchayat lands and village commons.
  - » **Shelter Belts:** Shelter belt is defined as a belt of trees and or shrubs maintained for the purpose of shelter from wind, sun, snow drift, etc.
  - » **Linear Strip Plantations:** These are the plantations of fast growing species on linear strips of land.
- ❖ **Rehabilitation of Degraded Forests:** The degraded area under forests needs immediate attention for ecological restoration and for meeting the socio economic needs of the communities living in and around such areas.
- ❖ **Recreation Forestry:** It is the practice of forestry with the object of raising flowering trees and shrubs mainly to serve as recreation forests for the urban and rural population. This type of forestry is also known as Aesthetic forestry which is defined as the practice of forestry with the object of developing or maintaining a forest of high scenic value.

5. Benefits of Agroforestry

Environment Benefits:
- ❖ Reduction of pressure on forest.
- ❖ More efficient recycling of nutrients by deep-rooted trees on the site.
- ❖ Better protection of ecological systems.
- ❖ Reduction of surface run-off, nutrient leaching and soil erosion through impending effect of tree roots and stems of these processes.
- ❖ Improvement of microclimate, such as lowering of soil surface temperature and reduction of evaporation of soil moisture through a combination of mulching and shading.
- ❖ Increment in soil nutrients through addition and decomposition of litter-fall.
- ❖ Improvement of soil structure through the constant addition of organic matter from decomposed litter.

Economic Benefits:
- ❖ Increment in an maintenance of outputs of food, fuelwood, fodder, fertilizer and timber;
- ❖ Reduction in incidence of total crop failure, common to single-cropping or monoculture system; and
- ❖ Increase in levels of farm incomes due to improved and sustained productivity.

Social Benefits:
- ❖ Improvement in rural living standards from sustained employment and higher incomes;
- ❖ Improvement in nutrition and health due to increased quality and diversity of food outputs; and
- ❖ Stabilization and improvement of upland communities through elimination of the need to shift sites of farm activities.

6. Limitations of Agroforestry

Environment Aspects:
- ❖ Possible competition of trees with food crops for space, sunlight, moisture and nutrients which may reduce food crop yield.
- ❖ Damage to food crop during tree harvest operation.
- ❖ Potential of trees to serve as hosts to insect pests that are harmful to food crops.
- ❖ Rapid regeneration by prolific trees, which may displace food crops and take over entire fields.

Socioeconomic Aspects:
- ❖ Requirement for more labour inputs, which may causes scarcity at times in other farm activities.
- ❖ Competition between food and tree crops, which could cause aggregate yields to be lower than those of a single crop.
- ❖ Longer period required for trees to grow to maturity and acquire an economic value.
- ❖ Resistance by farmers to displace food crops with trees, especially where land is scarce.
- ❖ The fact that agroforestry is more complex, less well understood and more difficult to apply, compared to single-crop farm.

Brain Boosters

7. Key Features of the System on GROW Suitability Mapping

- ❖ Provides District level information of wastelands area suitable for agroforestry.
- ❖ Provides area prioritisation regime i.e. highly suitable area, moderate and less suitable areas for agroforestry.
- ❖ Provides State-wise & District-wise area analysis reports based on the suitability regimes.
- ❖ Provides information, such as potential agroforestry systems, list of tree species exempted for transits and felling permit.

8. Wastelands

- ❖ Wastelands are defined as degraded land that can be brought under vegetative cover with reasonable effort and which is currently under-utilised and is deteriorating due to lack of appropriate water and soil management or on account of natural causes.

9. Necessity For Wastelands Greening

- ❖ Due to conventional land use practices, rising population, industrialisation, food demand etc. are exerting pressure on land resources that exceeded beyond its carrying capacity and resulting into land degradation.
- ❖ India has 18% of the world's population and only 2.4% of the global land area.
- ❖ Per capita availability of agriculture land in India has decreased over the years. The per capita agriculture land in India is 0.12 ha whereas world per capita agriculture land is 0.29 ha.
- ❖ India also has 12 million hectare of culturable wastelands that can support in meeting domestic demand for wood along with environment, ecology and sustainability.

10. Causes of Wasteland Formation

- ❖ Soil erosion due to high speed wind and water.
- ❖ Salinization, alkalization, inundation of land areas.
- ❖ Natural factors like tsunami, floods and tidal actions.
- ❖ Anthropogenic activities like improper agricultural practices in terms of excessive usage fertilizers, pesticides, mono cropping, improper disposal of industrial waste, illegal and indiscriminate mining of minerals, Jhumming cultivation etc.
- ❖ Climate change and Environmental conditions like changing rainfall pattern (arid, semiarid conditions).
- ❖ Management constraints.

11. Importance of Wastelands

- ❖ Provides the source of income for rural people.
- ❖ Help in maintaining an ecological balance in the area.
- ❖ Maintains the local climatic conditions.
- ❖ Ensures a constant supply of fuel, fodder and timber for local use.

12. Wasteland Reclamation

- ❖ It is the process of turning barren, sterile land into fertile land suitable for agriculture or vegetation and cultivation.
- ❖ Reclamation means recovering physical structure of land to rebuild the ecosystem. These lands can be reclaimed by three methods:
  - » Topography and Soil Management
  - » Water Management
  - » Crop Management

Places in News

Nainativu Island

Recently, the Sri Lanka Sustainable Energy Authority, the Government of Sri Lanka and the Indian company U Solar Flynn Energy Solutions signed a contract for the construction of "Hybrid Renewable Energy Systems" in Nainativu, Analaitivu, and Delft islands near the Jaffna Peninsula.

About Nainativu Island:
- Nainativu are located in the northern part of Sri Lanka, near the Jaffna Peninsula.
- It is one of the smaller islands in the region and is located in the Palk Strait, which separates Sri Lanka from the Indian mainland.
- It is famous for its religious significance, as it is home to the Nagapoosani Amman Kovil, a Hindu temple dedicated to the goddess Nagapoosani (also known as Bhuvaneshwari).
- The island is also known for its archaeological sites, which include the remains of ancient Buddhist stupas and ruins from ancient times.

Catalhoyuk

Recently, scientists in Catalhoyuk, Turkey have discovered the world's oldest bread.

About Catalhoyuk:
- Catalhoyuk is located in Anatolia, specifically in the Kumra district of Konya Province, within the Asian part of Turkey.
- Catalhoyuk in southern Anatolia is one of the largest and best preserved Neolithic sites in the world.
- Designated a UNESCO World Heritage Site in 2012, Catalhoyuk provides invaluable insights into early human settlements during the Neolithic period.

Bread Loaf:
- Researchers found a furnace-like structure in the area called "Mekan 66", in which bread loaf was found. Mekan 66 is found in Catalhoyuk region.
- Scientists conducted radiocarbon dating on the bread remains, dating it to 6600 BC, indicating an age of approximately 8,600 years.
- Bread loaf was fermented and made by mixing flour with water; wheat, barley & peas used in preparation
- Both wheat and barley were first domesticated by humans in the Fertile Crescent around 10,000 BC, marking a significant transition from hunter-gatherer to settled farming communities.

Power Packed News

Pey Jal Survekshan Award

President of India presented the first Drinking Water Survey Award on 5 March 2024 in New Delhi organised by the Union Ministry of Housing and Urban Affairs.

About Pey Jal Survekshan Awards:
- Pey Jal Survekshan (PJS) Awards are an integral part of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) 2.0.
- The primary objective is to assess and acknowledge the service level achievements related to water supply, sewerage, septage management, waste water re-use and water body conservation within the cities.
- These awards are designed to promote healthy competition between cities to encourage them to improve their water management systems.
- Under this, 130 awards will be given including Pey Jal Gold, Silver and Bronze City Awards to the top performers in different population categories.
- Additional honors will be given for Best Water Body, Sustainability Champion, Reuse Champion, Water Quality, City Saturation and the coveted Amrit 2.0 Rotating Trophy of the Year.
- This initiative not only enhances the role of women in water management but also closely aligns with the socio-economic objectives of AMRUT 2.0.

Melanochlamys droupadi

The Zoological Survey of India (ZSI) has discovered a new species of ruby red spotted head-shield sea slug which has been named Melanochlamys droupadi in honor of President Droupadi Murmu.

About Melanochlamys droupadi:
- The species, named Melanochlamys droupadi, was discovered along the coasts of West Bengal and Odisha.
- Morphological characters include a short, blunt, cylindrical body with a smooth dorsal surface and two dorsal shields anterior cephalic and posterior cephalic.
- It is a small invertebrate that reaches a maximum length of 7 mm and is brownish black in colour, with a prominent ruby red spot on its posterior end.
- It is often found in tidal areas leaving crawling marks on sandy beaches.
- The reproductive cycle of Melanochlamys droupadi occurs between the months of November and January.
- Species in this group are generally distributed in temperate regions of the Indo-Pacific Ocean region, but three species are actually distributed in tropical regions, Melanochlamys papillata from the Gulf of Thailand, Melanochlamys bengalensis from the West Bengal and Odisha coast.

Mudumalai Tiger Reserve

A herpetofaunal survey conducted in the Mudumalai Tiger Reserve recorded 82 species of amphibians and reptiles.

Mudumalai Tiger Reserve:
- Mudumalai Tiger Reserve (MTR) is a national park in the Nilgiri Mountains of Tamil Nadu.
- It is situated at the tri-junction of Karnataka, Kerala and Tamil Nadu.
- This reserve is part of the Nilgiri Biosphere Reserve which is India's first biosphere reserve established in 1986.
- It is bordered by the Wayanad Wildlife Sanctuary of Kerala in the west and the Bandipur Tiger Reserve of Karnataka in the north.
- Vegetation: The flora includes tall grasses, known as "elephant grass", giant bamboo and valuable wood species such as teak and rosewood.
- **Fauna:** It has tigers, elephants, Indian gaur, panther, sambar, spotted deer, barking deer, mouse deer, mongoose, Malabar giant squirrel and many more.

VSHORADS Missile

India has successfully test fired an ultra short range air defense missile off the coast of Odisha.

About VSHORADS Missile:

❖ Very Short Range Air Defense System (VSHORADS) is a fourth generation MANPADS (Man-Portable Air-Defense System) developed by India.

❖ It was developed by Research Center Imarat in collaboration with other Defense Research and Development Organization (DRDO) laboratories and Indian industry partners.

❖ The missile incorporates several innovative technologies including miniaturized Reaction Control System (RCS) and integrated avionics, which enhances its effectiveness in attacking targets.

❖ It is powered by a dual thrust solid motor, which provides the thrust required to intercept and neutralize airborne threats.

Vedic clock

Prime Minister Narendra Modi inaugurated the Vedic Clock in Ujjain as part of 'Vikromotsav' celebrations in Madhya Pradesh.

About Vedic Clock:

❖ Vikramaditya Vedic Clock is the world's first 'Vedic clock', designed to display time according to the ancient Indian traditional Panchang time calculation system.

❖ Located on 85-foot-tall tower within Jantar Mantar in Ujjain, Madhya Pradesh, the clock serves as a symbol of India's rich cultural heritage in keeping time.

❖ The watch not only shows time but also provides information about planetary positions, muhurat, astrological calculations and predictions. It indicates both Indian Standard Time (IST) and Greenwich Mean Time (GMT).

❖ The clock counts the time from one sunrise to the next, dividing the period between two sunrises into 30 parts.

Juice Jacking

The Reserve Bank of India (RBI) has issued a cautionary message to mobile phone users, advising them against charging their devices via public chargers. The warning is issued in the wake of rising worries about the security threats presented by the "juice jacking" cyberattack.

About Juice Jacking:

❖ The term "juice jacking" was first used by cybersecurity expert Brian Krebs in 2011.

❖ Juice jacking is a cyberattack method where hackers manipulate public USB charging ports to install malware or make changes to the hardware allowing them to steal data from connected devices.

❖ Hackers tamper with public charging ports in places like airports, hotels and shopping centers by infecting them with malware or making modifications to the hardware.

❖ This poses a significant risk to personal and financial data security as hackers can remotely access and steal sensitive information from connected devices.

❖ Mobile phone users are advised to use personal chargers and avoid connecting their devices to public USB ports to reduce the risk of juice jacking.

❖ Additionally, it is recommended to employ a Virtual Private Network (VPN) and ensure that devices have the latest security updates.

Striped Marlin

A new study published in Current Biology reveals how striped marlin coordinate its attacks to avoid injuring others.

About Striped Marlin:
- The striped marlin (Tetrapdurus andax) is known as one of the fastest animals in the ocean and an apex predator.
- It is found in tropical and temperate oceans and can grow up to 13.8 feet long and weigh up to 490 pounds.
- Its body is torpedo-like, with a dark blue or black top and a silvery-white bottom.
- When hunting in groups it displays an alternating style of attack, targeting groups of prey fish at a time.
- Rapid colour changes play an important role in this coordination; the attacking marlin becomes brighter during the attack and returns to its normal colour later.
- Colour change may serve the dual purpose of signaling attack motivation and confusing prey.
- It has been classified as "Near Threatened" by the IUCN.

Carl Gustaf M

Swedish defense major SAAB commenced construction of its new manufacturing facility in Met City, Haryana for its iconic Carl Gustaf M weapons.

About Carl-Gustaf M Weapons:
- The Carl-Gustaf M is a shoulder-launched weapon system deployed by the Indian Army.
- It is a multi-purpose, lightweight and high-impact weapon that is effective in all environments.
- It is a recoilless rifle that has been in service since 1976.
- It uses a variety of ammunition, including anti-armour, anti-structure, multi-role, anti-personnel and auxiliary rounds such as smoke and illumination.
- The system is attached to the standard clip-on telescopic sight, with additional options included, such as open sights, red dot sights and advanced fire control devices.

Indian Pharmacopoeia

Nicaragua became the first nation in the Spanish-speaking world to recognize the Indian Pharmacopoeia.

About Indian Pharmacopoeia:
- Indian Pharmacopoeia (IP) is the official book of standards of drugs in India legally recognized under the Drugs and Cosmetics Act, 1940.
- It is published by the Indian Pharmacopoeia Commission, an autonomous body under the Ministry of Health and Family Welfare.
- It has so far been recognized as the standard book by five countries, Afghanistan, Ghana, Nepal, Mauritius and Suriname.
- All drugs imported, manufactured and distributed in India must conform to the standards codified in the Indian Pharmacopoeia.

India's First Underwater Metro Rail Service

Prime Minister of India inaugurated India's first underwater metro rail service in Kolkata.

About India's first underwater metro rail service:
- The new metro line, called the Howrah Maidan-Esplanade section is the country's first transport tunnel under a major river.
- It passes beneath the Hooghly River which separates the cities of Kolkata and Howrah on its eastern and western banks.
- Howrah Metro station, part of this new line, will have the distinction of being the deepest metro station in India.
- The Howrah Maidan-Esplanade section covers a distance of 4.8 kilometers and forms the second section of the East-West Metro Corridor connecting Howrah Maidan to IT hub Salt Lake Sector-5.
- Of the 16.6 km of East-West Metro, 10.8 km includes an underground corridor between Howrah Maidan and

Phoolbagan including a tunnel under the Hooghly River while the remaining portion is elevated.

❖ The project has been termed a miracle with the trains traveling approximately 16 meters below the river surface.

Non-Lethal Military Equipment

Maldives signed its first military cooperation agreement with China, receiving free "non-lethal" military equipment and training to strengthen national autonomy.

About non-lethal weapons:

❖ Non-lethal weapons (NLW) are weapons designed to eliminate injury or death during their usage.

❖ They are used by law enforcement and military for security and protection missions.

❖ These weapons include bean bags, rubber bullets, pepper spray, electric stun guns, police batons, tear gas, chatter cannons and acoustic weapons.

❖ It may be effective for self-defense but it is not as effective as lethal weapons.

Gramdan

The Maharashtra government has notified Mendha, a village in Gadchiroli district, as a separate gram panchayat under the Maharashtra Gramdan Act, 1964.

About Gramdan:

❖ Gramdan is an extension of the Bhoodan movement started by the Gandhian Vinoba Bhave in 1951, which aimed to redistribute land to the landless.

❖ It empowers communities for self-governance and equal rights over natural resources while promoting a collective approach in society. Under Gramdan, entire villages place their land under a common trust, thereby prohibiting its sale outside the community. At least 75% of the land owners in a village must hand over land ownership to the community, which includes at least 60% of the land in the village, to obtain Gramdan status.

❖ There are a total of 3,660 Gramdan villages in seven states of India including Maharashtra, with the highest number in Odisha (1309).

❖ In September 2022, Assam repealed its Gramdan Acts to combat land encroachment issues.

❖ Mendha is known to have achieved Community Forest Rights (CFR) and is the first village in India to achieve the same after the Forest Rights Act, 2006.

Liquid Fund

Data from the Association of Mutual Funds in India (AMFI) showed that there has been a significant increase in inflows into liquid funds which increased by 69% from January to 83,642.33 crore in February.

About Liquid Funds:

❖ Liquid funds are a type of mutual fund that invests in short-term market instruments such as treasury bills, commercial papers and fixed deposits with a maturity period of up to 91 days.

❖ The primary objective of liquid funds is to provide investors a safe and liquid investment option with minimal risk and stable returns in the short term.

❖ Liquid funds are characterized by high liquidity, low risk arising from short-term investments in highly-netted debt instruments. There is a stable net asset value (NAV) per unit which provides capital preservation assurance to investors.

❖ Liquid funds are regulated by the Securities and Exchange Board of India (SEBI) under mutual fund regulations.

❖ SEBI enforces guidelines regarding investment objectives, portfolio composition and risk management to protect the interests of investors.

Coral Bleaching of the Great Barrier Reef

Australian authorities have confirmed a widespread coral bleaching event in the Great Barrier Reef observed through aerial surveys conducted by the Reef Authority and the Australian Institute of Marine Science (AIMS), indicating possible coral mortality.

About the Great Barrier Reef:

❖ The Great Barrier Reef is located off the coast of Queensland, Australia and is the largest coral reef system in the world.

❖ It extends more than 2,000 kilometers in the north-west to south-east direction, with a distance from the coast ranging from 16 to 160 kilometers and a width of 60 to 250 kilometers.

❖ It is famous for its rich marine biodiversity that is home to thousands of species of fish, coral and other marine life, including endangered species such as the dugong and the green sea turtle.

❖ It was designated a UNESCO World Heritage Site in 1981 because of its outstanding universal value as one of the most diverse ecosystems on the planet.

❖ It has suffered coral bleaching several times in recent past due to rising sea temperatures caused by climate change.

❖ Coral bleaching occurs when corals expel symbiotic algae, which if prolonged or severe causes the death of corals.

Sudha Murthy Nominated for Rajya Sabha

Sudha Murthy was nominated to Rajya Sabha by President Draupadi Murmu on 8 March 2024 on International Women's Day.

About Sudha Murthy:

❖ Sudha Murthy, born on 19 August 1950 in Karnataka, is an Indian teacher, writer, philanthropist and former chairperson of the Infosys Foundation.

Contribution:

❖ Infosys co-founder N. R. Narayana Murthy's wife Sudha Murthy is the first woman engineer at Tata Engineering and Locomotive Company (TELCO).

❖ Her notable works include "How I Taught My Grandmother to Read", "Wise and Otherwise" and "Dollar Bahu".

Awards and Honors:

❖ She was awarded the Padma Shri in 2006 and the Padma Bhushan in 2023.

❖ In 2006 she received the R.K. Narayan Award for Literature.

❖ She has been awarded the Raja-Lakshmi Award and the Sahitya Akademi Children's Literature Award for her literary contributions.

Golden Langur

A comprehensive survey conducted by the Primate Research Center NE India, Assam Forest Department, Bodoland Territorial Council, SACON and Conservation Himalayas revealed that the estimated population of golden langurs in India is 7,396.

About Golden Langur:

❖ The golden langur, scientifically known as Trachypithecus geei, belongs to the Cercopithecidae family and the Trachypithecus genus.

❖ It is found mainly in the north-eastern region of India especially in the states of Assam, West Bengal and Meghalaya.

❖ It lives in forested areas, including tropical and subtropical forests.

❖ It has a long tail, well-developed limbs and a relatively small head with a small face.

❖ It lives in both primary and secondary forests as well as in areas adjacent to rivers and streams.

❖ It is primarily arboreal, spending most of its time on trees, but also foraging on the ground for food.

❖ The golden langur eats a variety of leaves, fruits, flowers and seeds.

❖ The golden langur is classified as an endangered species in the International Union for Conservation of Nature (IUCN) Red List.

Gorsam Kora Festival

Gorsam Kora Festival was celebrated at Gemidhang in Tawang district of Arunachal Pradesh.

About Gorsam Kora Festival:

❖ The Gorsam Kora Festival is an annual festival that celebrates the friendship between India and Bhutan and includes cultural programs and Buddhist rituals.

❖ The festival takes place at Gorsam Chorten, a 93-foot-high stupa, built by a local monk in the 13th century.

❖ Thousands of devotees, including Bhutanese citizens and Buddhist monks, participate in the festival.

❖ The celebration began with an invocation led by Taktse Rinpoche, followed by prayers at the Khinjemne sacred tree.

❖ The Khinjemne sacred tree is believed to have been planted by the 14th Dalai Lama in 1959 while he was visiting India via the Khinjemne-Zemithang route at Tawang.

❖ This year's festival focused on being a 'Zero Waste Festival' (garbage-free festival), with a cleanliness drive run by the Further and Beyond Foundation.

Rhodamine B (RhB)

Karnataka government has banned the use of harmful coloring substance, Rhodamine B, in cotton candy and cabbage Manchurian and warned of strict action against violators.

About Rhodamine B:

❖ Rhodamine B (Ruby) is a water soluble chemical compound that belongs to the family of xanthine dyes.

❖ It is a bright pink to red fluorescent dye that is often used as a coloring agent in industrial applications (textile, paper, leather and paint industries), cosmetics, inks, food coloring and various consumer products.

❖ It exhibits strong fluorescence under ultraviolet (UV) light, making it useful in fluorescence microscopy, flow cytometry, and various diagnostic tests.

❖ It is also used in biological staining techniques to visualize cell structures and in medical diagnostics to detect specific biomolecules.

❖ If consumed regularly, it can seriously damage the cerebellum tissue in the brain and the brainstem that connects the brain to the spinal cord.

❖ Preparing, packing, importing, selling and serving food items containing Rhodamine B at wedding ceremonies and public events is punishable under the Food Safety Standards Act, 2006.

Private Placement

Securities and Exchange Board of India (SEBI) has taken an important decision to repeal certain circulars related to allotment of securities through the private placement route.

About Private Placement:

❖ Private placement refers to the process of a company issuing securities to a select group of investors without making a public offering.

❖ The placement is governed by the regulations laid down by the Securities and Exchange Board of India (SEBI) under the Companies Act of 2013.

❖ The limit for private placement under the Companies Act of 1956 was to issue securities to 49 people.

❖ This was increased to 200 investors under the Companies Act of 2013.

❖ It is often used by companies to raise capital for various purposes such as expansion, loan repayment or working capital needs.

❖ Companies involved in private placement must comply with the disclosure requirements specified by SEBI to

ensure transparency and protection of investors' interests.

❖ Non-compliance with regulations governing private placement may result in penalties being imposed by SEBI or other regulatory authorities.

❖ In some cases, SEBI may provide concessions to companies issuing securities in excess of the prescribed investor limit, subject to fulfillment of specific conditions, such as providing options for withdrawal or higher returns to investors.

Kochrab Ashram

Prime Minister of India inaugurated the redeveloped Kochrab Ashram at Mahatma Gandhi Ashram in Sabarmati, Ahmedabad, Gujarat and launched the master plan of the Gandhi Ashram Memorial.

About Kochrab Ashram:

❖ Kochrab Ashram is a colonial-style white-coloured building located in Kochrab village, Gujarat.

❖ It was initially named Satyagraha Ashram, reflecting Gandhi's philosophy of non-violent resistance in the Indian freedom struggle.

❖ It was the first ashram established by Mahatma Gandhi on his return to India from South Africa in 1915.

❖ This ashram was the center of various programmes, experiments in self-reliance and community living.

❖ Jeevanlal Desai, a practicing lawyer and associate, helped Gandhiji establish the Kochrab Ashram.

❖ It symbolizes Gandhi's principles of truth, non-violence and simplicity which still inspire people globally.

Sangita Kalanidhi Award

Carnatic singer and Magsaysay Award winner T. M. Krishna has been selected for the Sangita Kalanidhi Award of the Music Academy for 2024.

About Sangita Kalanidhi Award:

❖ Sangita Kalanidhi is an award given by the Madras Music Academy to a Carnatic musician and is considered the highest honor in the field of Carnatic music.

❖ The award consists of a gold medal and a citation.

❖ It has been in existence since 1942.

❖ Sangita Kalanidhi is considered to be the equivalent of an Oscar for Carnatic music.

❖ It is a landmark institution in the history of fine arts and emerged as a branch of the All India Congress session held in Madras in December 1927.

About Carnatic Music:

❖ Carnatic music is a special type of music of South India which includes states like Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu. This musical tradition also spreads its influence to the neighboring Sri Lanka.

❖ In Carnatic music, there are beautiful melodies and rhythmic patterns, with performers often creating the music on the spot, using scales called ragas and rhythmic cycles known as talas. Carnatic music originated from ancient Hindu traditions in South India, similar to Hindustani music, which developed in the north under the influence of Persia and Islam.

SAKHI App

Indian Space Research Organization facility Vikram Sarabhai Space Center (VSSC) at Thumba, Thiruvananthapuram has developed a SAKHI app.

About SAKHI app:

❖ SAKHI (Space-borne Assistant and Knowledge Hub for Crew Interaction) is a multi-purpose app developed by Vikram Sarabhai Space Center (VSSC) to assist astronauts during the Gaganyaan space flight mission.

❖ VSSC has successfully tested the engineering model of a custom-built, hand-held smart device featuring SAKHI.

- ❖ It provides astronauts with access to critical technical information needed for the mission.
- ❖ It facilitates communication between crew members for coordination and information sharing.
- ❖ It monitors the health status of astronauts during missions.
- ❖ It alerts astronauts about their diet program to maintain their health in space.

Flatworm Parasite (Liver Fluke)

Scientists at the University of California, Riverside, confirmed the presence of a dog-killing flatworm parasite (liver fluke) in the Colorado River in Southern California that was previously thought to be limited to the Southeastern United States but is now widespread in western parts of the United States.

About Liver Fluke Parasite:
- ❖ Heterobilharzia americana, also known as the liver fluke parasite, is a flatworm that infects mammals, particularly dogs and raccoons.
- ❖ Dogs become infected when they visit or swim in freshwater habitats containing infected snails that act as intermediate hosts for the parasite.
- ❖ The parasite enters the dog's body through the skin and moves into the veins lining the intestines, where it matures into an adult and reproduces.
- ❖ The eggs laid by the adult parasite can cause serious damage to organs such as the liver, spleen and heart.
- ❖ Infection with H. americana can cause canine schistosomiasis, which is characterized by liver damage, intestinal problems, weakness and in severe cases, death.

Bugun Tribe

Bugun tribe near Eaglenest Wildlife Sanctuary in Arunachal Pradesh donated 1,470 hectares of forest land to the state forest department to protect the critically endangered Bugun Liocichla songbird.

About Bugun Tribe:
- ❖ The Buguns, formerly known as Khowa, are one of India's earliest recognized Scheduled Tribes.
- ❖ They primarily inhabit the Singchung Sub-Division of West Kameng District in Arunachal Pradesh.
- ❖ Agriculture has been their main occupation, supplemented by fishing, hunting, and cattle rearing.
- ❖ The Bugun tribe has a rich cultural heritage comprising folklores, songs, dances, music and rituals.
- ❖ Bugun language is classified as one of the Bugunish/Ka menic languages under Kho-Bwa languages.
- ❖ It is considered endangered by UNESCO, with around 10,000 speakers concentrated mainly in the Kameng district of Arunachal Pradesh.
- ❖ Buguns traditionally followed animistic beliefs but have been influenced by Buddhism (Mahayana) and Hinduism, particularly from neighboring ethnic groups like the Sherdukpen.

Bugun Liocichla Songbird:
- ❖ The Bugun Liocichla (Liocichla bugunorum) is a small, olive-grey babbler with a black cap that is only 20 cm long and closely related to the Emei Shan liocichla.
- ❖ It is listed as Critically Endangered because its population is believed to be declining due to habitat loss and degradation.
- ❖ It was first spotted in 1995 in Eaglenest Wildlife Sanctuary and described as a new species in 2006 by Dr. Ramana Athreya.

BhashaNet Portal

National Internet Exchange of India (NIXI) and the Ministry of Electronics and Information Technology (MeitY) has unveiled the BhashaNet portal on Universal Acceptance (UA) Day, March 21, 2024, at the Dr Ambedkar International Centre in New Delhi.

About BhashaNet Portal:

❖ The BhashaNet Portal is an online platform, aims to promote digital inclusion by ensuring that individuals, regardless of language or script, can fully participate in the digital world.

❖ This initiative demonstrates the joint commitment of NIXI and MeitY to advancing digital inclusion and promoting Universal Acceptance across the nation.

❖ **Theme:** "BhashaNet: Impetus Towards Universal Acceptance"

❖ The theme highlights the portal's dedication to bridging linguistic divides and ensuring access to digital resources for all citizens.

❖ UA Day serves as a platform to mobilize stakeholders and raise awareness about the importance of Universal Acceptance readiness in today's digital landscape.

❖ This portal is expected to provide resources and tools to support digital content creation, localization and accessibility in multiple languages and scripts.

❖ By facilitating access to digital resources in diverse languages, the portal has the potential to empower marginalized communities, promote cultural diversity and enhance digital literacy nationwide.

Pebanista Yacuruna

Researchers from the University of Zurich unveiled the existence of the largest river dolphin species in Peru's Amazon Basin, dating back 16 million years.

About Pebanista Yacuruna:

❖ Pebanista Yacuruna belongs to the Platanistoidea group.

❖ The name "Pebanista Yacuruna" is derived from the Northern Quechua word for a mythical aquatic creature believed to inhabit the Amazon basin.

❖ Its identity was confirmed through the discovery of a fossilized skull, indicating a length of 3.5 meters, making it the largest of its kind.

❖ It shares its closest living relatives with South Asian river dolphins, including the Ganges river dolphin and the Indus river dolphin.

❖ Notably, these dolphins exhibit shared features such as highly developed facial crests specialized for echolocation.

❖ Its ancestors were originally marine mammals that adapted to freshwater ecosystems in proto Amazonia, thriving in the Pebas system of lakes and swamps.

❖ It is not closely related to the Iniidae family but shares affinities with the Platanista genus.

❖ Pebanista Yacuruna possessed highly developed echolocation abilities crucial for navigation and prey detection.

Sound Laser

The scientists in China have created an unprecedentedly bright sound laser that shoots particles of sound instead of light.

About Sound Laser:

❖ The sound laser is analogous to a traditional light laser, utilizing the principles of Sound Amplification by Stimulated Emission of Radiation (SASER), similar to the amplification of light in lasers.

❖ SASER technology was first developed in 2009, marking a significant milestone in the field of acoustics and sound manipulation.

❖ It is a new laser technology that uses two light beams to levitate a silica bead and create phonons, which are particle-like chunks of sound.

❖ This levitation leads to the production of amplified phonons, forming the sound laser beam.

One Liners

1. King Charles III of the United Kingdom has honored Sunil Bharti Mittal with an honorary knighthood.
2. The growth rate of eight core industries fell to 3.6% in January 2024, a 15-month low.
3. The 4th Khelo India University Games (KIUG) 2023 concluded in Guwahati on 29 February 2024.
4. Prime Minister Shri Narendra Modi and Mauritian Prime Minister jointly inaugurated new Airstrip and a Jetty at Agalega Island in Mauritius.
5. The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, has approved PM-Surya Ghar: Muft Bijli Yojana with a total outlay of Rs. 75,021 crore for installing rooftop solar and providing free electricity up to 300 units every month for One Crore households.
6. Finance Secretary TV Somanathan will head the committee on uniform Know Your Customer (KYC).
7. The government has approved three proposals to set up semiconductor units in India including two plants by the Tata Group in Gujarat and Assam, and one by the Murugappa Group-owned CG Power in Gujarat.
8. The Government of Odisha has decided to set up the State Water Informatics Centre.
9. UP has become the first state in the country to issue five crore Ayushman cards under Ayushman Bharat PMJAY.
10. Chapchar Kut was celebrated in Mizoram with traditional enthusiasm and joy across the state on March 1.
11. FIU-Ind has imposed a fine of 5.49 crore on Paytm Payments Bank for violations of the Prevention of Money Laundering Act (PMLA).
12. Alliance for Global Good – Gender Equity and Equality has been launched by India.
13. On March 1, Union Minister Nitin Gadkari laid the foundation stone of Dharma Path in Jaunpur, Uttar Pradesh.
14. Flight test of Very Short Range Air Defense System successfully conducted by DRDO.
15. IPS officer Daljit Singh Chaudhary has been appointed Director General of NSG.
16. Union Minister of Education & Skill Development & Entrepreneurship launched Project Odiserv in Odisha.
17. On 3 March, Shehbaz Sharif became the Prime Minister of Pakistan for the second time.
18. The first indigenously built hydrogen electrolyzer was commissioned by Larsen & Toubro (L&T) at its green hydrogen plant in Hazira, Gujarat.
19. Maritime Exercise Samudra Lakshman between India & Malaysia was conducted off Visakhapatnam from 28 February to 2 March 2024.
20. NITI Aayog member Dr. V.K. Paul launched National Birth Defects Awareness Month 2024.
21. Lakshmi Murdeshwar Puri, Former Assistant Secretary General, UN launched her first book "Swallowing the Sun" in Mumbai.
22. Defense Minister Rajnath Singh inaugurated DefConnect 2024 in New Delhi.
23. Union Minister Sarbananda Sonowal dedicated the first made-in-India ASTDS tug to the nation.
24. National Workshop on Logistics Efficiency Enhancement had been jointly organized by DPIIT and the World Bank.
25. France became the first country to include the right to abortion in its constitution.
26. India's first Green Hydrogen Plant in the stainless steel sector has been inaugurated at Jindal Stainless Limited, Hisar, Haryana.
27. B Sai Praneeth has announced his retirement from international badminton.
28. Union Minister Dr Mansukh Mandaviya launched the AYUSH-ICMR Advanced Centre for Integrated Health Research in AIIMS New Delhi.
29. Interoperability of digital payment systems for internet banking will be launched in 2024, enabling seamless transactions across various digital payment systems.
30. Keyi Panayor became the 26th district of Arunachal Pradesh.

31. Kerala launched India's first government-backed OTT platform.

32. Union Minister of Petroleum and Natural Gas Hardeep Singh Puri inaugurated India's first small scale LNG unit at GAIL's Vijaipur complex in MP.

33. The Geographical Indications Registry in Chennai has granted the Geographical Indication (GI) tag to Cuttack Rupa Tarakasi (Silver Filigree).

34. PM Modi inaugurated India's first underwater metro service in Kolkata.

35. Puneri Paltan won the PKL Season 10 title.

36. The 'Women, Business and Law 2024' report has been released by the World Bank Group.

37. Yatin Bhaskar Duggal of Haryana won the first prize in the 5th National Youth Parliament Festival 2024.

38. According to NSO data, India's unemployment rate is expected to fall to 3.1% in 2023.

39. Chhattisgarh-based Coal India's subsidiary South Eastern Coalfields Limited's Gevra mine is set to become Asia's largest coal mine.

40. Union Minister Piyush Goyal launched 'e-Kisan Upaj Nidhi' to ease the storage facilities of farmers.

41. Railway and IT Minister Ashwini Vaishnav launched NITI Aayog's 'NITI for States' platform.

42. Khelo India athletes have now been made eligible for government jobs.

43. Dr. S. Jaishankar co-chaired the 10th India-South Korea Joint Commission Meeting in Seoul.

44. Fourth women policy was unveiled by Maharashtra on Women's Day.

45. Sweden officially becomes the 32nd member of NATO.

46. Operation Kamdhenu has been launched by Jammu and Kashmir Police.

47. Karnataka and World Economic Forum join hands to set up a center for Artificial Intelligence.

48. Asif Ali Zardari became the 14th President of Pakistan.

49. Devendra Jhajharia has been elected President of the Indian Paralympic Committee.

50. Oppenheimer received six Oscar awards, including Cillian Murphy for Best Actor and Christopher Mallon for Best Director.

51. India has become the second largest mobile phone producer in the world.

52. Satwiksairaj Rankireddy and Chirag Shetty won the doubles title at the French Open badminton tournament.

53. NPCI International Payments Ltd (NIPL) and Fonepay Payment Service have signed a deal for cross-border transactions between India and Nepal.

54. Shri A S Rajeev has been appointed as Vigilance Commissioner by the Hon'ble President of India on February 09, 2024.

55. Asia's first certified green municipal bond has been issued by Vadodara Municipal Corporation.

56. A novel insurance scheme has been launched for Indian workers in the UAE.

57. Ashwini Vaishnav launched India's fastest and indigenously developed IP/MPLS (Multiprotocol Label Switching) router in Bengaluru.

58. "Mukhyamantri Yuva Udyami Vikas Abhiyan (MYUVA)" scheme launched by CM Yogi adiyanath to empower young entrepreneurs in Uttar Pradesh.

59. Japanese architect and social advocate, Riken Yamamoto wins Pritzker Prize 2024.

60. 'Mahatari Vandana Yojana' has been launched by PM Modi in Chhattisgarh.

61. Union Minister Rajiv Chandrashekhar inaugurated India's first FutureLabs center at C-DAC Thiruvananthapuram.

62. Inflation remained stable at 5.09% in February compared to 5.1% in January.

63. Amitav Ghosh has won the Erasmus Prize 2024.

64. Kempegowda International Airport has been recognized as the best airport for arrivals globally.

65. From March 7 to March 10, the Gorsam Kora Festival was celebrated at Gemithang in Tawang district of Arunachal Pradesh.

66. On March 11, Mr. Kishor Makwana took over as Chairman of the National Commission for Scheduled Castes (NCSC) in New Delhi.

67. PM inaugurated 'One Station One Product' (OSOP) stalls at 205 railway stations.

68. Naval Exercise "Cutlass Express" - 24 conducted at Port Victoria, Seychelles.

69. The Cabinet approved the signing of agreement between India and Bhutan in the field of food security.

70. The Inter-Governmental Framework Agreement between India and the United Arab Emirates has been approved by the Cabinet.

71. Electric Mobility Promotion Scheme 2024 has been announced by the Ministry of Heavy Industries.

72. India signed a loan agreement with the Asian Development Bank (ADB) for Ahmedabad.

73. The 12th edition of the India-Italy Military Cooperation Group meeting was held in New Delhi.

74. India's first auto in-plant railway siding project of MSIL was unveiled by PM Modi.

75. Justice Satyendra Kumar Singh has been appointed as the new Lokayukta of Madhya Pradesh.

76. A new scorpion species with eight eyes and legs has been discovered in Thailand.

77. Indian Air Force (IAF) conducted Exercise Gagan Shakti-2024 from 1-10 April.

78. PR Sreejesh and Camila Carom have been appointed as co-chairs of the new FIH Athlete Committee of the International Hockey Federation.

79. UNEP and WRAP jointly release the Food Waste Index Report 2024.

80. France is set to become the first country to pass a bill to tackle child discrimination.

81. The report was submitted to IFSCA by the expert committee constituted to develop GIFT IFSC as a 'Global Finance and Accounting Hub'.

82. The composite index of eight core industries increased by 6.7% (provisional) in February 2024 compared to the index for February 2023.

83. The Armenian Parliamentary Delegation and the Indian Parliamentary Delegation held a bilateral meeting.

84. A database has been launched by India to record crimes against UN peacekeepers.

85. Hansha Mishra has been appointed Director of the Union Public Service Commission (UPSC) in Delhi.

86. Justice Ritu Raj Awasthi took oath as Judicial Member of the Lokpal of India.

87. Maharashtra Anti-Terrorism Squad chief Sadanand Vasant Date has been appointed as the Director General of the National Investigation Agency.

88. A new species of isopod discovered near Kollam has been named Brucethoa isro in honour of the Indian space agency.

89. The International Astronomical Union (IAU) has given its approval to the name 'Shiva Shakti' for the landing site of India's Chandrayaan-3 mission.

90. Indian Navy's maritime security operation 'Operation Sankalp' ended on 23 March.

91. The International Labor Organization (ILO) and the Institute for Human Development (IHD) have released the India Employment Report 2024.

92. Abhay Thakur has been appointed as the Ambassador of India to Myanmar.

93. Sreeja Akula won the women's singles title at the WTT Feeder Beirut II 2024 table tennis tournament.

94. Zero orbital debris mission was accomplished by ISRO's POEM-3 mission.

Pre Special: Miscellaneous

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Report and Index

World Bank:
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- Universal Health Coverage Index
- The Service trade restriction index
- Ease of Living Index
- Global Economic Prospect Report
- World Development Report
- Ease of Doing Business

World Economic Forum (WEF):
- Engaging Tomorrow's Consumer Report
- Global Gender Gap Report
- Global Information Technology Report
- Human Capital Report
- Global Risk Report
- Travel and Tourism Competitiveness Report
- Global Competitive Index
- Global Energy Architecture Performance Index Report
- Inclusive growth & Development Report
- Environmental Performance Index

International Energy Agency (IEA):
- World Energy Outlook
- Net Zero by 2050: A Roadmap for the Global Energy Sector

United Nations Conference on Trade and Development (UNCTAD):
- Technology and Innovation Report
- World Investment Report
- Information Economy Report
- Trade & Development Report

UN-Habitat:
- World Cities Report

International Labour Organisation (ILO):
- World Employment and Social Outlook
- Global Wage Report
- World Social protection Report

United Nations Environment Programme (UNEP):
- Emission Gap Report
- Global Environment Outlook

Food and Agriculture Organisation (FAO):
- State of the World's Forest Report

World Intellectual Property Organisation:
- World Intellectual Property Report

International Food Policy Research Institute (IFPRI):
- Global Hunger Index Report

Reporters Without Borders:
- World Press Freedom Index

United Nations Development Programme:
- Gender Inequality Index

World Wide Fund for Nature (WWF):
- The Energy Report & Living Planet Report

UN-Sustainable Development Solutions Network (SDSN):
- World Happiness Report

United Nations Industrial Development Organisation (UNIDO):

• Industrial Development Report

United Nations Office on Drugs and Crime (UNODC):

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Transparency International:

• Corruption Perception Index
• Global Corruption Report

World Health Organisation (WHO):

• Ambient Air pollution Report

Bank for International Settlements (BIS):

• Global Financial System Report

Financial Action Task Force (FATF):

• Global Money Laundering Report

International Monetary Fund (IMF):

• World Economic Outlook
• Global Financial Stability Report

Organisation for Economic Development (OECD):

• Programme for International Student Assessment

Awards

Sahitya Akademi Awards, 2023:

• Twenty-four writers, including English author Neelum Saran Gaur and Hindi novelist Sanjeev, received the Sahitya Akademi Award for 2023. The awards were given for literary works including nine books of poetry, six novels, five of short stories, three essays and one literary study.
• Sahitya Akademi Award was established in the year 1954.
• This award is presented annually by the Sahitya Akademi
• Apart from the 22 languages included in the Constitution of India, this award is also given in English and Rajasthani.
• The Sahitya Akademi Award is the second-highest literary honour conferred by the Government of India after the Jnanpith Award.
• The first winner of the Sahitya Akademi Award was

RK Narayan, who was given the award in 1960 for his novel 'The Guide'.

Indira Gandhi Prize for Peace, Disarmament and Development 2023:

• Indira Gandhi Prize for Peace, Disarmament and Development for 2023 has been jointly awarded to Daniel Barenboim and Ali Abu Awwad for their efforts in bringing together the youth and peoples of Israel and the Arab World for a non-violent resolution of the Israel-Palestine conflict.
• The Indira Gandhi Prize for Peace, Disarmament, and Development award has been conferred every year since 1986 by Indira Gandhi Memorial Trust in honor of Indira Gandhi, the former Prime Minister of India.

Major Dhyan Chand Khel Ratna Award 2023:

• Awarded to-
  » Shri Chirag Chandrashekhar Shetty - Badminton
  » Shri Rankireddy Satwik Sai Raj - Badminton
• Major Dhyan Chand Khel Ratna Award is given for the spectacular and most outstanding performance in the field of sports by a sportsperson over the period of the previous four years.
• This award was started in 1991–1992. Its prize money is Rs. 25 lakh.

Norman Borlaug Field Award 2023:

• Swati Nayak has been named the 2023 recipient of the Norman E. Borlaug Award for Field Research and Application, Endowed by the Rockefeller Foundation.

Operations Launched by Indian Government

• **Operation Kaveri:** Launched by Indian government in April 2023 to evacuate Indian citizens in Sudan.
• **Operation Ganga:** Launched by Indian government in 2022 evacuated Indians from Ukraine.
• **Operation Devi Shakti:** Launched by Indian government in 2021 to Evacuate Indian citizens from Afghanistan(Taliban)
• **Vande Bharat:** Launched by Indian government in 2020 to repatriate its citizens stranded abroad amidst the Coronavirus.
• **Operation Samudra Setu:** Launched by the Indian Navy in 2020 to repatriate Indian citizens stranded broad amidst the Coronavirus.

- **Operation Raahat:** Launched by Indian government 2015 to evacuate Indians stuck in Yemen.
- **Operation Maitri:** Launched by Indian government 2015 aimed to aid Nepal recovery and rescue after earthquake.

Person in News

- **Captain Geetika Koul** has become the first woman medical officer in the Indian Army to be deployed at Siachen in December 2023.
- **Kabir Bedi** was honoured with the highest civilian honour of Italy (Merito della Repubblica Italiana) in December 2023.
- **Kanchan Devi** became the first Women director of Indian Council of Forestry research Education.
- **Arundhati Roy** was honoured with P.Govinda Pillai Memorial National Award on December 13, 2023.
- **Captain Fatima Washim** became the first women medical officer in the Indian Army to be deployed on an operational post on Siachen Glacier.
- Poland's parliament has elected centrist party leader **Donald Tusk** as prime minister.
- **Nina Singh** became the first woman Director General of theof the Central Industrial Security Force (CISF).
- **Dr. Saveera Parkash** has become the first woman from the minority Hindu community to run in the provincial elections in Pakistan's restive Khyber Pakhtunkhwa (KPK) province.
- **Saima Wazed** was nominated as the next Regional Director for the World Health Organization's South-East Asia region on November 1, 2023.
- **Shital Mahajan** became the first woman in the world to jump off a helicopter from a height of 21,500 feet in front of Mt Everest on November 13, 2023.
- **Shakuntla Bhaya** was appointed as a member of the Council of the Administrative Conference of the United States on November 15, 2023.

Places in News

Kozhikode and Gwalior:
- Kozhikode in Kerala and Gwalior in Madhya Pradesh have made it to the prestigious creative cities list of UNESCO for contributions in the fields of literature and music respectively.

Kongthong Village:
- On the occasion of World Tourism Day 2023, Kongthong Village in the East Khasi Hills district of Meghalaya achieved a remarkable milestone by winning the prestigious title of "Best Tourism Village 2023" (Bronze) at the esteemed National Tourism Awards, 2023.

Byculla Railway station:
- The historic Byculla Railway Station, located in Mumbai received the prestigious UNESCO Asia Pacific Cultural Heritage award.

Zanzibar:
- Indian Institute of Technology (IIT) Madras opened its first-ever overseas campus in Tanzania's Zanzibar in October 2023.

Bhopal:
- Bhopal in Madhya Pradesh has become the first city in India to adopt the localisation of the United Nations-mandated sustainable development goals (SDG).

Hingoli:
- The Union Cabinet has approved an advance gravitational wave detector in Hingoli district, Maharashtra.

Badwater Basin in Death Valley:
- Contrary to its dry reputation, Badwater Basin in Death Valley, California, USA has accommodated an ephemeral lake (Lake Manly) for a prolonged duration.

Aral Sea:
- NASA has reported that, the climate change is accelerating the demise of the Aral Sea.

Seine River:
- The opening ceremony of the Paris Olympics on July 26, 2024, will be held on the River Seine.

Lake Retba:
- Lake Retba, which is nearly lifeless, is at risk of vanishing due to the impacts of pollution and mining.

Zemithang:
- The National Conference on Nalanda Buddhism: Re-tracing the Source in the Footsteps of Acharyas: from Nalanda to Himalayas and Beyond' on 17th April, 2023 at GorsamStupa, Zemithang, Tawang, Arunachal Pradesh was organised by the Indian Himalayan Council of Nalanda Buddhist Traditions (IHCNBT).

Ogaswara Island Chain:
- An undersea volcano eruption led to the creation of a

new island near Japan's Ogaswara island chain.

- The Ogasawara Islands also known as the Bonin Islands, are a chain of volcanic islands in the Pacific Ocean, about 1000 kilometers south and administrated by Tokyo.

Belgorod Region:

- Russia has claimed that its air defence systems destroyed 12 Ukraine-launched missiles over Belgorod region along the border.

Ubinas Volcano:

- The government of Peru declared a 60-day state of emergency in the southern department of Moquegua due to the eruption of the Ubinas volcano.

Lithium Triangle:

- The Lithium Triangle is a region of the Andes that is rich in lithium reserves, encompassed by the borders of Argentina, Bolivia, and Chile.

Berbera Port of Somaliland:

- Ethiopia has struck a historic deal to use Somaliland's Berbera port in the breakaway region of Somaliland for shipping.

Afar Triangle:

- The African continent is undergoing a significant geological event in the Afar Triangle (also known as the Afar Depression), which might lead to the creation of a new ocean. This phenomenon is a result of the tectonic activities in the region.

Lake Titicaca:

- Experts have found that Lake Titicaca is shrinking due to climate change. Lake Titicaca, straddling the border between Peru and Bolivia in the Andes Mountains, is one of South America's largest lakes and the world's highest navigable body of water.

Tuvalu:

- The sinking nation of Tuvalu signs pact with Australia for refuge. Tuvalu, in the South Pacific, is an independent island nation within the British Commonwealth.

Cocos (Keeling) Islands:

- Indian Navy and Indian Air Force aircraft visited cocos asland. The Cocos (Keeling) Islands are a remote territory of Australia in the Indian Ocean.

Kuril Islands:

- Earthquake of magnitude 6.3 on the Richter scale occurred in Kuril Islands. Kurile Islands are a volcanic archipelago administered as part of Sakhalin Oblast in the Russian Far East.

Angola:

- Angola has left the Organization of the Petroleum Exporting Countries (OPEC). Angola is African country and border Atlantic Ocean.

Essequibo Region:

- Essequibo region comprises roughly the western two-thirds of Guyana but is also claimed by Venezuela. The Guyana–Venezuela territorial dispute is an ongoing territorial dispute between Guyana and Venezuela over the Essequibo region.

Avdiivka and Robotyne:

- Russia was intensely attacking the eastern town of Avdiivka and the southern village of Robotyne in Ukraine.

Gulf of Guinea:

- Indian Navy has completed the second anti-piracy patrol in Gulf of Guinea in Atlantic Ocean. The Gulf of Guinea is the northeasternmost part of the tropical Atlantic Ocean from Cape Lopez in Gabon, north and west to Cape Palmas in Liberia.

Red Sea:

- India-bound cargo ship called Galaxy Leader was hijacked by Houthi rebels in Red Sea near Yemen's port city of Hodeida, near the coast of Eritrea. The Red Sea is a sea inlet of the Indian Ocean, lying between Africa and Asia. Its connection to the ocean is in the south, through the Bab-el-Mandeb strait and the Gulf of Aden.

Key Words: Science

Artificial Intelligence:

- Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Artificial intelligence (AI) is the sub intelligence exhibited by machines or software, and the branch of computer science that develops machines and software with human-like intelligence. The central functions (or goals) of AI research include reasoning, knowledge, planning, learning, natural language processing (communication), perception and the ability to move and manipulate objects.

3D Printing:

- 3D printing, also known as additive manufacturing, has been posited by Jeremy Rifkin and others as part of the third industrial revolution.

- Combined with Internet technology, 3D printing, also known as additive manufacturing is a method of creating a three dimensional object layer-by-layer using a computer created design.

Gene Therapy:

- Gene therapy is a technique that modifies a person's genes to treat or cure disease. Gene therapy was first successfully demonstrated in late 1990/early 1991 for adenosine deaminase deficiency.

Nanotechnology:

- Nanotechnology is the manipulation of matter on nano scale to produce new structures, materials and devices. The technology promises scientific advancement in many sectors such as medicine, consumer products, energy, materials, and manufacturing.

- Nanotechnology also lowers costs, produces stronger and lighter wind turbines, improves fuel efficiency and, thanks to the thermal insulation of some nanocomponents, can save energy.

Stem-Cell Therapy:

- Stem cell therapy is an intervention strategy that introduces new adult stem cells into damaged tissue in order to treat disease or injury. Many medical researchers believe that stem cell treatments have the potential to change the face of human disease and alleviate suffering. The ability of stem cells to self-renew and give rise to subsequent generations with variable degrees of differentiation capacities offers significant potential for generation of tissues that can potentially replace diseased and damaged areas in the body, with minimal risk of rejection and side effects.

CAR T-cell Therapy:

- A type of treatment in which a patient's T cells (a type of immune cell) are changed in the laboratory so they will bind to cancer cells and kill them. The CAR T cells are able to bind to an antigen on the cancer cells and kill them.

Distributed Ledger Technology or Blockchain:

- Distributed ledger technology (DLT) is a digital system for recording the transaction of assets in which the transactions and their details are recorded in multiple places at the same time. Unlike traditional databases, distributed ledgers have no central data store or administration functionality.

Seawater Greenhouse:

- A seawater greenhouse is a greenhouse structure that enables the growth of crops and the production of fresh water in arid regions which constitute about one third of the earth's land area. This is in response to the global water scarcity and peak water and the salt-infecting soil.

Technological Singularity:

- The technological singularity or simply the singularity is a hypothetical point in time at which technological growth becomes uncontrollable and irreversible, leading to unforeseeable changes to human civilization.

Exascale Computing:

- Exascale computing is a new level of supercomputing capable of at least one exaflop floating point calculations per second to support the expansive workloads of converged modeling, simulation, AI, and analytics.

LiFi:

- LiFi is a Visible Light Communications system transmitting wireless internet communications at very high speeds. The technology makes a LED light bulb emit pulses of light that are undetectable to the human eye and within those emitted pulses, data can travel to and from receivers. LiFi transmission speeds can go over 100 Gbps, 14 times faster than WiGig, also known as the world's fastest WiFi.

Radio Frequency Identification:

- Radio Frequency Identification (RFID) refers to a wireless system comprised of two components: tags and readers. The reader is a device that has one or more antennas that emit radio waves and receive signals back from the RFID tag.

- It is used in several commercial and industrial applications, from tracking items along a supply chain to keeping track of items checked out of a library.

Quantum Computing:

- Quantum computing is an area of computer science that uses the principles of quantum theory. Quantum theory explains the behavior of energy and material on the atomic and subatomic levels.

- Quantum computing uses subatomic particles, such as electrons or photons. Quantum bits, or qubits, allow these particles to exist in more than one state (i.e., 1 and 0) at the same time.

- Quantum computing could contribute greatly to the fields of security, finance, military affairs and

intelligence, drug design and discovery, aerospace designing, utilities (nuclear fusion), polymer design, machine learning, artificial intelligence (AI), Big Data search, and digital manufacturing.

Quantum Cryptography:

• Quantum cryptography is a method of encryption that uses the naturally occurring properties of quantum mechanics to secure and transmit data in a way that cannot be hacked.

• Cryptography is the process of encrypting and protecting data so that only the person who has the right secret key can decrypt it.

Immersive Virtual Reality:

• Immersive virtual reality is a technology that aims to completely immerse the user inside the computer generated world, giving the impression to the user that they have "stepped inside" the synthetic world.

• This is achieved by either using the technologies of Head-Mounted Display (HMD) or multiple projections.

Augmented Reality:

• Augmented reality is an enhanced, interactive version of a real-world environment achieved through digital visual elements, sounds, and other sensory stimuli via holographic technology.

• Augmented reality uses the existing real-world environment and puts virtual information—or even a virtual world—on top of it to enhance the experience.

Virtual Reality:

• Virtual reality or VR is a technology that creates a virtual environment. People interact in those environments using, for example, VR goggles or other mobile devices.

• It is a computer-generated simulation of an environment or 3-dimensional image where people can interact in a seemingly real or physical way.

4D Printing:

• 4D printing is the process through which a 3D printed object transforms itself into another structure over the influence of external energy input as temperature, light or other environmental stimuli.

• Potential application:
  » Self-repair piping system
  » Self-assembly furniture

Cryogenic Treatment:

• A cryogenic treatment is the process of treating workpieces to cryogenic temperatures (i.e. below –190 °C (–310 °F)) in order to remove residual stresses and improve wear resistance in steels and other metal alloys, such as aluminum.

• Cryogenic treatment is applicable for many of materials such as alloys, metals, carbides, polymers, composites and ceramics.

Carbon Nanotubes:

• Carbon nanotubes are large molecules of pure carbon that are long and thin and shaped like tubes, about 1-3 nanometers (1 nm = 1 billionth of a meter) in diameter, and hundreds to thousands of nanometers long. As individual molecules, nanotubes are 100 times stronger-than-steel and one-sixth its weight.

• These advantages make CNTs ideal candidate for many applications: electronic devices including transistors, electron-field emitters, chemical/electrochemical sensors, biosensors, lithium-ion batteries, hydrogen storage cells, supercapacitors, and electrical shielding devices.

Graphene:

• Graphene is an allotrope of carbon consisting of a single layer of atoms arranged in a hexagonal lattice nanostructure.

• Graphene has a wide range of potential applications and uses due to its exceptional mechanical, electrical, and thermal properties. It is used in electronics, energy storage, sensors, coatings, composites, biomedical devices and many others.

Magnetic Nanoparticles:

• Magnetic nanoparticles are a class of nanoparticle that can be manipulated using magnetic fields. Such particles commonly consist of two components, a magnetic material, often iron, nickel and cobalt, and a chemical component that has functionality.

• Magnetic nanoparticles are used as magnetic carriers in separation processes, biosensors for detecting molecular recognition events, and contrast agents for magnetic resonance imaging.

Quantum Dots:

• Quantum dots (QDs) are man-made nanoscale crystals that exhibit unique optical and electronic properties, including the ability to transport electrons and emit light of various colors when exposed to UV light.

• These have a wide range of potential applications,

including use in composites, solar cells, fluorescent biological labeling, displays, lighting, and medical imaging.

Silicene:

- Silicene is a two-dimensional allotrope of silicon, with a hexagonal honeycomb structure similar to that of grapheme.
- Silicene has been used to design many electronic devices, from transistors to photodetectors.

Genetic Pollution:

- Genetic pollution is a term for uncontrolled gene flow into wild populations.
- It is defined as "the dispersal of contaminated altered genes from genetically engineered organisms to natural organisms.
- It could also change ecosystems by affecting nontarget organisms.

Electronic Textiles:

- Electronic textiles combine traditional fabrics and fibers with electronics.
- E-textiles enable the transfer of data, including sensor data on heat, light, movement, and other local conditions.
- Electronically integrated textiles are designed primarily with wearable computing in mind, but there are many other applications.

Smart Textile:

- Smart textile, or smart fabric, as a textile that reacts to outside stimuli (heat, chemicals, magnetism or mechanical stimuli) but doesn't necessarily have an electronic component.
- One example of a smart textile that doesn't meet the definition of "e-textile" is thermochromic fabric.
- This is fabric that changes its color according to temperature.

Genome Editing:

- Genome editing is a method for making specific changes to the DNA of a cell or organism.

Farming Techniques in India

Primitive Farming:

- In this type of farming, a farmer cultivates land with the help of his family members using simple tools and natural fertility of soil.
- Primitive subsistence farming is also called slash and burn agriculture or shifting cultivation.

Subsistence Farming:

- Subsistence Farming is a form of agriculture where almost all the produce goes to feed and support the household.
- It is a type of agriculture in which a farmer produces crops and rears animals to fulfil the needs or requirements of his family and not for the market.

Commercial Farming:

- This technique is a modern day farming method where the farmers use a variety of new-age tools for surplus profits.
- Insecticides and fertilizers are also used because the crops grown are spread across large patches of land.

Plantation Farming:

- It is another subset of commercial farming. It makes use of both labor and technology to ensure the process is sustainable as plantations are spread across huge patches of land.
- It includes both agriculture and industry because of the nature of the crops grown.

Aeroponics System:

- Aeroponics is the process where plants are grown in the air or mist environment without the use of soil.
- It is the subset of hydroponics, and suspends the plant root in the air to work.
- This differs from hydroponics, where plant roots are submerged in a solution of water and nutrients.

Aquaponics:

- Aquaponics is a cooperation between plants and fish, the plants are grown in the grow bed, and fish are placed in the fish tank.
- The nutrient-rich water from the fish tank that contains fish waste is fed to the grow bed.

Hydroponics:

- Hydroponics is the technique of growing plants using a water-based nutrient solution rather than soil.
- The process involves growing healthy plants without the inclusion of solid medium using nutrients including water solution which is mineral-rich.

Zero-Budget Natural Farming:

- India introduced Zero-Budget Natural Farming (ZBNF) in its Budget 2019-20. It was first propagated by Subhash Palekar.
- ZBNF is neither chemical-loaded nor organic.
- It seeks to reduce input costs to ZERO by avoiding chemical and manufactured inputs and encouraging

farmers to rely upon natural products available locally.

Mixed Cropping:

• In mixed cropping or diverse cropping two or more crops are grown all at the same time in a field. If by chance one crop fails, the other crops cover the risk of total crop failure.

• The various plans followed in diverse or mixed cropping practices are:

  » Polyvarietal cultivation where several genetic varieties of the same crop are planted.

  » Intercropping where two or more different crops are grown simultaneously, like carbohydrate-rich cereal that uses soil nitrogen and nitrogen-fixing legume that puts the nitrogen back in the soil.

  » Polyculture, in which different plants maturing at various times are planted together.

Mixed Farming:

• Mixed farming is a type of farming which involves both the growing of crops and the raising of livestock.

• It has several advantages: Optimum diversity may be obtained by integrating crops and livestock in the same farming operation.

Factory Farming:

• Factory farming is a method of mass food production in which animals are kept in very confined areas in order to get the best possible profit.

• This farming is particularly concentrated in Developed countries like USA, European nations, Australia etc.

Vertical Farming:

• Vertical farming is the practice of growing crops in vertically stacked layers.

• It often incorporates controlled-environment agriculture, which aims to optimize plant growth, and soilless farming techniques such as hydroponics, aquaponics, and aeroponics.

• Some common choices of structures to house vertical farming systems include buildings, shipping containers, tunnels, and abandoned mine shafts.

Economic Terms

Windfall Gain:

• Windfall gain (or windfall profit) is an unexpected gain in income which could be due to winning a lottery, unforeseen inheritance or shortage of supply.

Windfall gains are transitory in nature.

Unemployment Trap:

• Unemployment trap is a situation when unemployment benefits discourage the unemployed to go to work. People find the opportunity cost of going to work too high when one can simply enjoy the benefits by doing nothing.

True Cost Economics:

• True cost economics is an economic model that includes the cost of negative externalities associated with goods and services.

Bank Run:

• In a crisis, bank depositors may start to doubt they will get their money back. So they may demand to withdraw it. Since banks have lent out this money, it is impossible for them to repay all depositors instantly. The bank may fail.

Bill of Exchange

• A short-term financial instrument, originally used to finance international trade. The buyer of goods would give the seller a signed bill, equal to the value of the purchase, which the seller could then cash with a banker. In modern finance, bills are a catch-all term for short-term debt such as Treasury bills and commercial bills.

Crowding Out Effect:

• If the government borrows a lot, and pushes up interest rates, then investors may not have enough capital to supply the investment needs of businesses. Thus private firm shift their firm on another destination, this called crowding out effect.

Disinflation:

• Disinflation is a decrease in the rate of inflation – a slowdown in the rate of increase of the general price level of goods and services in a nation's gross domestic product over time.

Diminishing Returns:

• The law of diminishing returns is an economic principle stating that as investment in a particular area increases, the rate of profit from that investment, after a certain point, cannot continue to increase if other variables remain at a constant.

Foreign Exchange Rate:

• Foreign Exchange Rate is defined as the price of the domestic currency with respect to another currency. The purpose of foreign exchange is to compare one currency with another for showing their relative

values.

Fiscal Drag:

- the situation in which people pay a larger part of their income in tax, because the government does not increase the levels at which people pay tax at the same rate as that at which inflation is increasing.

Flotation:

- The term used when a company lists its shares on a stock market for the first time. This is also known as an initial public offering, or IPO.

Giffen Goods:

- A basic product for which the normal relationship between supply and demand does not apply.

Gig Economy:

- A term given to workers whose jobs are part-time or temporary, and who thus lack job security.

Gini Coefficient:

- An indicator designed to measure inequality of income and wealth. It ranges from zero, which indicates perfect equality, to one, which implies absolute inequality.

Great Compression:

- A period from in the mid-20th century when income differentials narrowed in the face of the growth of the welfare state and high rates of marginal taxation.

Great Depression:

- The era in the 1930s when economic output and volumes of international trade collapsed. The depression was a challenge to classical economics which held that market forces would eventually bring the economy back to growth.
- This led to the adoption of Keynesian economics after the Second World War.

Great Moderation:

- A period from the mid-1980s to 2007 when recessions in the developed world were rare, inflation was mostly low, interest rates steadily fell and asset markets soared.

Haircut:

- In finance, a haircut is the difference between the current market value of an asset and the value ascribed to that asset for purposes of calculating regulatory capital or loan collateral.

Hot Money:

- In economics, hot money is the flow of funds from one country to another in order to earn a short-term

profit on interest rate differences and/or anticipated exchange rate shifts.

Invisible Hand:

- The concept of the "invisible hand" was invented by the Adam Smith. It refers to the invisible market force that brings a free market to equilibrium with levels of supply and demand by actions of self-interested individuals.

J-Curve:

- J-curve shows how a currency depreciation causes a severe worsening of a trade imbalance followed by a substantial improvement.

Laffer Curve:

- The Laffer Curve is a theoretical concept in economics that proposes a relationship between tax rates and the resulting government tax revenue.

Liquidity Trap:

- A concept, introduced by John Maynard Keynes, that monetary policy has a limited effect when animal spirits are depressed.

Marginal Cost:

- The cost of producing an extra unit of something. When production is increased, the marginal cost of producing an extra item can be significantly lower than the average cost of production.

Middle-Income Trap:

- The middle-income trap captures a situation where a middle-income country can no longer compete internationally in standardized, labor-intensive goods because wages are relatively too high, but it also cannot compete in higher value-added activities on a broad enough scale because productivity is relatively too low.

Monetarism:

- The belief that changes in the money supply are the main determinant of changes in inflation, associated especially with Milton Friedman, an American economist.

Monopsony:

- Whereas a monopoly is a seller with a dominant position, a monopsony is a dominant buyer.

Moral Hazard:

- In economics, a moral hazard is a situation where an economic actor has an incentive to increase its exposure to risk because it does not bear the full costs of that risk.

NAIRU (Non-Accelerating Inflation Rate of Unemployment):

*   The lowest rate of unemployment that does not lead to a jump in wages and inflation. It is a development of the "natural rate of unemployment", a concept developed by Milton Friedman.

Negative Income Tax:

*   A payment made to people on low incomes as a way of reducing poverty. The approach can be an alternative to welfare payments, which can be complex to administer and carry social stigma.

Neoliberalism:

*   A term, often used by opponents, applied to the economic reforms pursued by Margaret Thatcher and Ronald Reagain in the 1980s. Broadly, the reforms included lower taxes, constraints on public spending, privatisation and deregulation.

Phillips Curve:

*   This concept, developed by William Phillips, an economist, suggests that inflation and unemployment are inversely related; when inflation is high, unemployment is low and vice versa.

Pigouvian Tax

*   Named after Arthur Pigou, a 20th century British economist, a Pigouvian tax is imposed on activities that have negative side effects, or externalities. Examples might include taxes on pollution, tobacco or the sales of plastic bags.

Randomised Control Trials:

*   Experiments in which a policy change is applied to a randomly selected subset of people, in order to isolate its economic effects. Most examples have been in developing countries. Abhijit Banerjee, Esther Duflo and Michael Kremer shared the 2019 Nobel prize for their work on RCTs.

Reflation:

*   Reflation is an act of stimulating the economy by reducing taxes or by increasing the money supply.

Rent Seeking:

*   Rent seeking is an economic concept that occurs when an entity seeks to gain wealth without any reciprocal contribution of productivity.

Say's Law:

*   The idea, coined in the 19th century by Jean-Baptiste Say, a French economist, that supply creates its own demand. Say was referring to aggregate demand, rather than that for individual products.

Seigniorage:

*   The difference between the face value of money and the cost of producing it.

Stagflation:

*   A combination of high inflation and high unemployment.

Supply and Demand Curves:

*   Supply increases as the price rises, and demand increases when the price falls (with the exception of some luxuries, known as Veblen goods, and very basic Giffen goods).

Tobin Tax:

*   The Tobin tax is a duty proposed on spot currency trades to penalize short-term currency trading in order to stabilize markets and disincentive speculation.

Veblen Goods:

*   Luxury goods for which demand increases in line with their price. They are named after Thorstein Veblen, who described the phenomenon of "conspicuous consumption" in the late 19th century.

Windfall Gains:

*   A sudden, unexpected, gain in wealth such as an inheritance or a lottery win. If the permanent income hypothesis were correct, people would save the bulk of these gains. But not everyone does.

Windfall Taxes:

*   Levies imposed on companies that make large profits after an economic change. The most recent examples have been taxes on energy companies when their profits surged after Russia's invasion of Ukraine in 2022.

Important Constitutional Amendment

7th Constitution Amendment:

*   7th Constitutional Amendment Act of 1956 promoted the appointment of the same person as a governor for two or more states. It is related to the reorganisation of states. 7th Constitutional Amendment also provided for the appointment of additional and acting judges of the high court.

9th Constitution Amendment:

*   The Ninth Amendment Act of 1960 provided minor territory adjustments as a result of the India-Pakistan

agreement

10th Constitution Amendment:
- The Tenth Amendment of the Constitution of India, officially known as The Constitution (Tenth Amendment) Act, 1961, incorporated Dadra and Nagar Haveli as the seventh Union territory of India, by amending the First Schedule to the Constitution.

12th Constitution Amendment:
- The Twelfth Amendment of the Constitution of India, officially known as The Constitution (Twelfth Amendment) Act, 1962, incorporated Goa, Daman and Diu as the eighth Union territory of India, by amending the First Schedule to the Constitution.

13th Constitution Amendment:
- The 13th Constitutional Amendment Act, of 1962 gave the status of a state to Nagaland and made special provisions for it.

21st Constitution Amendment:
- The 21st Amendment to the Constitution of India, known as the Constitution Act of 1967, changed the Eighth Schedule to include Sindhi as a language, and the number of scheduled languages was increased to fifteen.

26th Constitution Amendment:
- Abolition of Privy Purse paid to former rulers of princely states which were incorporated into the Indian Republic.

36th Constitution Amendment:
- The 36th Amendment of the Indian Constitution brought two changes. Sikkim became a full-fledged state of India, and the tenth Schedule was omitted.

42nd Constitution Amendment:
- The 42nd Amendment of Indian Constitution tried to alter the structure of the constitution by limiting the powers of the court, change in dpsp etc. This Act introduced three major terms in the constitution of India Integrity, Socialist, and Secular. This modified the constitution.

44th Constitution Amendment:
- The 44 Amendment Acts 1978 restored various powers of the supreme courts and high courts. The act allowed the judicial review of the presidents, governors, and Lok Sabha speaker's elections.

52nd Constitution Amendment:
- The 52nd constitution amendment act on anti-defection was passed in 1985 and the 10th Schedule was added in the Indian Constitution. It provided for the disqualification of the members of Parliament and the state legislatures on the grounds of defection.

61st Constitution Amendment:
- The 61st Amendment of the Constitution of India, officially known as The Constitution (Sixty-first Amendment) Act, 1988, lowered the voting age of elections to the Lok Sabha and to the Legislative Assemblies of States from 21 years to 18 years.

71st Constitution Amendment:
- The 71st Amendment, enacted in 1992, added Konkani, Manipuri, and Nepali languages to the Eighth Schedule of the Indian Constitution, recognizing them as official languages of India.

73rd Constitution Amendment:
- The 73rd Constitutional Amendment Act aimed to empower rural communities and promote democratic decentralization. This act provides for the creation of a three-tier Panchayati Raj system in all rural areas of India, which has decentralized power and enables grassroots planning and development.

74th Constitution Amendment:
- The 74th Amendment Act has added a new Part IX-A to the Constitution of India. This part is entitled as 'The Municipalities' and consists of provisions from Articles 243-P to 243-ZG. Additionally, the act also added a new Twelfth Schedule to the Constitution.

86th Constitution Amendment:
- The Article 21A of the Constitution of India which was inserted by the 86th Amendment Act, 2002, gives right to education to all children of the age of 6 to 14 years.

92nd Constitution Amendment:
- The Ninety-second Amendment of the Constitution of India, officially known as The Constitution (Ninety-second Amendment) Act, 2003, amended the Eighth Schedule to the Constitution so as to include Bodo, Dogri, Maithili and Santali languages, thereby raising the total number of languages listed in the schedule to 22.

97th Constitution Amendment:
- The amendment introduced the right to form cooperative societies as a fundamental right under Article 19 of the Constitution. It also introduced a new Directive Principle of State Policy, as per Article 43B, emphasizing the state's role in promoting cooperative societies.101 constitutional amendment

101st Constitution Amendment:

- The 101st Constitutional Amendment Act introduced the Goods and Services Tax (GST), establishing a uniform taxation framework across India. It has altered the financial relationship between the central government and the states, leading to a more cooperative and collaborative framework.

102nd Constitution Amendment:

- India passed the 102nd Constitutional Amendment Act on August 11, 2018. This Act gave the National Commission for Backward Classes (NCBC) constitutional status. The Commission was established in 1993.

103rd Constitution Amendment:

- The 103rd Constitutional Amendment Act brought in a 10% reservation for Economically Weaker Sections (EWS) of society other than Backward Classes, Scheduled Castes, and Scheduled Tribes for admission to central government and private educational institutions and recruitment in central government jobs.

Important Committee

Sapru Committee (1945):

- Examined the relationship between the princely states and the Indian Union, making recommendations for their integration.

Sardar Patel Committee on States' Reorganization (1948):

- Formulated guidelines for the reorganization of states in post-independence India, leading to the States Reorganization Act, 1956.

Dhar Commission (1948):

- On 17 June 1948, Rajendra Prasad, the President of the Constituent Assembly, set up the Linguistic Provinces Commission (Dhar Commission) to recommend whether the states should be reorganised on linguistic basis or not.

Shah Commission (1977):

- Shah Commission was a commission of inquiry appointed by Government of India in 1977 to inquire into all the excesses committed in the Indian Emergency (1975 - 77).

Sarkaria Commission (1983):

- Sarkaria Commission was set up in June 1983 by the central government of India. Its charter was to examine the relationship and balance of power between state and central governments in the country and suggest changes within the framework of Constitution of India.

M.M. Punchhi Commission (2007):

- The Punchhi Commission aimed to examine and address new issues in Centre-State relations. It aimed to evaluate the existing arrangements between the Union and the States. The commission focused on various aspects, including legislative relations, administrative relations, and the role of governors.

Justice Verma Committee (2012):

- Justice Verma Committee was constituted to recommend amendments to the Criminal Law so as to provide for quicker trial and enhanced punishment for criminals accused of committing sexual assault against women.

Ashok Mehta Committee (1977):

- The Ashok Mehta Committee was set up in 1977. It recommended that a two-tier system be established to replace the three-tier Panchayat system. This recommendation was not adopted. The Committee also suggested that political parties should stand for elections at all levels.

N. Malhotra Committee (1994):

- In 1993, the Government set up a committee under the chairmanship of RN Malhotra, former Governor of RBI, to propose recommendations for reforms in the insurance sector. The objective was to complement the reforms initiated in the financial sector.

Vijay Kelkar Committee (2002):

- Suggested reforms in direct and indirect taxes in India

Vohra Committee (1983):

- In 1983, Vohra Committee on Criminalisation of Politics was constituted with an objective to identify the extent of the political-criminal nexus and to recommend ways in which the criminalisation of politics can be effectively dealt with. The report was submitted in the year 1993.

B.N. Srikrishna Committee (2010):

- Srikrishna (Former Judge of Supreme Court of India and Chief justice of the Kerala High Court) to look into the demand for separate statehood for Telangana or keep the State united in the present form, Andhra Pradesh.

Fazal Ali Commission (1953):

- Fazl Ali commission also known as the states reorganization commission was formed in 1953 to ponder upon the demands of different states. The Commission suggested in 1955, after nearly two years of research, that India's state boundaries be reorganized into 14 states and six territories.

Chelliah Committee (1991):

- The government constituted the Tax Reforms Committee (TRC) in August 1991, under the chairmanship of Professor Raja J. Chelliah to recommend measures for the reform of Central taxes.

Kasturirangan Committee (2017):

- K. Kasturirangan is the chairman of the National Education Policy 2020. There were National Education Policies in 1968, 1986, 1992 and the latest in 2020.

Shyam Benegal Committee (2016):

- The Shyam Benegal Committee was a panel formed by the Government of India. It was established in 2016 to recommend changes to the Central Board of Film Certification (CBFC) and its functioning.

TSR Subramanian Committee (2016):

- Reviewed the functioning of the University Grants Commission (UGC) and suggested reforms in higher education.

Vijay Kelkar Committee (2015):

- Kelkar committee to evaluate PPP in India was a committee set up to study and evaluate the extant public-private partnership (PPP) model in India.

Rajinder Sachar Committee (2006):

- Sachar chaired the Sachar Committee, constituted by the Government of India, which submitted a report on the social, economic and educational status of Muslims in India.

Dr Bimal Jalan Committee:

- The Reserve Bank of India (RBI) in November 2018 had constituted a six-member committee, chaired by former governor Dr Bimal Jalan, to review the current economic capital framework (ECF), after the Ministry of Finance asked the central bank to follow global practices.

Raghuram Rajan Committee (2008):

- The Raghuram Rajan Committee on Financial Reforms was charged with identifying the new issues that would need to be addressed in order for the financial sector to be better able to meet the financing demands of the Indian economy over the next ten years.

Tarapore Committee (1997):

- The Reserve Bank of India established the Committee on Capital Account Convertibility (CAC) or Tarapore Committee to propose a roadmap for full convertibility of the rupee on the capital account.

Suresh Tendulkar Committee (2005):

- Tendulkar Committee was set up in Dec, 2005 by an expert group constituted by the Planning Commission to review methodology for poverty estimation and to address the shortcomings of the previous methods and submitted the report in December 2009.

Nachiket Mor Committee (2013):

- The RBI established the Nachiket Mor Committee in 2013 under the chairmanship of Mr. Nachiket Mor, an RBI board member. The Nachiket Mor Committee was known as the "Commission on Comprehensive Financial Services for Small Businesses and Low-Income Households.

Santhanam Committee (1962):

- The Committee on Prevention of Corruption, consisting of the Parliamentarian K. Santhanam as the Chairman, four other MPs, and two senior officers, was appointed by the Government of India in 1962. It was asked to examine the various aspects of Corruption in Government departments and recommend measures to check it.

Narasimham Committee (1991):

- Narasimham Committee was established to examine India's banking sector and recommend reforms when the banks were underperforming during the 1991 economic liberalization of India.

P.J. Nayak Committee (2014):

- The P J Nayak Committee or officially the Committee to Review Governance of Boards of Banks in India was set up by the Reserve Bank of India (RBI) to review the governance of the board of banks in India. The Committee was set up in January 2014.

Deepak Parekh Committee (2007):

- Provided recommendations on financing infrastructure projects.

Shanta Kumar Committee (2014):

- Examined the functioning of the Food Corporation of India. Shanta Kumar Committee Report recommends that FCI hand over all procurement

operations of wheat, paddy and rice to states that have gained sufficient experience in this regard and have created reasonable infrastructure for procurement.

Tapan Ray Committee (2019):

•   The Reserve Bank of India (RBI) has formed a committee headed by Tapan Ray to review regulatory guidelines and supervisory framework applicable to core investment companies (CICs).

Narayan Committee (2003):

•   Examined issues related to corporate governance in India.

Urjit Patel Committee (2013):

•   Urjit Patel Committee was set up to give recommendations on revising and strengthening the monetary policy framework. This committee was set up by former RBI governor Raghuram Rajan in the year 2013.

Justice M. B. Shah Committee (2011):

•   Examined cases of illegal mining across various states in India

Exercises

•   India- Australia: AUSTRA HIND, AUSINDEX, PITCH BLACK
•   India- Bangladesh: SAMPRITI, IN-BN CORPAT, IN-BN BILAT, IN-BN SF, TABLE TOP, SAMVEDNA
•   India- China: HAND IN HAND
•   India- Egypt: CYCLONE
•   India- France: SHAKTI, VARUNA, GARUDA
•   India- Indonesia: GARUDA SHAKTI, IND-INDO CORPAT, IND-INDO BILAT
•   India- Israel: BLUE FLAG
•   India- Japan: DHARMA GUARDIAN, JIMEX
•   India-Kazakhstan: KAZIND
•   India-Kyrgyzstan: KHANJAR
•   India-Malaysia: HARIMAU SHAKTI, IN-RMN BILAT, HOP EX
•   India-Maldives: EKUVERIN, EKATHA
•   India-Mongolia: NOMADIC ELEPHANT
•   India-Myanmar: IMBEX, IMCOR, IN-MN, BILAT, TABLE TOP

•   India-Nepal: SURYA KIRAN
•   India-Oman: AL NAGAH, NASEEM-AL-BAHR, EASTERN BRIDGE
•   India-Qatar: ZA'IR AL BAHR
•   India-Russia: INDRA, AVIAINDRA
•   India-Seychelles: LAMITIYE
•   India-Singapore: SIMBEX, JOINT MILITARY TRAINING
•   India-Sri Lanka: MITRA SHAKTI, SLINEX, IN-SLN SF, SAMVEDNA
•   India-Thailand: MAITREE, INDO-THAI CORPAT, SIAM BHARAT
•   India-UAE: DESERT EAGLE
•   India-UK: AJEY WARRIOR, KONKAN, INDRADHANUSH
•   India-USA: YUDHABHAYAS, VAJRA PRAHAR, SPITTING COBRA, SANGAM (IN-USN EOD), RED FLAG, COPE INDIA
•   India-Uzbekistan: DUSTLIK
•   India-Vietnam: VINBAX, IN-VPN BILAT

MCQs Based on Current Affairs

1. Consider the following statements regarding contempt of court:
1. The Constitution of India empowers the Supreme Court and the High Courts to punish for contempt.
2. According to the H.N. Sanyal Committee report, the Contempt of Courts Act, 1971 was passed.
3. The Contempt of Courts Act, 1971 defines civil contempt and criminal contempt.

How many of the statements given above are correct?
A. Only one
B. Only two
C. All three
D. None of the above

2. Consider the following statements about the Uniform Code for Pharmaceutical Marketing Practices:
1. The Uniform Code for Pharmaceutical Marketing Practices (UCPMP) 2024 was issued by the Department of Pharmaceuticals to help control unethical practices in the industry.
2. The Uniform Code for Pharmaceutical Marketing Practices disallows sponsored gifts, monetary grants or foreign trips for healthcare professionals or their families.
3. Violations of the code will be handled by Ethics Committees for Pharma Marketing Practices (ECPMP) set up within each association to ensuring accountability.

How many of the statements given above are correct?
A. Only one
B. Only two
C. Only three
D. None

3. With reference to Measles and Rubella Champion' Award, consider the following statements:
1. India received 'Measles and Rubella Champion' Award for Exemplary Efforts in Measles and Rubella Disease Prevention.
2. The award was given by Measles and Rubella Partnership which comprises a multi-agency planning committee, including the American Red Cross, BMGF, GAVI, US CDC, UNF, UNICEF, and WHO, all dedicated to reducing global measles deaths and preventing rubella illness.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

4. Consider the following statements about the Bharat Shakti Joint Exercise:
1. The Bharat Shakti Joint Exercise is a tri-service military exercise that demonstrates the prowess of India's indigenous defense equipment.
2. The exercise is held in Pokhran, Rajasthan.
3. It showcases the integrated operational capabilities of the Indian Armed Forces to counter threats across land, air, sea, cyber, and space domains.
4. Army's Special Forces, MARCOS of the Indian Navy, and GARUD of the Indian Air Force took part in the exercise.

How many of the statements given above are correct?
A. Only one
B. Only two
C. Only three
D. All four

5. Which of the following statements about Antimicrobial Resistance is not true?
A. Antimicrobial Resistance occurs when microorganisms become resistant to drugs that are used to treat infections.
B. AMR poses a major challenge in treating life-threatening conditions like sepsis.
C. AMR undermines medical progress made over decades, especially for diseases like tuberculosis and various cancers.
D. The World Health Organization (WHO) considers AMR a major threat to global health.
E. Microorganisms that develop antimicrobial resistance are often referred to as superbugs.

6. Consider the following statements about Advanced Medium Combat Aircraft:
1. The Cabinet Committee on Security (CCS) cleared a Rs 15,000 crore project to design and develop the Advanced Medium Combat Aircraft (AMCA).
2. It is India's fifth-generation fighter multirole fighter jet.
3. The Aeronautical Development Agency (ADA) will be the nodal agency for executing the

programme and designing the aircraft.

4. It will be manufactured by state-owned Hindustan Aeronautics Limited (HAL).

How many of the statements given above are correct?

A. Only two
B. Only three
C. All four
D. None

7. **Consider the following statements:**

1. Prime Minister Narendra Modi laid the foundation stone of the second rocket launchport of the Indian Space Research Organisation (ISRO) at Kulasekarapattinam.

2. Kulasekarapattinam launchport provides a natural advantage to ISRO's future launches by reducing the actual cost of future small launch mission.

Which of the statements given above is/are correct?

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

8. **Consider the following statements:**

1. INS Jatayu, an upgraded naval base in the Lakshadweep Islands was established.

2. It marks a significant development in India's maritime security strategy, particularly in the context of growing Chinese influence in the Indian Ocean Region.

3. The base extends the operational reach of the Indian Navy in the Indian Ocean, enhancing its capabilities for anti-piracy, anti-narcotics and surveillance operations.

How many of the statements given above is/are correct?

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

9. **Consider the following statements:**

1. The Narasapur crochet lace craft, Majuli masks and Majuli Manuscript Paintings have got the Geographical Indications (GI) tag.

2. A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due

to that origin.

3. Geographical Indications are part of the intellectual property rights that come under the Paris Convention for the Protection of Industrial Property.

4. In India, Geographical Indications registration is administered by the Geographical Indications of Goods (Registration and Protection) Act of 1999.

How many of the statements given above is/are correct?

A. Only one
B. Only two
C. Only three
D. All four

10. **Consider the following statements about international migration:**

1. Recently, IOM said that 2023 has been the deadliest year on record for migrants, with at least 8,565 deaths.

2. This tragic figure represents a 20% increase compared to 2022, underscoring the urgent need for action to prevent further loss of life.

Which of the statements given above is/are correct?

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

11. **Consider the following statements about D-8 Organization:**

1. Bangladesh Prime Minister Sheikh Hasina has suggested common currency for D-8 members countries.

2. D-8 Organization for Economic Cooperation is an organization for economic cooperation among Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkiye.

3. It was establishment on June 15, 1997.

4. The objective of D-8 Organization is to improve member states' position in the global economy, diversify and create new opportunities in trade relations.

How many of the statements given above are correct?

A. Only one
B. Only two
C. Only three
D. All four

12. Consider the following statements:
1. International Narcotics Control Board (INCB) in its Annual Report said that the evolving landscape of online drug trafficking is presenting new challenges to drug control.
2. INCB is the independent, quasi-judicial body charged with promoting and monitoring Government compliance with the international drug control conventions.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

13. Consider the following statements about Project Tiger:
1. Project Tiger was launched on 1 April 1973 by the Central Government to promote tiger conservation.
2. It is centrally sponsored scheme of the Ministry of Environment, Forest and Climate Change, providing central assistance to tiger states for tiger conservation in designated tiger reserves.
3. Focuses on the conservation of big cats and ensuring the preservation of their natural habitat as tigers are at the top of the food chain.

How many of the above statements are correct?
A. Only one
B. Only two
C. All three
D. None

14. Consider the following statements:
1. Scientists from Stanford University have identified obelisks which represent a distinct class of virus-like entities residing within the human body.
2. These obelisks bridge the gap between viruses and viroids in terms of complexity, adding a new category to the existing spectrum of life forms.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

15. Consider the following statements:
1. The Ramnath Kovind Committee has recently submitted the draft of 'One Nation, One Election' to the President.
2. Committee has proposed to hold simultaneous elections for the Lok Sabha and all the legislative assemblies in the country in 2029.
3. It has been suggested to hold Lok Sabha and Legislative Assembly elections in the first phase and municipal corporation level elections in the second phase.

How many of the statements given above is/are correct?
A. Only one
B. Only two
C. All three
D. None

16. Consider the following statements:
1. Kerala has declared man animal conflict as a state specific disaster.
2. Once the issue is declared a state-specific disaster, the onus to deal with it shifts to the state disaster management authority.
3. Disaster management authority can take quick decisions and actions overriding all other norms.

How many of the statements given above is/are correct?
A. Only one
B. Only two
C. All three
D. None

17. Consider the following statements about Crisil prediction regarding to India:
1. Global credit rating rating agency crisil said that, India's GDP growth is expected at 6.8 per cent in financial year 2025.
2. India can achieve upper middle status by 2031.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

18. Consider the following statements about the Global Waste Management Outlook:
1. The Global Waste Management Outlook 2024 report was released under the title Titled Beyond an age of waste: Turning rubbish into a resource.
2. This report is jointly published by UNEP and the International Solid Waste Association (ISWA).

3. The report provides an update on global waste generation and the cost of waste and its management from 2020.
4. Report said that Municipal solid waste generation is projected to increase from 2.3 billion tonnes in 2023 to 3.8 billion tonnes by 2050.

How many of the statements given above are correct?
A. Only one
B. Only two
C. Only three
D. All four

19. With reference to high sea treaty, consider the following statements:
1. The High-Level Event on Biodiversity Beyond National Jurisdiction was held in Belgium on March 7, 2024.
2. During the meeting, it urged nations to ratify a new treaty to protect the high seas from pollution, climate change and overfishing.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

20. Consider the following statements about Citizenship (Amendment) Rules:
1. The Central Government officially notified the Citizenship (Amendment) Rules, 2024, marking a significant development in India's citizenship framework.
2. These rules have been brought under the Citizenship (Amendment) Act, 2019.
3. The rules aim to grant citizenship to migrants belonging to Hindu, Sikh, Buddhist, Jain, Parsi or Christian communities who entered India before December 31, 2014, from Pakistan, Afghanistan or Bangladesh.

How many of the above statements are correct?
A. Only one
B. Only two
C. All three
D. None

21. Consider the following statements:
1. The Union Cabinet chaired by Prime Minister Shri Narendra Modi approved Uttar Poorva Transformative Industrialization Scheme, 2024 (UNNATI – 2024) for a period of 10 years at a total cost of Rs.10, 037crore.
2. UNNATI is a as a Central Sector Scheme for the development of Industries and generation of employment in the states of North East Region.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

22. Consider the following statements:
1. A recent study said that in India gig workers suffer due to improper compliance of social security and rules related to gig workers.
2. The study also shows that almost a third of gig workers work around 14 hours a day.
3. The study has been developed by the People's Association in Grassroots Action and Movements and the Indian Federation of App-Based Transport Workers.

How many of the above statements given is/are correct?
A. Only one
B. Only two
C. All three
D. None

23. Consider the following statements about TEPA:
1. India-European Free Trade Association signed Trade and Economic Partnership Agreement (TEPA).
2. For the first time, India has signed FTAs with four developed countries– an important economic bloc in Europe.
3. Under the treaty, EFTA has committed to promote investments with the aim of increasing the stock of foreign direct investment in India to $100 billion over the next 15 years and facilitating the creation of 1 million direct jobs in India through such investments.
4. The investment does not cover foreign portfolio investment.

How many of the statements given above are correct?
A. Only one
B. Only two
C. Only three
D. All four

24. Consider the following statements about Yaoundé Declaration:

1. Recently, the Yaoundé Declaration was adopted by health ministers from 11 African countries to pledge to end malaria deaths.
2. The Declaration committed to providing strong leadership and increasing domestic financing for malaria control programs.
3. The total number of malaria cases globally is projected to increase from 233 million in 2019 to 249 million in 2022.

How many of the above statements are correct?
A. Only one
B. Only two
C. All three
D. None

25. **Consider the following statements:**
   1. Ministry of Women and Child Development said that it will launch National Curriculum for Early Childhood Care and Education for children aged three to six years .
   2. The documents have been prepared by the National Institute for Public Cooperation and Child Development (NIPCCD) in collaboration with an internal committee and development partners.

   Which of the statements given above is/are correct?
   A. 1 only
   B. 2 only
   C. Both 1 and 2
   D. Neither 1 nor 2

26. **Consider the following statements:**
   1. International Big Cat Alliance is a mega global alliance launched by India in April 2023 during the 50th anniversary of Project Tiger.
   2. The alliance aim at conservation of world's seven principal big cats, which include the tiger, lion, snow leopard, leopard, jaguar, puma, and cheetah.
   3. The International Big Cat Alliance has been conceived as a multi-country, multi-agency coalition of 96 big cat range countries, non-range countries interested in big cat conservation.

   How many of the above statements given is/are correct?
   A. Only one
   B. Only two
   C. All three
   D. None

27. **Consider the following statements:**
   1. The Ministry of Defence has signed a Rs. 200 crore contract for anti-drone systems for the Indian Army and Indian Air Force (IAF) with Big Bang Boom Solutions Private Limited (BBBS).
   2. This is the largest contract signed by the MoD under the Innovations for Defence Excellence (iDEX) initiative.
   3. Anti-Drone System is a technology that blocks or tracks Unmanned Aerial Devices (UAVs).

   How many of the above statements given is/are correct?
   A. Only one
   B. Only two
   C. All three
   D. None

28. **Consider the following statements about fast breeder reactor:**
   1. PM of India has commenced core loading of India's fast breeder reactor at kalapakkam, Tamilnadu.
   2. Bhartiya Nabhikiya Vidyut Nigam Ltd (BHAVINI) to construct and operate India's most advanced nuclear reactor-Prototype Fast Breeder Reactor (PFBR).
   3. PFBR has been fully designed and constructed indigenously by BHAVINI with significant contribution from more than 200 Indian industries including MSMEs.
   4. Once commissioned, India will only be the second country after Russia to have commercial operating Fast Breeder Reactor.

   How many of the statements given above are correct?
   A. Only one
   B. Only two
   C. Only three
   D. All four

29. **Consider the following statements:**
   1. Swedish think tank SIPRI published the report on international arms transfers, 2023.
   2. Swedish think tank SIPRI said India remains the world's top arms importer and its imports have grown by 4.7 per cent between 2014-2018 and 2019-2023.
   3. Russia remained India's main arms supplier.

   How many of the above statements given is/are correct?

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

30. **Consider the following statements:**
1. Prime Minister Modi dedicated to the nation the Sela Tunnel, built at an altitude of 13,000 feet in Arunachal Pradesh.
2. The tunnel will provide all-weather connectivity to strategically located Tawang and is expected to ensure better movement of troops in the border area.
Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

31. **Consider the following statements:**
1. India successfully tested Agni-5 missile equipped with Multiple Independently Targetable Re-Entry Vehicle (MIRV) technology, which has been named Mission Divyastra.
2. Multiple Independently Targetable Re-Entry Vehicle-MIRV technology is a technology in which a missile has the ability to carry multiple nuclear warheads in a single missile.
3. The system is equipped with indigenous avionics systems and high accuracy sensor packages.
How many of the above statements given is/are correct?
A. Only one
B. Only two
C. All three
D. None

32. **Consider the following statements:**
1. Union Home Minister and Cooperation Minister Amit Shah inaugurated the National Cooperative Database .
2. The database is a web-based digital dashboard capturing information about over 8 lakh registered cooperative societies, involving more than 30 crore people.
Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

33. **Consider the following statements:**
1. The Maldives is the smallest country in Asia.
2. The Maldives is situated on the Chagos–Laccadive Ridge, making it the world's lowest-lying country.
Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

34. **Consider the following statements:**
1. India has presented a detailed model on behalf of the G4 nations for United Nations Security Council Reform.
2. The model includes new permanent members elected democratically by the UN General Assembly and shows flexibility on the veto issue.
3. The G4 (Brazil, Germany, India and Japan) was created in 2004 and has been promoting Security Council reform.
How many of the above statements given is/are correct?
A. Only one
B. Only two
C. All three
D. None

35. **Consider the following statements:**
1. Sweden has officially become the 32nd member of NATO after it completed its accession process in Washington.
2. NATO is a military alliance established by the North Atlantic Treatyof April, 1949.
3. NATO's fundamental goal is to safeguard the Allies' freedom and security by political and military means.
How many of the statements given above is/are correct?
A. Only one
B. Only two
C. All three
D. None

36. **Consider the following statements:**
1. The India-Middle East-Europe Economic Corridor (IMEC) is a planned network of rail, maritime, road, energy, and telecommunication links.

2. Its aims to improve economic development in Asia, the Persian Gulf, and Europe.
3. The corridor will run from India to Europe through the United Arab Emirates, Saudi Arabia, Jordan, Israel, and Greece.

How many of the statements given above is/are correct?
A. Only one
B. Only two
C. All three
D. None

37. Consider the following statements:
1. India and Brazil have recently concluded the first '2+2' defence and foreign ministerial dialogue.
2. India has held 2+2 meetings with ministers from the USA, Australia, Japan, the UK and Russia.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

38. Consider the following statements about Purple Fest 2024:
1. It is organized by the Ministry of Culture.
2. It aims to raise awareness about different disabilities and their impact on people's lives.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

39. Consider the following statements about the Pension Fund Regulatory and Development Authority:
1. It is the regulatory body for overall supervision and regulation of pensions in India.
2. It operates under the jurisdiction of the Ministry of Finance.
3. It was established in 2003 based on the recommendations of the Indian government OASIS report.
4. It was part of the establishment of the Indian National Pension Scheme.

How many of the statements given above are correct?
A. Only one
B. Only two
C. Only three

D. All four

40. With reference to Investor Information and Analytics Platform, consider the following statements:
1. It is developed by researchers at the Indian Institute of Science.
2. It includes features like "StartupGPT," an AI-based conversational platform for easy information access.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

41. Which of the following statements about Down syndrome is true?
A. It is caused by a mutation in the X chromosome.
B. It is a genetic disorder caused by an extra copy of chromosome 21.
C. It is typically inherited from one's parents.
D. It can only be diagnosed after birth through physical characteristics.

ANSWER

1.	(C)	12.	(C)	23.	(D)	34.	(C)
2.	(C)	13.	(C)	24.	(C)	35.	(C)
3.	(C)	14.	(C)	25.	(C)	36.	(C)
4.	(D)	15.	(C)	26.	(C)	37.	(C)
5.	(D)	16.	(C)	27.	(C)	38.	(B)
6.	(C)	17.	(C)	28.	(D)	39.	(D)
7.	(C)	18.	(D)	29.	(C)	40.	(B)
8.	(C)	19.	(C)	30.	(C)	41.	(B)
9.	(D)	20.	(C)	31.	(C)		
10.	(C)	21.	(C)	32.	(C)		
11.	(D)	22.	(C)	33.	(C)		

1. Consider the following statements with respect to the World Food Price Index
   1. The Index is a measure of the quarterly change in international prices of a basket of food commodities.
   2. The index is an initiative of the Food and Agriculture Organization (FAO).
   Which of the above statements is/are correct?
   (a) 1 only
   (b) 2 only
   (c) Both 1 and 2
   (d) Neither 1 nor 2

2. Consider the following statements regarding Retail Inflation:
   1. Retail inflation, also known as Consumer Price Index (CPI) inflation, tracks the change in retail prices of goods and services which households purchase for their daily consumption.
   2. CPI is calculated for a fixed basket of goods and services that may or may not be altered by the government from time to time.
   Which of the above statements is/are correct?
   (a) 1 only
   (b) 2 only
   (c) Both 1 and 2
   (d) Neither 1 nor 2

3. In the context of 'Biodiversity Beyond National Jurisdiction Treaty (BBNJ)', consider the following statements:
   1. It aims to regulate fishing, mining and oil extraction in international waters.
   2. It covers the high seas which constitute nearly half of the Earth's surface.
   3. It establishes Marine Protected Areas (MPAs) and provides funding for marine conservation.
   How many of the statements given above are correct?
   (a) Only one
   (b) Only two
   (c) All three
   (d) None

4. Consider the following statements with reference to Greening India's Wastelands with Agroforestry (GROW) Report

   1. The report provides state-wise and district-wise analysis to support government departments and industries for greening and restoration projects.
   2. It is an initiative of Ministry of Environment, Forest and Climate Change.
   Which of the above statements is/are correct?
   (a) 1 only
   (b) 2 only
   (c) Both 1 and 2
   (d) Neither 1 nor 2

5. Consider the following statements with respect to Kuril Islands
   1. The Islands are located in the far east of Russia.
   2. It is a disputed territory between Japan and North Korea.
   Which of the following statements is/are correct?
   (a) 1 only
   (b) 2 only
   (c) Both 1 and 2
   (d) Neither 1 nor 2

6. Consider the following statement about the Solomon Islands:
   1. It is an archipelago located in the western Indian Ocean.
   2. It was a colony of France before 1978.
   3. The official language of the Solomon Islands is English.
   4. The majority of the population resides in rural areas.
   How many of the above statements are correct?
   (a) Only one
   (b) Only two
   (c) Only three
   (d) All four

7. Consider the following pairs:

Tiger Reserve	Location
1. Palamau Tiger Reserve	Chattisgarh
2. Kamlang Tiger Reserve	Mizoram
3. Ranipur Tiger Reserve	Uttar Pradesh

   How many of the above pairs are correctly

matched?
(a) Only one
(b) Only two
(c) All three
(d) None

8. Consider the following statements:
1. All Scandinavian countries are members of NATO.
2. Sweden is located in Northern Europe and is bordered by the Norwegian Sea to the east.
3. The official currency of Sweden is the Euro.
How many of the above statements are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

9. Which of the following water body is the world's largest expanse of brackish water?
(a) Baltic Sea
(b) Lake Chilika
(c) Lake Van
(d) Hudson Bay

10. Consider the following statements:
1. The slogan Jal, Jangal, Zameen was given by him.
2. He formed a guerrilla army to fight against the British.
3. He hailed from the Gond tribal community.
Identify the personality using the above statements:
(a) Tilka Majhi
(b) Birsa Munda
(c) Komaram Bheem
(d) Alluri Seetha Ram Raju

11. Consider the following freedom fighters:
1. Barindra Kumar Ghosh
2. Jogesh Chandra Chatterjee
3. Rash Behari Bose
Who of the above was/were actively associated with the Ghadar Party?
(a) 1 and 2
(b) 2 only
(c) 1 and 3
(d) 3 only

12. Consider the following statements with respect to Election to Rajya Sabha.
1. Rajya Sabha members are elected by each state legislature using the single transferable vote system.
2. The single transferable vote uses multiple-member districts, with voters casting only one vote each but ranking individual candidates.
Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

13. With reference to ancient India, consider the following statements:
1. The concept of Stupa is Buddhist in origin.
2. Stupa was generally a repository of relics.
3. Stupa was a votive and commemorative structure in Buddhist tradition.
How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

14. With reference to ancient Indian History, consider the following pairs:

Literary work	Author
1. Devichandragupta	Bilhana
2. Hammira-Mahakavya	Nayachandra Suri
3. Milinda-panha	Nagarjuna
4. Nitivakyamrita	Somadeva Suri

How many of the above pairs are correctly matched?
(a) Only one
(b) Only two
(c) Only three
(d) All four

15. Consider the following pairs:

Site	Well known for
1. Besnagar	Shaivite cave shrine
2. Bhaja	Buddhist cave shrine
3. Sittanawasal	Jain cave shrine

How many of the above pairs are correctly matched?
(a) Only one
(b) Only two
(c) All Three
(d) None

16. Consider the following statements :
1. Ajanta Caves lie in the gorge of Waghora River.
2. Sanchi Stupa lies in the gorge of Chambal River.
3. Pandu-lena Cave Shrines lie in the gorge of Narmada River.
4. Amaravati Stupa lies in the gorge of Godavari River.
How many of above statements is/are correct?
(a) Only one
(b) Only two
(c) Only three
(d) All four

17. In the context of the history of India, consider the following pairs:
Term	Description
1. Eripatti -	Land, revenue from which was set apart for the maintenance of the village tank
2. Taniyurs -	Villages donated to a single Brahmin or a group of Brahmins
3. Ghatikas -	Colleges generally attached to the temples
Which of the pairs given above is/are correctly matched?
(a) 1 and 2
(b) 3 only
(c) 2 and 3
(d) 1 and 3

18. Consider the following statements regarding Santiniketan.
1. Rabindranath Tagore established Shantiniketan in West Bengal.
2. In 2023, Santiniketan earned recognition as a UNESCO World Heritage Site.
3. The structures at Santiniketan draw inspiration from local tribal architecture, showcasing an eco-friendly design ethos.
How many of the above statements are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

19. Consider the following statements regarding the musical instrument Sursingar.
1. Sursingar is a stringed musical instrument similar to sarod.
2. The instrument is mainly made of leather.
3. The Sursingar usually accompanies Dhrupad, the genre of Hindustani vocal music.
How many of the above statements is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

20. Which of the following statements is not correct regarding the Chalcolithic period?
(a) Copper and stone items were widespread in this era.
(b) Beads made from semi-precious stones like steatite, quartz crystal, and carnelian were produced during this time.
(c) The inhabitants of the Chalcolithic period were adept at cloth manufacturing.
(d) Painted Grey Ware pottery stood out as the predominant type of pottery.

21. Consider the following statements:
1. The Vakataka bronze sculptures display a notable influence from the Mathura artistic style.
2. The Cholas are credited with introducing the lost-wax sculpture-making technique to India during the 1st century CE.
3. Portable Gupta bronze sculptures were carried by monks to different areas as they traveled.
How many of the above statements are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

22. Consider the following statements:
1. The Ajanta caves feature double-storeyed

caves, whereas the Ellora caves boast distinctive three-storeyed caves.

2. Images of Padmapani and Vajrapani are found in the Ajanta caves, but they are notably absent in the Ellora caves.

Which of the above statements is/are correct?

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

23. With reference to the Indian National Centre for Ocean Information Services (INCOIS), consider the following statements:

1. It is an autonomous organization under the Ministry of Environment, Forest and Climate Change.
2. INCOIS is the nodal agency for predicting and early warning regarding tsunamis in India.
3. It was established in 1999 and is located in New Delhi.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

24. Consider the following statements regarding Warli Painting:

1. These paintings are mainly dominated by basic geometric shapes like circles, triangles and squares.
2. It is popular among Saura tribes of Odisha.

Which of the above statements is/are correct?

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

25. Consider the following statements regarding Konark Sun Temple:

1. It was built by King Narasimha Deva I of the Eastern Ganga Dynasty in 1244.
2. It was given the status of a World Heritage Site in 1984 by UNESCO.
3. The government has launched a scheme for 100% solarisation of the temple.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

26. Consider the following passage:

A pioneer who challenged oppressive social norms in her quest for women's education, equality and justice. She is formally recognised as India's first woman teacher. She was a social reformer, educationalist and poet from Maharashtra. In 1852, she established a women's rights advocacy organisation, Mahila Seva Mandal. She published Bavan Kashi Subodh Ratnakar ('The Ocean of Pure Gems'), in 1892.

The above passage is related to which of the following personality?

(a) Savitribai Phule
(b) Durgabai Deshmukh
(c) Ahilyabai Holkar
(d) Sarojini Naidu

27. With reference to Bubble Baby Syndrome, consider the following statements:

1. 'Bubble baby syndrome,' known medically as Severe Combined Immunodeficiency (SCID) is very rare genetic disorder that causes life-threatening problems with the immune system.
2. SCID is a pediatric emergency. Without treatment, babies are not likely to survive past their first birthday.

Which of the above statements is/are correct?

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

28. Consider the following statements regarding Sky Dew:

1. Sky Dew is a massive balloon-like structure in the shape of a puffed aircraft.
2. It is one of the largest aerial threat warning systems in the world.
3. The technology has been jointly developed by Israel and US.

Which of the above statements are correct?

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

29. Consider the following statements regarding Spiral Galaxy:

Statement I:

Spiral galaxies are twisted collections of stars and gas that often have beautiful shapes and are made up of hot, young stars.

Statement II:

The Milky Way, the galaxy that includes Earth and our solar system, is an example of a spiral galaxy.

Which of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement –II is the correct explanation of 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

30. Consider the following statements regarding Yakshagana:

1. It is a traditional folk dance form popular in Kerala.
2. It is a rare combination of dance, music, song, scholarly dialogues and colourful costumes.
3. It is performed by men only.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

31. Consider the following statements regarding Momentum investing:

1. It refers to a style of investing wherein investors purchase assets such as stocks or bonds that are consistently rising in price while selling assets whose prices are falling.
2. Momentum investors generally conduct a deep analysis of the fundamental or intrinsic value of the assets in which they invest their money.

Which of the above statements 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. It is a River in west-central Africa and also called the Zaire River.
2. It is the continent's second-longest river, after the Nile, and the ninth-longest in the world.
3. It is the deepest river in the world. The main tributaries of this River are the Ubangi, Sangha, and Kasai.

The above statements are related to which of the following River?

(a) Zambezi River
(b) Niger River
(c) Limpopo River
(d) Congo River

33. Consider the following statements regarding VIPER Rover:

1. It is NASA's first mobile robotic mission to the Moon.
2. It will directly analyze ice on the surface and subsurface of the Moon at varying depths and temperature conditions.
3. It will land at the South Pole of the Moon in late 2024.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

34 Consider the following statements regarding Green Rupee Term Deposit Scheme:

1. It is an initiative of the Reserve Bank of India (RBI) with the aim of raising money to finance environment-friendly projects.
2. The deposit scheme is open to resident individuals, non-individuals, and non-resident Indian (NRI) customers.
3. Pre-mature withdrawals are not allowed under the scheme.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

35. Consider the following statements regarding ANUBHAV Awards:
1. It recognizes the contribution made by Retired Officials to Nation building while working in different Ministries or Departments of the government.
2. It is a joint initiative of Ministry of Human Resource Development and NITI Aayog.

Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

36. Consider the following statements regarding New Generation Akash missile:
1. It is a new generation state-of-the-art surface-to-air missile (SAM) for the Indian Air Force (IAF) to destroy high manoeuvring low radar cross section agile aerial threats.
2. It can strike targets upto 40 km.

Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

37. Which of the following countries are part of Thirty Meter Telescope (TMT) project?
(a) India, Canada, USA, Japan and China
(b) USA, Brazil, Israel, India and China
(c) Russia, Germany, France, Italy, and Australia
(d) France, USA, China, Russia and Israel

38. Consider the following statements with respect to Financial Intelligence Unit India (FIU IND):
1. It is a national agency responsible for receiving and disseminating information relating to suspect financial transactions.
2. It is an independent body that reports directly to the Economic Intelligence Council (EIC) headed by the Prime Minister.
3. FINnet 2.0 Mission is an initiative of FIU IND to provide quality financial intelligence.

How many of the statements given above are **incorrect?**

(a) Only one
(b) Only two
(c) All Three
(d) None of the above

39. Consider the following statements with respect to Square Kilometre Array Observatory (SKAO)
1. It is a single telescope installed in radio-quiet region of Argentina.
2. SKAO will observe and map galaxies at the edge of the observable universe.
3. India is not a part of this world's largest radio telescope project.

How many of the statements given above is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

40. Consider the following statements:
Statement-I:
The amount of carbon dioxide in the atmosphere of a planet can be used as an indication for habitable zones.
Statement-II:
The decrease in carbon dioxide in the planet implies that some of it is being dissolved into an ocean or maybe even captured by a planet-scale biomass.

Which one of the following is correct in respect of above statements:
(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

41. Consider the following statements with respect to Global Snow Leopard and Ecosystem Protection Programme (GSLEP):
1. It is an alliance between 12 snow leopard range countries, organizations and communities to protect the snow leopard and its mountain ecosystems.
2. It aims to achieve the goals of the

Bletchley Declaration.

3. India is one among the 12 snow leopard range countries and a member of GSLEP.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

42. Consider the following statements with respect to Access, Watch and Reserve (AWaRe)

1. It is a tool for monitoring antibiotic consumption that was developed by the National Centre for Disease Control (NCDC).
2. It defines the targets and monitors the effects of stewardship policies that aim to optimize antibiotic use and curb antimicrobial resistance.

Which of the above statements is/are correct?

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

43. Consider the following statements with respect to Wetland City Accreditation.

1. It is a voluntary system that recognizes cities which have taken exceptional steps to safeguard their urban wetlands.
2. It is established under the Ramsar Convention.
3. No Indian city have been formally accredited in the Wetland City Accreditation.

How many of the statements given above are **incorrect?**

(a) Only one
(b) Only two
(c) All Three
(d) None

44. Consider the following passage: B a n v a s i was the ancient capital of this rulers. This dynasty replaced Satavahana Empire in the northern Karnataka in 3rd century. In goa they were subordinates of Chalukyas of Kalyana. The inscription of this dynasty was written in Kannada and Sanskrit languages. The above passage best describes which one

of the following kingdom or dynasty?

(a) Kalabhras
(b) Ikshvakus
(c) Kadambas
(d) Rashtrakutas

45. Consider the following pairs:

Places	Countries
1. Kerman	– Iran
2. Beirut	– Lebanon
3. Haifa	– Israel

How many of the pairs given above are correct?

(a) Only one
(b) Only two
(c) All Three
(d) None

46. Consider the following statements:

1. The Census was first started under British Viceroy Lord Mayo.
2. The first synchronous census in India was held in 1951.

Which of the statements given above is/are correct?

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

47. The Gaza Strip, a self-governing territory in Western Asia, shares land borders with:

1. Israel
2. Egypt
3. Lebanon

Select the correct answer :

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

48. Arrange the following locations in the direction of North to South:

1. Tel Aviv
2. Haifa
3. Jerusalem
4. Gaza

Select the correct answer:

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

49. What is common to the places known as Padiyendhal, Alampadi and Kombaikadu?
(a) Ancient cave paintings
(b) Water reservoirs
(c) Community protected areas (forests)
(d) Recently discovered rare earth elements deposits

50. With the reference to educational institutions during rule in India, consider the following pairs:

	Institution	Founder
1.	Banaras Sanskrit College	- William Jones
2.	Calcutta Madarasa	- Warren Hastings
3.	Fort William College	- Arthur Wellesley

How many of the pairs given below is/are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

51. Consider the following statements:
1. The Indian Computer Emergency Response Team (CERT-In) is the nodal agency to deal with cyber security threats like hacking and phishing.
2. The CERT-In is an office within the Ministry of Electronics and Information Technology of the Government of India.
Which of the given above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

52. Consider the following statements about the SHe-Box:
1. It is an online complaint management system for registering complaints related to sexual harassment at workplace.
2. It is an initiative of the National Commission for Women (NCW).
Which of the statements given above is/are correct?
(a) 1 only

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

53. Consider the following statements with reference to Scheduled Banks in India:
1. Scheduled Banks in India refer to those banks which have been listed on the Bombay Stock Exchange.
2. Scheduled banks automatically acquires the membership of clearing house.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

54. Consider the following statements:
1. Foreign funding of persons in India is regulated under Foreign Contribution Regulation Act.
2. The FCRA is implemented by the Ministry of Finance.
Which of the following statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

55. Consider the following statements about domestic systemically important bank (D-SIB).
1. RBI declares only Public Sector Banks as domestic systemically important bank.
2. Banks become systemically important due to their size, cross-jurisdictional activities and interconnection.
3. Banks whose assets exceed 2% of GDP are considered part of this group.
Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

56. Consider the following statements:
1. The Election Commission of India can raise the expenditure limit for candidates contesting elections.

2. All candidates are required to submit their expenditure statement to the ECI within 90 days of the completion of the elections.

Which of the statements given above is/are correct?

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

57. Consider the following statements about National Tiger Conservation Authority (NTCA):

1. It has been constituted under Wildlife (Protection) Act, 1972.
2. It is set up under the Chairmanship of the Minister for Environment and Forests.
3. It lays down standards and guidelines for tiger conservation in the Tiger Reserves, apart from National Parks and Sanctuaries.

Which of the statements given above is/are correct?

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

58. Consider the following statements:

1. The Asiatic cheetah is classified as a "critically endangered" species by the IUCN Red List, and is believed to survive only in Africa.
2. Cheetah is a keystone species of dry forests, grasslands and savannahs.

Which of the given above statements is/are correct?

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

59. Consider the following statements:

1. River Cauvery rises on Brahmagiri Hill of the Western Ghats.
2. Some of its tributaries are Kumaradhara, Shishila Hole and Gundiya Hole.

Which of the following statements given above is/are correct?

(a) 1 only

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

60. Consider the following statements regarding the Joint Parliamentary Committee (JPC):

1. It is an ad-hoc body.
2. It is aimed at addressing a specific issue.
3. It can invite interested parties for inquiry and summon people to appear before it.

Which of the statements given above is/are correct?

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

61. Consider the following statements:

1. The Representation of the People Act, 1951 empowers the Election Commission of India to allot party symbols.
2. The Supreme Court of India is the only authority to decide issues on a dispute or a merger of political parties.

Which of the statements given above is/are correct?

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

62. In India, 'extended producer responsibility' was introduced as an important feature in which of the following?

(a) The Bio-medical Waste (Management and Handling) Rules, 1998
(b) The Recycled plastic (Manufacturing and Usage) Rules, 1999
(c) The e-Waste (Management and Handling) Rules, 2011
(d) The Food Safety and Standard Regulations, 2011

63. Consider the following statements.

1. Political parties in India are extra-constitutional institutions.
2. In India, the Election Commission of India recognises the political parties and provides certain benefits to them based on their voting share.
3. The right to form political parties is a

fundamental right.

Which of the above statements is/are correct?

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

64. Consider the following :
1. Convention on Biological Diversity (CBD)
2. Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES)
3. UN Convention to Combat Desertification (UNCCD)
4. Montreal Protocol on Substances that Deplete the Ozone Layer

The Global Environment Facility (GEF) serves as a financial mechanism for which of the above conventions?

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

65. With reference to OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer), consider the following statements:
1. It is a NASA asteroid-study and sample-return mission.
2. It is the third planetary science mission selected in the New Frontiers program, after Juno and New Horizons.
3. Bennu was chosen as the target of study because the availability of liquid water on its surface.

Which of the given above statements is/are correct?

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

66. Consider the following statements:
1. The National Supercomputing Mission (NSM) is being implemented and steered jointly by Bhabha Atomic Research Centre (BARC) and Indian Space Research Organisation (ISRO).
2. The Mission envisages empowering national academic and R&D institutions spread over the country by installing a vast supercomputing grid comprising of more than 70 high-performance computing facilities.

Which of the statements given above is/are correct?

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

67. The 'Paris Call for Trust and Security' is associated with which of the following?
(a) Climate change and food security
(b) Sustainable development goals
(c) Threat of global bioterrorism
(d) Regulation in cyberspace

68. Consider the following statements regarding GSLV Mk-III.
1. GSLV Mk III is designed to carry satellites into both Geosynchronous Transfer Orbit (GTO) and Low Earth Orbit (LEO).
2. Missions like Gaganyaan will be launched on GSLV Mk-III.
3. GSLV Mk-III uses a Russian-developed cryogenic engine in the upper stage.

Which of the above statements is/are correct?

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

69. Consider the following statements regarding TRAFFIC:
1. It is a joint program of WWF and IUCN
2. It is governed by UNEP.
3. It aims to ensure that trade in wild plants and animals is not a threat to the conservation of nature.

Which of the statements given above is/are correct?

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

70. Consider the following statements:
1. The South China Sea is an arm of western Pacific Ocean in Southeast Asia.

2. It is connected by Taiwan Strait with the East China Sea and by Luzon Strait with the Philippine Sea.

Which of the statements given above is/are correct?

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

71. What is Xenotransplantation, sometimes mentioned in the news?
(a) A range of enzymes used in genome editing
(b) The description of the mechanism of gene expression
(c) A mechanism of genetic mutations taking place in cells
(d) The process of transplanting organs between members of different species

72. Consider the following statements:
1. Lok Sabha Speaker is empowered to place a Member under suspension, but the authority for revocation of this order is not vested in him/her.
2. Unlike the Lok Sabha Speaker, the Rajya Sabha Chairman does not have the power to suspend a Member.

Which of the statements given above is/are correct?

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

73. Consider the following statements:
1. The Chief Election Commissioner can be removed from office only through impeachment by Parliament.
2. If elections are being held only for the State Legislature, the expenditure is borne entirely by the concerned State.

Which of the above statements is/are correct?

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

74. The term "sixth mass extinction/sixth extinction" is often mentioned in the news in the context:
(a) Large-scale commercial farming with indiscriminate use of chemicals in many parts of the world that may result in the loss of good native ecosystems.
(b) Fears of a possible collision of a meteorite with the Earth in the near future.
(c) Large scale cultivation of genetically modified crops in many parts of the world and promoting their cultivation in other Parts of the world which may cause the disappearance of good native crop plants and the loss of food biodiversity.
(d) Mankind's over-exploitation/misuse of natural resources, fragmentation/ loss, natural habitats, destruction of ecosystems, pollution and global climate change.

75. With reference to India's Ranthambore National Park, which of the following statements are correct?
1. It is located at the junction of the Aravali and Vindhya hill ranges.
2. It is bounded to the north by the Banas River and to the south by the Chambal River.
3. It harbours dry deciduous forests and open grassy meadow.

Which of the given above statements is/are correct?

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

76. With reference to El Nino weather events, consider the following statements:
1. During an El Nino event, westward-blowing trade winds weaken along the Equator.
2. El Nino brings rain to South America and droughts to Indonesia.
3. Stronger El Nino events disrupt global atmospheric circulation.

Which of the given above statements is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only

(d) 1, 2 and 3

77. Acinetobacter baumannii, Enterococcus faecalis, Escherichia coli are
(a) Agents of Non-Communicable Diseases (NCDs)
(b) Pathogens that have the ability to develop resistance to antibiotics.
(c) Drugs administered to livestock as painkillers/anti-inflammatory drugs.
(d) Vectors that cause Malaria

78. Consider the following statements regarding Black carbon (BC)
1. Black carbon is a form of particulate air pollutant, produced from incomplete combustion.
2. Black carbon stays in the atmosphere for several months to years.
3. Black Carbon is the strongest absorber of sunlight and heats the air directly.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

79. Consider the following statements regarding Key Biodiversity Areas
1. Key Biodiversity Areas (KBAs) is an umbrella term commonly used to include areas that contribute to the global persistence of biodiversity.
2. The criteria for designating a site as KBA have been described by UN Environment.
3. Globally KBAs are designated based on 11 criteria defined under five broad categories.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

80. With reference to cultural history of India, consider the following statements :
1. Sri Ramanujacharya is the chief proponent of Vishishtadvaita subschool of Vedanta.
2. Sri Ramanujacharya was initiated into bhakti spirituality by the poet-saint Sundaramurti.
3. Siant Chokhamela and Sri Ramanujacharya are contemporaries.
Which of the statements given above are correct?
(a) 1 and 3 only
(b) 1 and 2 only
(c) 1 only
(d) 2 and 3 only

81. If a particular plant species is placed under Schedule VI of the Wildlife Protection Act, 1972, what is the implication?
(a) A licence is required to cultivate that plant.
(b) Such a plant cannot be cultivated under any circumstances.
(c) It is a Genetically Modified crop plant.
(d) Such a plant is invasive and harmful to the ecosystem.

82. Consider the following statements:
According to the Contempt of Courts Act, 1971, civil contempt means:
1. Wilful disobedience of any judgment of a court
2. Wilful breach of an undertaking given to a court
3. To lower authority of any court
According to the Contempt of Courts Act, 1971, Which of the statements given above are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

83. In India, the registration of Political parties is governed by the provisions of the
(a) Representation of the People Act, 1950
(b) Representation of the People Act, 1951
(c) Registration of Electors Rules, 1960
(d) All of the above

84. With reference to India's satellite launch vehicle, consider the following statements:
1. PSLVs launch the satellites useful for Earth resources monitoring whereas GSLVs are designed mainly to launch communication satellites.
2. Satellites launched by PSLV appear to remain permanently fixed in the same

position in the sky, as viewed from a particular location on Earth.

3. GSLV MK III is a four-staged launch vehicle with the first and third stages using solid rocket motors; and the second and fourth stages using liquid rocket engines.

Which of the statements given above is/are correct?

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

85. Consider the following statements about Lithium:

1. It is a hard, black-white metal.
2. It has the highest specific heat capacity of any solid element.
3. It is flammable and can even explode when exposed to air and water.

Which of the statements given above is/are correct?

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

86. Consider the following:

1. Russia
2. Norway
3. Finland
4. Sweden

Baltic Sea shares border with which of the above countries?

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

87. Consider the following:

1. Countervailing and anti-dumping measures
2. Zeroing
3. Subsidies for renewable energy
4. Gambling

World Trade Organization's Appellate Body can deal with which of the above cases ?

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

(d) 1, 2, 3 and 4

88. Consider the following statements with reference to Electoral Bonds:

1. An electoral bond is like a promissory note that can be bought by any Indian citizen or company incorporated in India.
2. The electoral bonds are available for purchase for 10 days in the beginning of every year.
3. The electoral bonds will not bear the name of the donor.

Which of the given above statements is/are correct?

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

89. The regions near Alaska, Canada, and northern Europe consistently experience "high ranges of tides",

1. Due to Latitudinal effect
2. Due to Position and configuration of the continents in the northern hemisphere

Select the correct answer :

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

90. Consider the following statements:

1. In Indra Sawhney case the Supreme Court held that reservations under Article 16(4) could only be provided at the time of entry into government service but not in matters of promotion.
2. In Nagaraj case the Supreme Court said that the State is bound to make reservation for the SCs and STs in promotions.

Which of the above statements is/are correct?

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

91. Consider the following statements:

1. It is a mid-latitude cyclone that intensifies rapidly.
2. It has low pressure at its center.
3. It happens when atmospheric pressure

in the middle of the storm drops at least 24 millibars over 24 hours.

Which of the above statements is/are correct about 'Bomb Cyclone'?
(a) 1 and 2 0nly
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

92. Consider the following statements regarding Question Hour in Parliament.
1. The first hour of every parliamentary sitting is slotted for Question Hour where questions are asked only to Minsters.
2. A starred question requires an oral answer and hence supplementary questions can follow.
3. Questions may lead to the appointment of a Commission, a Court of Enquiry.
Which of the above statements is/are correct?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

93. Consider the following statements about Chief Economic Advisor to the Government of India:
1. The CEA reports to the Parliament of India.
2. The post is equivalent to Secretary to the Government of India.
3. The CEA is the head of the Department of Economic Affairs that operates under Ministry of Finance.
Which of the following statements is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

94. "Internal and Extra Budgetary Resources (IEBR)" sometimes seen in news is
(a) Financing received from IFC Masala bonds
(b) Resources raised by the PSUs through loans and equity
(c) Monetization of deficit through Forex Reserves
(d) Basel III Capitalization of Commercial Banks

95. When a recognised political party splits, which of the following authority has the power to make decision on assigning the symbol?
(a) Supreme Court of India
(b) High courts of India
(c) Election Commission of India
(d) Both (a) and (c)

96. Consider the following statements about Election Commission:
1. Since inception, the Election Commission is a multi-member body consisting of three election commissioners.
2. Election commissioner or a regional commissioner cannot be removed from office except on the recommendation of the chief election commissioner.
Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Nither 1 nor 2

97. Consider the following statements regarding the characteristics of Tropical rainforest biome:
1. Very high annual rainfall
2. High average temperatures
3. Nutrient-poor soil
4. High levels of species richness
Which of the above statements is/are correct?
(a) 1, 2 and 3
(b) 1, 3 and 4
(c) 1, 2 and 4
(d) 1, 2, 3 and 4

98. Pines, Spruces and Fir trees are found in:
(a) Equatorial Evergreen Forests
(b) Savanna Forests
(c) Taiga Forests
(d) Temperate deciduous forests

99. Which of the following is the major difference between soils found in Peninsular India and Northern India?
(a) Soils of Peninsular India are highly productive, whereas that of Northern India is largely alkaline and unproductive.

(b) Soils of Northern India are of volcanic origin, whereas that of Peninsular India is that of geosyncline origin.

(c) Soils of Peninsular India are mainly formed by the decomposition of rocks in situ, whereas that of Northern India mainly by depositional work of rivers.

(d) All of the above

100. The annual range of temperature in the interior of the continents is high as compared to coastal areas due to:

1. Thermal difference between land and water

2. Heavy rains in the interior as compared to coasts

3. Presence of strong winds in the interior

Which of the statements given above are correct:

(a) 1 only

(b) 1 and 2

(c) 1 and 3

(d) 1, 2 and 3

ANSWER

1.	(b)	21.	(a)	41.	(b)	61.	(d)	81.	(a)
2.	(c)	22.	(a)	42.	(b)	62.	(d)	82.	(a)
3.	(c)	23.	(a)	43.	(d)	63.	(c)	83.	(b)
4.	(a)	24.	(a)	44.	(c)	64.	(a)	84.	(a)
5.	(a)	25.	(c)	45.	(c)	65.	(a)	85.	(b)
6.	(b)	26.	(a)	46.	(a)	66.	(b)	86.	(c)
7.	(a)	27.	(c)	47.	(b)	67.	(d)	87.	(d)
8.	(d)	28.	(d)	48.	(b)	68.	(b)	88.	(a)
9.	(a)	29.	(b)	49.	(a)	69.	(c)	89.	(b)
10.	(c)	30.	(a)	50.	(a)	70.	(c)	90.	(a)
11.	(d)	31.	(a)	51.	(c)	71.	(d)	91.	(d)
12.	(c)	32.	(d)	52.	(a)	72.	(c)	92.	(c)
13.	(b)	33.	(c)	53.	(b)	73.	(b)	93.	(b)
14.	(b)	34.	(a)	54.	(a)	74.	(d)	94.	(b)
15.	(b)	35.	(a)	55.	(c)	75.	(d)	95.	(c)
16.	(a)	36.	(c)	56.	(a)	76.	(d)	96.	(b)
17.	(d)	37.	(a)	57.	(d)	77.	(b)	97.	(d)
18.	(c)	38.	(a)	58.	(b)	78.	(c)	98.	(c)
19.	(b)	39.	(a)	59.	(a)	79.	(c)	99.	(c)
20.	(d)	40.	(b)	60.	(d)	80.	(c)	100.	(a)

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