

R.C. Reddy IAS Study Circle
CURRENT AFFAIRS TEST SERIES- CSE PRELIMS 2024
CURRENT AFFAIRS TEST-6 - (August 2023)

Test Solutions

Q1 Ans: B

Exp:

- Context: Recently, on the occasion of World Elephant Day, the Union Minister of Environment, Forest and Climate Change and Labour and Employment highlighted various initiatives and accomplishments in India's elephant conservation journey.
- India has the largest number of wild Asian Elephants, estimated at 29,964 according to the 2017 census by Project Elephant.
- **Asian Elephants versus African Elephants**
 - The easiest way to distinguish African elephants from Asian elephants is to look at the ears. **African elephants have much larger ears that look sort of like the continent of Africa, while Asian elephants have smaller, round ears.** Elephants' ears dissipate their body heat, and African elephants need to dissipate more heat than Asian elephants, since they live in a hotter climate (that's getting even hotter with climate change).
 - African elephants and Asian elephants also differ in head shape. **African elephants have rounded heads, while Asian elephants have a twin-domed head,** which means there's a divot line running up the head.
 - Finally, you can look at the tusks. **Both male and female African elephants can have tusks, but only male Asian elephants can grow them.** It's important to note, however, that not all male Asian elephants nor all African elephants necessarily develop tusks.

Q2 Ans: B

Exp:

- Context: Recently, the Reserve Bank of India (RBI) will introduce a comprehensive framework to enhance transparency and establish proper rules for resetting Equated Monthly Instalments (EMIs) for floating rate loans.
- Floating rate loans are loans that have an interest rate that changes periodically, **depending on a benchmark rate or the base rate.**
 - This base rate, such as the repo rate - rate at which RBI lends money to financial institutions - is influenced by market forces.
 - (statement 2 is correct)
- Floating-rate loans are also known as variable or adjustable-rate loans, as they can vary over the term of the loan. (statement 1 is correct)
- Floating rate loans are common for credit cards, mortgages, and other consumer loans.
- Floating rate loans are beneficial to borrowers when interest rates are expected to drop in the future

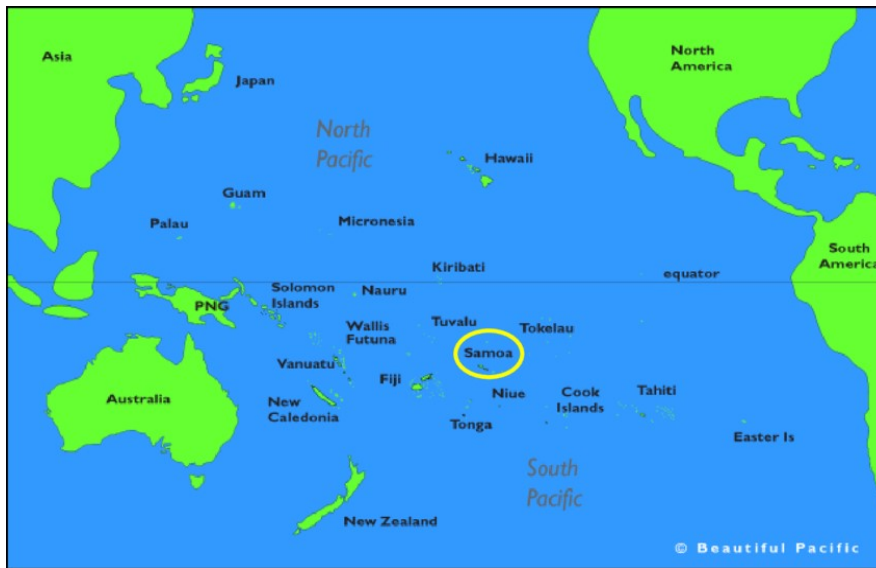
- **Fixed interest rates are also allowed by RBI.** Fixed interest rate loan requires a borrower to pay set instalments during the loan tenure. It offers a greater sense of security and stability in times of fluctuations in the economy.

Q3 Ans: D

Exp:

- Context: Recently, Hawaii has been grappling with extensive Wildfires that have wreaked havoc across the state.
- Aleutian Islands: These islands are part of the Aleutian archipelago and extend from Alaska towards the southwest. They are located in the northern part of the Pacific Ocean.
- Kurile Islands: The Kuril Islands stretch northeast from Japan to the southern tip of Russia's Kamchatka Peninsula. They are situated to the north of Japan.
- Hawaii: Hawaii is an archipelago located in the central Pacific Ocean. It is a U.S. state and is situated to the southeast of the Kuril Islands and the Aleutian Islands.
- Samoa: Samoa is an island country in Polynesia, located in the southern part of the Pacific Ocean. It is to the south of Hawaii.





Q4 Ans: B

Exp:

- Context: The pandemic led to the development of rapid and unbiased genome sequencing techniques for pathogen surveillance. The metagenomic approach, used to directly sequence patient samples without prior knowledge of the infectious agent, quickly identified SARS-CoV-2 as the cause of COVID-19.
- **Metagenomics is a field of study that involves the direct analysis of genetic material from environmental samples containing a mix of microorganisms.** The primary purpose of metagenomics is to understand and characterize the genetic diversity, composition, and function of microbial communities **without the need for isolating and cultivating individual organisms.** It provides insights into the collective genetic potential and functional capabilities of the microorganisms present in a given environment, such as soil, water, or the human microbiome.

Q5 Ans: B

Exp:

- Context: Recently, the Minister of Labour and Employment provided valuable insights into the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 during a written reply in the Rajya Sabha.
- **The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996**, commonly referred to as the BOCW Act, plays a significant role in safeguarding the rights and interests of workers in the construction sector.
- The constitution of **State Welfare Boards to administer the welfare fund** and to provide various benefits to the registered workers such as accident insurance, medical assistance, education, housing, pension, etc.
- It provides for the levy and collection of cess at 1-2% of the cost of construction, as the Central government may notify which will constitute the part of Welfare Fund for the workers.

Q6 Ans: A

Exp:

- **Context: Recently, the Union Minister for Animal Husbandry and Dairying inaugurated the 'A-HELP' (Accredited Agent for Health and Extension of Livestock Production) programme. (statement 2 is not correct)**
- A-HELP programme is part of the Azadi Ka Amrit Mahotsav initiative, Pashudhan Jagrati Abhiyaan, and Rashtriya Gokul Mission's goals, fostering livestock enhancement.
- The 'A-HELP' programme enlists trained women agents for disease control, artificial insemination, animal tagging, and livestock insurance. (statement 1 is correct)
- Focuses on critical areas of livestock health, disease management, and animal infertility.
- By empowering women and enhancing livestock, the 'A-HELP' program contributes to the socio-economic progress of rural communities.

Q7 Ans: B

Exp:

- Context: The race for lunar exploration has taken an intriguing turn as Russia's Luna 25 mission, launched aboard its Soyuz rocket on August 10, 2023, seeks to soft-land close to the lunar South Pole, just days before India's Chandrayaan-3.
- Various countries are launching moon missions besides India's Chandrayaan. India is also collaborating with Japan for Lunar Polar Exploration (LUPEX) Mission.
 - **Artemis Program - NASA** (Not the European Space Agency)
 - **Chang'e Program - China** National Space Administration
 - **Luna 25 - Russian Space Agency (ROSCOSMOS)**
 - **Smart Lander for Investigating Moon (SLIM) - Japan Aerospace Exploration Agency (JAXA)**

Q8. Ans: A

Exp:

- Context: Recently, Indian Prime Minister officially launched 'Urea Gold' fertiliser'. It is developed by Rashtriya Chemicals and Fertilizers Ltd (RCF), a leading fertilizer and chemical manufacturing company in India in the Public Sector.
- Urea Gold is created by infusing urea with sulphur, creating a composite fertilizer with 37% nitrogen (N) and 17% sulphur (S).
 - This nutrient blend serves two primary objectives: fulfilling sulphur requirements in Indian soils and enhancing nitrogen use efficiency (NUE)
- **Indian soils frequently lack sulphur**, an essential element particularly crucial for oilseeds and pulses. By incorporating sulphur into the fertilizer composition, 'Urea Gold' aims to provide a comprehensive nutrient package, thus catering to the specific needs of crops reliant on sulphur.
- A key innovation of 'Urea Gold' is its ability to **improve nitrogen use efficiency (NUE)**.

- The sulphur coating on urea enables a gradual release of nitrogen, leading to prolonged nutrient availability.
- As a result, plants maintain their greenness for an extended duration. This phenomenon allows farmers to reduce the frequency of usage.

Q9 Ans: D

Exp:

- Context: The Punjab and Haryana High Court's Suo Motu intervention in the Demolition Drive in Haryana, asking whether it is an exercise of Ethnic Cleansing and shed light on potential violation of Fundamental Rights and the erosion of rule of law.
- Rule of law asserts that **the law applies equally to all individuals, irrespective of their position or authority**. No one, including government officials or those in power, is exempt from compliance with the law. (option a is correct)
- It implies that **laws are the highest authority and that no individual, regardless of their status, holds authority over the law**. This principle ensures that legal decisions are based on established rules and principles rather than the arbitrary will of individuals. (option b is correct)
- It emphasizes that the legal system should treat all individuals equally, ensuring that legal rights and protections are not contingent on social status or wealth. (option c is correct)
- **The principle of the rule of law generally leans towards clear, specific, and unambiguous laws**. The concept of "void for vagueness" suggests that vague laws may be deemed unenforceable or unconstitutional because they lack the clarity necessary for individuals to understand what is prohibited. (Option d is not correct)

Q10 Ans: A

Exp:

- Context: The Punjab and Haryana High Court made a rare interference by taking judicial notice Suo motu and stayed the demolition drive.
- **While the rule of law is declared a basic feature of the Constitution, rule by law is the antithesis of all that is represented by rule of law.** (statement 1 is not correct)
- The rule of law is a government run by law, not men. The roots of the idea of a rule of law can be seen in Article 39 of Magna Carta (1215) that declares that "No freemen shall be taken or imprisoned or disseised or exiled or in any way destroyed, nor will we go upon him nor send upon him, except by the lawful judgment of his peers or by the law of the land.
- Rule by law refers to a situation where laws are used to further a political agenda, often at the expense of individual rights and freedoms. It can be characterized by the selective application of laws to suppress dissent. (statement 2 is correct)
- Rule by Law does not necessarily emphasize equality, accountability, and the supremacy of a fair and just legal system. Instead, it focuses on the formal application of laws, even if they are used for oppressive purposes. (statement 3 is not correct)

Q11. Ans: B

Exp:

- **Context: Recently, the Union Minister of Agriculture and Farmers Welfare provided valuable insights in a written reply in Rajya Sabha regarding the comprehensive strategies being employed to enhance pulses production in India.**
- Pulses are one of the important food crops globally due to their higher protein content. Pulses are an important group of crops in India, which is also responsible for yielding large financial gains by amounting to a large part of the exports. Pulses are the major sources of protein in the diet.
- Of all categories of people, pulses form an integral part of the Indian diet, providing much-needed protein to the carbohydrate-rich diet.
- **India is the largest producer of pulses in the world.** Pulses are 20 to 25 percent protein by weight which is double the protein content of wheat and three times that of rice
- **India is also the largest consumer (27% of world consumption) and importer (14%) of pulses in the world.** (Statement 2 is correct and 3 is incorrect)
- Pulses account for around 20% of the area under foodgrains and contribute around 7-10% of the total foodgrains production in the country.
- Though pulses are grown in both Kharif and Rabi seasons, Rabi pulses contribute more than 60% of the total production.

Q12. Ans: D

Exp:

- **Context: Lake Titicaca is facing a serious threat from climate change and drought. It is the largest freshwater lake in South America and the highest of the world's largest lakes.**
- The lake, which lies on the border between Bolivia and Peru, has seen its water levels drop to near-record lows.



Q13 Ans: A

Exp:

- Context: India and the World Health Organization (WHO) will introduce the Global Initiative on Digital Health during the ongoing G-20 summit in Gandhinagar, Gujarat.
- **The Global Initiative on Digital Health (GIDH) is a WHO managed network of stakeholders organized to facilitate the implementation of the Global Strategy on Digital Health 2020-2025 and other WHO norms and standards for Digital Health System Transformation.** The Initiative will serve as a platform to enable a wide global ecosystem to work collectively to promote country capacity and strengthen international cooperation in digital health.
- **The key components of the GIDH** will leverage existing evidence, tools and learnings and will be co-created through a transparent and inclusive process. Through this evidence-based and comprehensive co-creation process, GIDH will ultimately aim to:
 - **ALIGN efforts to support of the Global Strategy on Digital Health 2020–2025;**
 - **SUPPORT** quality-assured technical assistance to develop and strengthen standards-based and interoperable systems aligned to global best practices, norms, and standards;
 - **FACILITATE** the deliberate use of quality assured digital transformation tools that enable governments to manage their digital health transformation journey.

Q14 Ans: C

Exp:

- Context: Union Cabinet approves new Central Sector Scheme ‘PM Vishwakarma’ to support traditional artisans and craftspeople of rural and urban India
- **PM Vishwakarma, a Central Sector Scheme**, was launched on 17th September, 2023 by the Prime Minister to provide end-to-end support to artisans and craftspeople who work with their hands and tools. The Scheme covers artisans and craftspeople engaged in 18 trades. (statement 1 is not correct)
- The Scheme envisages provisioning of the following benefits to the artisans and crafts persons:
 - **Recognition:** Recognition of artisans and craftspeople through PM Vishwakarma certificate and ID card.
 - **Skill Upgradation: Basic Training of 5-7 days and Advanced Training of 15 days or more, with a stipend of Rs. 500 per day;** (statement 2 is correct)
 - **Toolkit Incentive:** A toolkit incentive of upto Rs. 15,000 in the form of e-vouchers at the beginning of Basic Skill Training.
 - **Credit Support: Collateral free ‘Enterprise Development Loans’** of upto Rs. 3 lakh in two tranches (statement 3 is correct)
- It is being implemented by Ministry of Micro, Small and Medium Enterprises. (statement 4 is also correct)

Q15 Ans: B

Exp:

- Context: Addressing the nation from the ramparts of the Red Fort on the 77th Independence Day today, Prime Minister Shri Narendra Modi has said that the Government is working with Women's Self Help Groups (SHGs) with the aim of creating 2 crore 'Lakhpati Didis' in villages. (statement 1 is correct)
- 10 crore women are today associated with Women's Self-Help Groups. In villages today, one can find a Didi in the Bank, in the Anganwaadi and a Didi to provide medicines.
- The Prime Minister spoke about agri-tech and made a pitch for leveraging the potential of science and technology in rural development. **The PM said that 15,000 Women's Self-Help Groups would be given loan and training for operating and repairing drones.** "Drone ki Udaan" will be carried out by these Women's Self-Help Groups. (statement 2 is correct)
- It is being implemented by Ministry of Rural Development

Q16 Ans: D

Exp:

- Context: Recently, Prime Minister in his address on 77th Independence Day, unveiled a new scheme aimed at alleviating the housing crisis faced by the urban poor.
- **Pradhan Mantri Awas Yojana Urban**
 - **Ministry of Housing and Urban Affairs has been implementing Pradhan Mantri Awas Yojana-Urban (PMAY-U) under 'Housing for All' Mission** since June, 2015 by giving Central assistance to implementing agencies through States/Union Territories (UTs) for providing all-weather pucca houses with basic civic amenities to all eligible urban beneficiaries. (statement a is correct)
 - The implementation period of PMAY-U scheme which was earlier from 25.06.2015 to 31.03.2022, has since been extended up to 31.12.2024, except Credit Linked Subsidy Scheme (CLSS) vertical).
 - **PMAY-U is a demand driven scheme and Government of India has not fixed any target for construction of houses.** States/UTs have undertaken demand survey under PMAY-U for assessing actual demand of housing and reported a demand of 112.24 lakh houses. (statement b is correct)
 - **ANGIKAAR Campaign** under it focuses on adopting best practices such as water & energy conservation, waste management, health, sanitation and hygiene for PMAY(U) beneficiaries. (statement c is correct)
 - **It is a Centrally Sponsored Scheme.** (Statement d is not correct)

Q17 Ans: C

Exp:

- **Context: Cabinet approves "PM-eBus Sewa" for augmenting city bus operations; priority to cities having no organized bus service**
- The Cabinet chaired by the Prime Minister Shri Narendra Modi, has approved a bus scheme "PM-eBus Sewa" for augmenting city bus operation by 10,000 e-buses on PPP model. The Scheme would have an estimated cost of Rs.57,613 crore, out of which support of Rs.20,000 crore will be provided by the Central government. The Scheme will support bus operations for 10 years.
- **Reaching the Unreached:**

- **The scheme will cover cities of Three lakh and above population as per census 2011 including all the Capital cities of Union Territories, North Eastern Region and Hill States. Under this scheme priority will be given to cities having no organized bus service. (statement 2 is correct)**
- **Direct Employment Generation:**
 - The scheme will generate 45,000 to 55,000 direct jobs through deployment of around 10,000 buses in city bus operation.
- **The Scheme has two segments:**
- **Segment A – Augmenting the City bus services:(169 cities)**
 - **The approved bus scheme will augment city bus operations with 10,000 e-buses on Public Private Partnership (PPP) model. (statement 1 is correct)**
 - Associated Infrastructure will provide support for Development/ up-gradation of depot infrastructure; and Creation of behind-the-meter power infrastructure (substation, etc.) for e-buses.
- **Segment B– Green Urban Mobility Initiatives (GUMI): (181 cities)**
 - The scheme envisages green initiatives like bus priority, infrastructure, multimodal interchange facilities, NCMC-based Automated Fare Collection Systems, Charging infrastructure, etc.
 - **Support for Operation: Under the scheme, States/Cities shall be responsible for running the bus services and making payments to the bus operators.** The Central Government will support these bus operations by providing subsidy to the extent specified in the proposed scheme. (statement 3 is correct)

Q18 Ans: A

Exp:

- Context: The Matti banana variety, native to Kanniyakumari district was recently granted the Geographical Indication (GI) tag.
- **Matti Banana**
 - There are six known types of the Matti banana and they are indigenous to Kanniyakumari, Tamil Nadu, where it thrives in the unique climate and soil.
 - They are known as ‘Baby Banana’ which flourishes mainly in Kalkulam and Vilavancode taluks.
 - **Its low total soluble solids content (TSSC) recommends it as a baby food.**
- **Berinag Tea**
 - Recently, over 15 products from **Uttarakhand** have been given the coveted GI tag by the Geographical Indications Registry
 - Berinag tea from Uttarakhand is highly sought after by London tea establishments and tea blenders
- **Marcha Rice**
 - The Mircha/ Marcha rice variety from **West Champaran district of Bihar** has recently been granted the GI tag. The grains of this rice are similar in size and shape to black pepper, which is why it is called Mircha.

Q19 Ans: A

Exp:

- **Context: Recently, Indian Space Research Organisation (ISRO) in collaboration with the Bhabha Atomic Research Center (BARC), has embarked on the joint development of Radio thermoelectric generators (RTGs),** an innovative approach aimed at surpassing the constraints of conventional chemical engines for interplanetary voyages.
- RTGs are innovative power sources designed to address challenges in deep space missions. RTGs utilize radioactive materials, such as Plutonium-238 or Strontium-90, which emit heat as they decay over time. This heat is harnessed and converted into electricity, enabling the propulsion and power of spacecraft.
- **Chemical engines work well for satellite thrusters, but they are inadequate for deep space travel due to fuel limitations and lack of solar power in distant regions.** (statement 2 is correct)
- RTGs have been successfully employed by US spacecraft such as the Voyager, Cassini and Curiosity, to power missions with exceptional achievements. (statement 1 is correct)
- Thus Both Statement-I and Statement-II are correct and Statement-II is the correct Exp: for Statement-I

Q20 Ans: C

Exp:

- **Context: The Cauvery water dispute has once again taken center stage, as Tamil Nadu appeals to the Supreme Court of India for intervention in ensuring the release of 24,000 cubic feet per second (cusecs) from its reservoir's water by Karnataka.**
- The Cauvery River originates in the Western Ghats of Karnataka and flows through the states of Karnataka and Tamil Nadu before emptying into the Bay of Bengal. The basin covers parts of Karnataka, Tamil Nadu, Kerala, and Puducherry.
- The Cauvery River is significant for the region as it supports agriculture, provides water for drinking and industrial purposes, and plays a crucial role in the overall ecology of the area.
- Several protected areas are located within the Cauvery Basin, contributing to the conservation of biodiversity and the sustainable management of natural resources
 - Cauvery Wildlife Sanctuary (Karnataka)
 - Biligiriranga Swamy Temple Wildlife Sanctuary (Karnataka)
 - Sathyamangalam Tiger Reserve
 - Mudumalai National Park and Wildlife Sanctuary
 - Nagarhole National Park
 - Wayanad Wildlife Sanctuary
 - Bandipur National Park
- Papikonda National Park is located in Andhra Pradesh in Godavari basin

Q21 Ans: B

Exp:

- **Context: Recently, a Memorandum of Understanding (MoU) has been signed between the Indian Pharmacopoeia Commission (IPC) and the Ministry of Health of Suriname, aiming to recognize the Indian Pharmacopoeia (IP) as a standard for medicines in Suriname.**
- **Indian Pharmacopoeia Commission**

- **Indian Pharmacopoeia Commission (IPC) is an Autonomous Institution of the Ministry of Health and Family Welfare, Govt. of India. (statement 1 is not correct)**
- **IPC is created to set standards of drugs in the country. Its basic function is to update regularly the standards of drugs commonly required for treatment of diseases prevailing in this region. (Statement 2 is correct)**
- It publishes official documents for improving Quality of Medicines by way of adding new and updating existing monographs in the form of Indian Pharmacopoeia (IP).
- **It further promotes rational use of generic medicines by publishing National Formulary of India. (statement 3 is correct)**
- IP prescribes standards for identity, purity and strength of drugs essentially required from health care perspective of human beings and animals.
- IPC also provides IP Reference Substances (IPRS) which act as a finger print for identification of an article under test and its purity as prescribed in IP.

Q22 Ans: D

Exp:

- **Context: In a significant development, NASA's (National Aeronautics and Space Administration) Solar Terrestrial Relations Observatory (STEREO-A) spacecraft has made its first Earth Flyby, nearly 17 years after its initial launch.**
- During the Earth flyby, STEREO-A is set to collaborate with NASA's Solar and Heliospheric Observatory (SOHO) and NASA's Solar Dynamics Observatory (SDO), enhancing its observational capabilities.
- The collaboration aims to optimize STEREO-A's stereo vision, allowing it to capture solar features of varying sizes at different distances.
- STEREO-A (A stands for Ahead), along with its companion STEREO-B (B stands for Behind), was launched in 2006 with the objective of studying the Sun's behavior.
- The spacecraft follows Earth-like orbits around the Sun to provide a stereoscopic view, enabling researchers to study solar phenomena from multiple perspectives.

Q23 Ans: D

Exp:

- Context: The National Green Tribunal (NGT) ordered the Assam government to provide interim compensation to victims of Baghjan oil and gas leak. This site belongs to OIL India Ltd near Dibru Saikhowa National Park.
- On May 27, 2020, a blowout occurred at the Baghjan oil field operated by Oil India Limited (OIL). A blowout refers to the uncontrolled release of oil and gas from a well. Subsequently, a fire erupted at the well site.
- NGT-formed committee led by Justice BP Katakey found environmental violations, declaring Baghjan oil and gas field illegal.

INDIA
Oil and Natural Gas
Pipelines



Q24 Ans: A

Exp:

- Context: National Automated Fingerprint Identification System (NAFIS) of National Crime Records Bureau (NCRB), won the Gold Award under the Excellence in Government Process Reengineering for Digital Transformation Category-1 of Department of Administrative Reforms and Public Grievances (DARPG).
- **NAFIS, a nationwide database managed by NCRB, swiftly stores crime-related fingerprints and assigns a unique 10-digit National Fingerprint Number (NFN) to apprehended criminals within 24 hours.**
- **NFN remains with the offender for life, connecting various crimes under different FIRs to the same ID.** (Statement 2 is correct)
- **It is managed by Central Fingerprint Bureau(CFPB) of the National Crime Records Bureau.** (Statement 1 is not correct)
- **It is not used to register the fingerprints of the victims.** (Statement 3 is not correct)

Q25 Ans: C

Exp:

- Context: Recent suspensions of Members of Parliament (MPs) have raised concerns about the legality, rationale, and constitutionality of such actions (as per the author).
- Rules for suspension of MPs in Lok Sabha
 - **Rule 373:** Rules The Speaker can direct a member to withdraw immediately from the House if he finds the member's conduct disorderly.
 - Members so ordered to withdraw shall do so forthwith and shall remain absent during the remainder of the day's sitting.
 - **Rule 374:** The Speaker can name a member who disregards the authority of the Chair or abuses the rules of the House by persistently and wilfully obstructing the business thereof.
 - **And the member so named will be suspended from the House for a period not exceeding the remainder of the session.** (statement 1 is correct)
 - A member suspended under this rule shall forthwith withdraw from the precincts of the House.
- Rules for Suspension of MPs in Rajya Sabha
 - **Rule 255:** The Chairman of Rajya Sabha is empowered under Rule 255 of its Rule Book to **“direct any Member whose conduct is in his opinion grossly disorderly to withdraw immediately” from the House.**

- **Rule 256: Under this rule, the Chairman may name a Member who disregards the authority of the Chair or abuses the rules of the Council by persistently and wilfully obstructing business.**
- **In such a situation, the House may adopt a motion suspending the Member from the service of the House for a period not exceeding the remainder of the session. (statement 2 is also correct)**

Q26 Ans: B

Exp:

- Context: Recently, the Ministry of Environment, Forests and Climate Change (MoEFCC) reversed its decision to establish integrated regional offices by merging key environmental bodies under its umbrella.
- The initial plan, announced during the Covid-19 lockdown, aimed to bring together the Forest Survey of India (FSI), the National Tiger Conservation Authority (NTCA), the Wildlife Crime Control Bureau (WCCB), and the Central Zoo Authority (CZA) under a unified structure.
- **Wildlife Crime Control Bureau:**
 - **Wildlife Crime Control Bureau is a statutory multi-disciplinary body established by the Government of India under the Ministry of Environment and Forests, to combat organized wildlife crime in the country. (Statement 1 is correct)**
 - The Bureau has its headquarter in New Delhi and five regional offices at Delhi, Kolkata, Mumbai, Chennai and Jabalpur; three sub-regional offices at Guwahati, Amritsar and Cochin; and five border units at Ramanathapuram, Gorakhpur, Motihari, Nathula and Moreh.
 - **It has statutory status and was constituted by amending the Wild Life (Protection) Act, 1972. (statement 2 is not correct)**
 - **Under Section 38 (Z) of the Wild Life (Protection) Act, 1972, it is mandated to collect and collate intelligence related to organized wildlife crime activities and to disseminate the same to State and other enforcement agencies for immediate action so as to apprehend the criminals; to establish a centralized wildlife crime data bank; co-ordinate actions by various agencies in connection with the enforcement of the provisions of the Act.**
 - **It also assists and advises the Customs authorities in inspection of the consignments of flora & fauna as per the provisions of Wild Life Protection Act, CITES and EXIM Policy governing such an item. (Statement 3 is correct)**

Q27 Ans: B

Exp:

- Context: The Himalayan region, renowned for its breathtaking landscapes and cultural heritage, faces a pressing need to address sanitation issues that have long been overshadowed by concerns over illegal construction and surging tourist influx.
- Following features are associated Indian Himalayan Region
 - **Deep gorges**
 - **U-turn river courses**
 - **Parallel mountain ranges**
 - **Alluvial fans**
 - **Steep gradients causing land sliding**
 - Alpine Flora and Fauna
 - Glaciers
- High plateaus and Shola forests are associated with the western Ghats.

Q28 Ans: D

Exp:

- **Context: The sixth anniversary of the Minamata Convention on Mercury is a reminder of global efforts to combat the toxic effects of mercury.**
- **On this occasion, the United Nations Environment Programme (UNEP) reflects on the ongoing campaign to eradicate the use of mercury in small-scale gold mining.**
- This practice, despite its economic significance, poses severe risks to both miners and the environment due to the hazardous properties of mercury.
- **Mercury is used in small-scale gold mining primarily because it forms an amalgam with gold, allowing for efficient extraction of gold particles from ore. This process is known as amalgamation,** and it has been a traditional method used by artisanal and small-scale gold miners for centuries.
- The amalgamation process is relatively simple and does not require sophisticated equipment. Miners mix the mercury with crushed ore, and the gold particles combine with the mercury to form an amalgam
- After amalgamation, the gold-mercury amalgam is heated, causing the mercury to vaporize and leaving behind the concentrated gold.

Q29 Ans: B

Exp:

- Context: India's foreign exchange reserves have increased by USD 708 million to USD 602.16 billion for the week ended 11th August 2023, according to the latest data from the Reserve Bank of India.
- The components of Indian forex reserves are vital to the nation's financial stability and economic growth. These components are carefully managed to ensure a

balanced portfolio responding to various economic scenarios. The main elements of forex reserves in India include

- **foreign currencies,**
- **gold reserves,**
- **special drawing rights, and**
- **the reserve portion in IMF.**
- Thus, only three is the correct options according to demand of the question

Q30 Ans: D

Exp:

- Context: Major ports in India registers growth of 4.2 per cent in August 2023
- **Port Models in India**
- **Landlord Model:**
 - **Ownership:** Ports under the landlord model are typically owned by the government.
 - **Management:** The port authority (government) retains ownership and control of the port infrastructure. Private entities are invited to lease terminal facilities and provide services within the port, such as cargo handling, logistics, and operations. (statement 1 is not correct)
 - **Example:** Major ports in India, **including Mumbai Port Trust and Chennai Port Trust**, follow the landlord model.
- **Service Model (Operator-centric Model):**
 - **Ownership:** The government retains ownership of the port.
 - **Management:** In service ports, port authority does the administration and operation of port activities. The port operation includes providing navigational services, warehouse facilities, cranes, and skilled employees/laborers. So the construction of infrastructure, superstructure, and providing employees, becomes the responsibility of the port authority. (statement 2 is not correct)
 - **Example:** The Jawaharlal Nehru Port Trust (JNPT) in Mumbai has implemented a variant of the service model.
- **Corporatised Port:**
 - **Ownership:** The government retains ownership but partners with private entities.
 - **Management:** Private entities take on a more significant role in the management, operation, and development of specific port terminals or facilities under a concession agreement. (statement 3 is not correct)
 - **Example:** Container Terminal Concessions at major ports, such as **the Mundra Port Container Terminal (MPCT) in Gujarat**, operated by Adani Ports.

Q31 Ans: C

Exp:

- Context: Recently many countries signed the High Seas Treaty also known as the agreement on Biodiversity Beyond National Jurisdictions (BBNJ).
- Biodiversity Beyond National Jurisdiction (BBNJ) Agreement. Also known as the “High Seas Treaty”, it is the **first international legally binding instrument to conserve and sustainably manage marine biodiversity** in areas beyond national jurisdiction. (statement 1 is correct)
- The BBNJ Treaty sets up a procedure to establish large-scale marine protected areas in the high seas. This facilitates the achievement of **the target to effectively conserve and manage 30% of land and sea by 2030**. (statement 2 is correct)
- The agreement will create ocean sanctuaries where fishing will be prohibited. (statement 3 is correct)
- India has not signed the treaty yet. (statement 4 is not correct)

Q32 Ans: C

Exp:

- Context: Recently, the Government of India, in consultation with the Reserve Bank of India, has decided to issue Sovereign Gold Bonds (SGBs) in tranches for 2023-24.
- The first SGB scheme was launched by the Government in November 2015, under Gold Monetisation Scheme with an objective to reduce the demand for physical gold and shift a part of the domestic savings - used for the purchase of gold - into financial savings.
- **Sovereign Gold Bonds (SGBs) are indeed issued by the Reserve Bank of India (RBI) on behalf of the Government of India.** (statement 1 is correct)
- **SGBs can be used as collateral for loans. Investors can pledge the bonds as collateral to avail of loans.** (statement 2 is correct)
- **SGBs are eligible for trading.** After the initial subscription period, these bonds are listed on stock exchanges, allowing investors to buy or sell them in the secondary market. (statement 3 is correct)
- Purpose of SGBs scheme
 - To bring the idle gold lying with Indian households into the economy
 - To reduce India's dependence on gold imports

Q33 Ans: C

Exp:

- Context: Recently, Russia's Luna-25 crashed on the Moon's surface, ending its first mission to the lunar surface 47 years after the last landing by the former Soviet Union.

- Luna 25, also designated the Luna-Glob-Lander, is a Russian lunar lander mission that launched on 10 August 2023. It was targeted to the south polar region of the Moon.
- There are two primary scientific objectives of the mission:
 - to study composition of the polar regolith, and
 - to study the plasma and dust components of the lunar polar exosphere.
- Communications were lost on August 19 and the lander reportedly crashed on the surface.

Q34 Ans: B

Exp:

- Context: Starting from August 15, the National Cooperative Consumers' Federation (NCCF) and the National Agricultural Cooperative Marketing Federation of India (NAFED) will be selling tomatoes at a retail price of Rs. 50 per kg.
- NCCF, as an organization to promote consumer cooperative movement in the country, aspires to facilitate the voluntary formation and democratic functioning of cooperatives, based on self-reliance and mutual aid for overall economic betterment and financial autonomy.
- **NCCF was established on 16 th October, 1965 to function as the apex body of consumer cooperatives in the country. It is registered under the Multi-State Co-operative Societies Act, 2002. (statement 1 and 3 are correct)**
- NCCF Headquarters is situated in New Delhi.
- The management of NCCF vests in the Board of Directors. The ultimate authority of NCCF vests in the hands of the General Body. Board of Directors exercises all the powers of NCCF except those reserved for General Body. The current sanctioned strength of the Board of Directors is 21.
- **NCCF functions under the Ministry of Consumer Affairs, Food and Public Distribution, Government of India. (statement 2 is not correct)**

Q35 Ans: B

Exp:

- Context: Addressing price volatility in the Tomato, Onion, and Potato (TOP) commodities has become a pressing issue in India. These essential food items experience significant price fluctuations throughout the year due to factors like climate change, monsoons, pest attacks, and supply-demand dynamics
- Reasons for the volatility in prizes
 - **Seasonality:** TOP crops have distinct harvest seasons, which can create price fluctuations based on the availability of the crops. (1 is correct)

- **Regional concentration of production:** Most of the TOP production is concentrated in a few states. Onion, for instance, is mainly sourced from Maharashtra. (2 is correct)
- **Production cycle uncertainty:** Negative uncertainty regarding crop yield or damage due to weather events, pests, or diseases can result in significant price volatility. (3 is correct)
- **Perishability and storage constraints:** The perishable nature of these vegetables, particularly tomatoes, contributes to their price volatility. (6 is correct)
- **Demand inelasticity:** Demand for onions, for example, is price inelastic, meaning that even a minor shortfall in production can lead to significant price increases. (statement 5 is not correct)
- Government does not procure the TOP commodities at Minimum Support Price (MSP). (statement 4 is not correct)

Q36 Ans: B

Exp:

- **Context: The Ministry of New and Renewable Energy (MNRE) recently defined a clear Green Hydrogen Standard, which establishes emission thresholds for hydrogen production categorized as 'green'.**
- **The standard issued by the Ministry of New and Renewable Energy (MNRE), Government of India outlines the emission thresholds that must be met in order for hydrogen produced to be classified as 'Green', i.e., from renewable sources. The scope of the definition encompasses both electrolysis-based and biomass-based hydrogen production methods. (statement 1 is not correct)**
- After discussions with multiple stakeholders, the Ministry of New & Renewable Energy has decided to define **Green Hydrogen as having a well-to-gate emission (i.e., including water treatment, electrolysis, gas purification, drying and compression of hydrogen) of not more than 2 kg CO₂ equivalent / kg H₂. (statement 2 is correct)**
- **The notification also specifies that the Bureau of Energy Efficiency (BEE), Ministry of Power shall be the Nodal Authority for accreditation of agencies for the monitoring, verification and certification for Green Hydrogen production projects. (statement 3 is also correct)**
- The notification of the Green Hydrogen Standard brings a lot of clarity to the Green Hydrogen community in India and was widely awaited. With this notification, India becomes one of the first few countries in the world to announce a definition of Green Hydrogen

Q37 Ans: C

Exp:

- Context: As part of the Indian Air Force's endeavour to contribute towards social causes that foster nation building, the service has committed its involvement in the “Ni-kshay Mitra” scheme. This is an initiative under the **“Pradhan Mantri TB Mukh Bharat Abhiyan (PMTBMBA), implemented by the Ministry of Health & Family Welfare that seeks to eliminate TB by 2025 - five years ahead of the global goal of 2030.** (statement 1 is correct)
- First articulated by the Hon'ble Prime Minister in 2018, **“Ni-kshay Mitra”** is an initiative that provides for additional diagnostic, nutritional, and vocational support by elected representatives, corporates, organisations, NGOs, and individuals to those undergoing TB treatments. This in turn, would help them on their journey towards a successful recovery.
- **TB**
 - **Tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosis.**
 - It commonly affects the lungs, but can also affect other parts of the body.
 - It is a treatable and curable disease.
- **As per the Global TB report released by WHO, India has the world's highest tuberculosis (TB) burden,** with an estimated 26 lakh people contracting the disease and approximately 4 lakh people dying from the disease every year. (Statement 2 is also correct)

Q38 Ans: B

Exp:

- Context: **Union Minister of Road Transport and Highways Shri Nitin Gadkari launched the Bharat New Car Assessment Programme (Bharat NCAP)** today in New Delhi aiming to enhance road safety by elevating vehicle safety standards for up to 3.5-tonne vehicles in India. (statement 4 is correct)
- BHARAT NCAP will also greatly push the safety and quality of the vehicles in India, while simultaneously promoting a healthy competition among OEMs to manufacture safer vehicles. The new safety regime under BHARAT NCAP and AIS-197 is a mutual win-win for manufacturers and consumers.
- **The Program is applicable to type approved motor vehicles of M1 category less than 3.5T GVW. This is a voluntary program in which the base variants of a given model shall be tested.** (statement 2 is not correct)
- **The programme aims to provide a tool to the car customers to make a comparative assessment of crash safety of motor vehicles available in the market.** (statement 1 is correct)
- **Under this programme, car manufacturers can voluntarily offer their cars tested as per Automotive Industry Standard (AIS) 197.** (statement 3 is not correct)
- Based on the performance of the car in the tests, car will be awarded star ratings for Adult Occupants (AOP) and Child Occupant (COP). Potential car customers

can refer to these star ratings to compare the safety standards of different vehicles and accordingly make their purchase-decision.

Q39 Ans: D

Exp:

- Context: A research paper titled “A Practical Deep Learning-Based Acoustic Side Channel Attack on Keyboards” published with the support of Durham University’s ethics committee reveals **that Artificial Intelligence (AI) can be utilized to decipher passwords by analysing the sound produced by keystrokes.**
- **Acoustic Side Channel Attacks involve the analysis of sound emissions produced by electronic devices, such as keyboards, to extract sensitive information.** By capturing and analyzing the sounds generated during user input, attackers may infer keystrokes and potentially access confidential data.
- This method is different from exploiting network vulnerabilities or software weaknesses and focuses specifically on the acoustic characteristics of devices

Q40 Ans: D

Exp:

- Context: The surge in methane levels in Earth's atmosphere has raised concerns about the planet's ongoing climate transition. As methane, a potent greenhouse gas, gains momentum in its growth, it raises questions about whether Earth is undergoing a 'termination-level transition' similar to past climate shifts
- **Methane Hydrates**
 - Methane hydrates are white, icelike solids that consist of methane and water. They are an untapped potential future energy source. **The methane molecules are enclosed in microscopic cages composed of water molecules.** Methane gas is primarily formed by microorganisms that live in the deep sediment layers and slowly convert organic substances to methane. (a is correct)
 - Methane hydrates are only stable under pressures in excess of 35 bar and at the low temperatures of the bottom waters of the oceans and the deep seabed, which almost uniformly range from 0 to 4°C. Below a water depth of about 350 m, the pressure is sufficient to stabilize the hydrates. **Methane hydrates therefore occur mainly near the continental margins at water depths between 350 and 5000 m.** (b is correct)
 - **Large deposits of ‘methane hydrate’ are found in Arctic Tundra and under the sea floor**
 - At the bottom of the expansive ocean basins, scarcely any hydrates are found because there is insufficient organic matter embedded in the deep-sea sediments.

- Methane in atmosphere oxidizes to carbon dioxide after a decade or two
- Global warming may trigger the release of methane from these crystals.
- These are not considered as source of renewable energy
 - While they contain a significant amount of methane, extracting and utilizing methane hydrates for energy comes with numerous technical, economic, and environmental challenges. Current technologies for extracting methane from hydrates are not widely established or economically viable, and there are concerns about the environmental impact of such extraction methods.

Q41 Ans: A

Exp:

- **Context: The RBI has announced a Pilot Project for a Public Tech Platform for Frictionless Credit. The Platform is being designed and developed by the Reserve Bank Innovation Hub (RBIH), a wholly-owned subsidiary of RBI, whose goal is to promote and facilitate innovation across the Indian financial sector. (Statement 1 is not correct)**
- **The Public Tech Platform for Frictionless Credit is a database that provides a seamless flow of information to lenders.** It is an end-to-end digital platform with an open architecture, open Application Programming Interfaces (APIs) and standards, to which all financial sector players are able to connect seamlessly in a “plug and play model.” (statement 2 is correct)
- Launched on August 17, 2023, the platform will mainly focus on Kisan Credit Card loans up to ₹1.6 lakh per borrower, Dairy Loans, MSME loans (without collateral), Personal loans and Home loans through participating banks.
- The data from the central bank and different state banks will be collated in one place, which will help in the easy disbursement of loans.
- **The portal will empower banks, NBFCs, Fintech enterprises, and Startups to devise and deliver innovative solutions in payment, credit, and other financial domains.** This aligns with the government’s vision to establish a digital public infrastructure. (statement 3 is not correct)

Q42 Ans: A

Exp:

- **Context: Major defence deals between India and Russia, particularly the S-400 Deal, are facing uncertainties due to various factors including the ongoing War in Ukraine and payment challenges**

- Due to Russia's Exclusion from the Society for Worldwide Interbank Financial Telecommunication (SWIFT) system, India and Russia had adopted a Rupee-Rouble payment mechanism to settle payments for defence deals
- **Society for Worldwide Interbank Financial Telecommunications (SWIFT) is a member-owned cooperative providing secure messaging for international transfers of money between participating banks. (statement 3 is not correct)**
- Started in 1973 by 239 banks from 15 countries, SWIFT began providing messaging services in 1977. Its **SWIFTnet messaging system** lets banks share information about financial transactions. Financial institutions use SWIFT to securely exchange information including payment instructions.
- SWIFT provides a secure messaging system for financial transactions between participating banks. SWIFT assigns participating financial institutions a unique code to facilitate financial transactions.
- **SWIFT has grown rapidly over the years to serve more than 11,000 institutions operating in over 200 countries. Indian Banks are members of SWIFT. (statement 2 is not correct)**

Q43 Ans: A

Exp:

- **Context: Ecuadorians have spoken out against the oil drilling of a protected Amazon area housing uncontacted tribes and remarkable biodiversity. Over 90% of ballots rejected oil exploration in the area located within the renowned Yasuni National Park, a global biodiversity hotspot.**
- This area is the habitat of the isolated Tagaeri and Taromenani tribes, and its significance led to its designation as a UNESCO world biosphere reserve in 1989
- **Location of Ecuador**



Q44 Ans: C

Exp:

- Context: Recently, the Parliament has passed the Mediation Bill 2023 which halves the time for completing mediation proceedings to 180 days
- All three pairs are correctly matched.
- **Mediation:** It is a process in which a neutral third party assists disputing parties in reaching a voluntary and mutually acceptable agreement.
- **Arbitration:** It involves the submission of a dispute to an impartial third party, the arbitrator, who makes a binding decision on the dispute.
- **Negotiation:** Negotiation is a process where parties communicate directly with each other to reach an agreement without the involvement of a third party.

Q45 Ans: C

Exp:

- Context: Indian scientists have developed the first ever low-pungent mustard that is pest and disease-resistant. It is based on CRISPR/Cas9 gene editing, while being non-GM and transgene-free.
- **Regulation of emerging gene technologies in India**
 - In India, genetically modified organisms (GMOs) and the products thereof are regulated under the “Rules for the manufacture, use, import, export & storage of hazardous microorganisms, genetically engineered organisms or cells, 1989” (referred to as Rules, 1989) notified under the Environment (Protection) Act, 1986. (statement 1 is correct)
 - These Rules are implemented by the Ministry of Environment, Forest and Climate Change, Department of Biotechnology and State Governments.
 - The definition of genetic engineering in the Rules, 1989 implies that new genome engineering technologies including gene editing and gene drives. May be covered under the rules. **India is a signatory to the Cartagena Protocol on Biosafety (CPB)**, however, the definition of modern biotechnology, as in CPB is yet to be adopted in the national regulations. (statement 3 is correct)
 - Genetic Engineering Appraisal Committee (GEAC) is the apex committee functioning in MoEFCC and has representatives from concerned ministries/agencies and experts. GEAC is chaired by a senior officer of MoEFCC and co-chaired by expert nominated by DBT. **GEAC is responsible for approval of activities involving large scale use of hazardous microorganisms and recombinant products in research and industrial production from the environment angle.** (statement 3 is correct)

Q46 Ans: A

Exp:

- Context: Recently, The Prime Minister's Development Initiative for North Eastern Region (PM-DevINE), designed to bolster North-East India's development, has undergone crucial revisions to align with the region's needs and aspirations.
- Prime Minister's Development Initiative for North Eastern Region (PM-DevINE), was announced as a **new Central Sector scheme, with 100% Central funding**, in the Union Budget 2022-23 with initial list of seven projects and an initial allocation of Rs. 1500 crore. (statement 1 is correct)
- The objectives of PM-DevINE scheme are to:
 1. Fund infrastructure convergently, in the spirit of PM GatiShakti
 2. support social development projects based on felt needs of the NER
 3. enable livelihood activities for youth and women
 4. fill the development gaps in various sectors. (Statement 2 is not correct)
- **It is being implemented by the Ministry of Development of the Northeast Region.** (Statement 3 is not correct)

Q47 Ans: B

Exp:

- Context: Recently, a debate has emerged over the effectiveness of India's Production-Linked Incentive (PLI), an Electronics Manufacturing scheme, suggesting it generates import-dependent assembly jobs rather than fostering Self-Sufficiency in manufacturing and economic growth.
- **Keeping in view India's vision of becoming 'Atmanirbhar', Production Linked Incentive (PLI) Schemes for 14 key sectors have been announced** with an outlay of Rs. 1.97 lakh crore (over US\$26 billion) to enhance India's Manufacturing capabilities and Exports. (statement 2 is correct)
- The 14 sectors are: (i) Mobile Manufacturing and Specified Electronic Components, (ii) Critical Key Starting Materials/Drug Intermediaries & Active Pharmaceutical Ingredients, (iii) Manufacturing of Medical Devices (iv) Automobiles and Auto Components, (v) Pharmaceuticals Drugs, (vi) Specialty Steel, (vii) Telecom & Networking Products, (viii) Electronic/Technology Products, (ix) White Goods (ACs and LEDs), (x) Food Products, (xi) Textile Products: MMF segment and technical textiles, (xii) High efficiency solar PV modules, (xiii) Advanced Chemistry Cell (ACC) Battery, and (xiv) Drones and Drone Components.
- The purpose of the PLI Schemes is to attract investments in key sectors and cutting-edge technology; ensure efficiency and bring economies of size and scale in the manufacturing sector and make Indian companies and manufacturers globally competitive.
- **In the PLI scheme, Domestic and Foreign companies receive financial rewards for manufacturing in India, based on a percentage of their revenue over up to five years.** (statement 1 is correct)

- PLI Schemes for all 14 Sectors have been notified by the concerned Ministries/ Departments after due approval. These Schemes are in various stages of implementation by the implementing Ministries/ Departments
- It does not provide the capital support for the installation of new manufacturing units. (Statement 3 is not correct)

Q48 Ans: C

Exp:

- **Context:** Recently, The Prime Minister of the UK has endorsed plans for additional fossil fuel drilling off the British coast in the North Sea, aiming at enhancing Britain's energy independence, and has raised questions about the U.K.'s commitment to its climate goals.
- The North Sea, a marginal sea of the Atlantic Ocean, lies in the heart of Northwestern Europe, forging a vital link between several countries.
 - Great Britain, Denmark, Norway, Germany, the Netherlands, Belgium and France



- Economically, the North Sea has been a prolific source of fisheries, oil, etc. Moreover, it has been a crucial hub for international trade and transportation, fostering economic interdependence among the neighbouring nations.

Q49 Ans: D

Exp:

- **Context:** In the ever-evolving landscape of youth concerns and aspirations, a recent survey conducted by Lokniti-CSDS across 18 states in India sheds light on the shifting priorities of the young population. The survey highlights the rising prominence of unemployment and price rise as pressing issues.
- **Structural Unemployment:**

- **Meaning:** This occurs when certain industries decline due to long-term changes in market conditions, leading to unemployment for workers in those sectors.
- **Example:** The decline of the coal industry in certain regions due to a shift towards cleaner energy sources like renewable energy. Workers in the declining coal industry may face structural unemployment as their skills may not align with the demands of the growing renewable energy sector.
- **Classical Unemployment:**
 - **Meaning:** Classical unemployment occurs when wages are considered 'too' high, leading to an imbalance between the supply and demand for labor. This Exp: of unemployment dominated economic theory before the 1930s, when workers themselves were blamed for not accepting lower wages, or for asking for too high a wage.
 - **Example:** If the government imposes a minimum wage that is significantly higher than the equilibrium wage determined by the market, employers may not be willing to hire as many workers, leading to classical unemployment.
- **Seasonal Unemployment:**
 - **Meaning:** Seasonal unemployment occurs when workers lose their current job due to seasonal factors (e.g., weather conditions, demand fluctuations in certain industries) and are in the process of finding another one.
 - **Example:** Agricultural workers who are employed during planting and harvesting seasons but face unemployment during the off-season when there is less demand for their services.
- **Disguised Unemployment:**
 - **Meaning:** Disguised unemployment refers to a situation where more people are engaged in a task or job than are actually required for efficient productivity.
 - **Example:** In traditional agriculture, if a farm requires only two workers to cultivate a field efficiently, but five workers are employed, the additional three workers may represent disguised unemployment as their contribution is not necessary for the task at hand.

Q50 Ans: B

Exp:

- **Umiam Lake:**
 - Recently, the Meghalaya High court In the case of Re: Cleanliness of Umiam Lake versus State of Meghalaya, 2023, stated that “In the absence of any other employment opportunities the natural beauty of the State should not be destroyed”.
 - Umiam Lake, also known as Barapani Lake, is a scenic reservoir located in the state of **Meghalaya**, India. It is situated approximately 15 kilometers north of Shillong, the capital city of Meghalaya. The lake was created as a

part of a dam project on the Umiam River, which is a tributary of the Brahmaputra.

- **Tillari Elephant Reserve**

- **Context:** A preliminary proposal for the feasibility of establishing an elephant reserve in the Gondia-Gadchiroli region of east Maharashtra has been submitted in response to the frequent movement of elephants in the area.
- This initiative follows the **Maharashtra** government's 2020 decision to designate nearly 3,000 hectares of forest land as an elephant reserve in the Sindhudurg district, marking the first instance of such a reserve being established in the state.

- **Paravanar river**

- **Context:** Neyveli Lignite Corporation India Limited (NLCIL) has successfully accomplished the permanent diversion of the Paravanar River course to safeguard habitats and agricultural fields from inundation, benefiting local communities and irrigation prospects.
- Paravanar River Basin which is a leaf-shaped river basin and the second smallest river basin of Tamil Nadu lies within the Cuddalore District of **Tamil Nadu**.
- The Paravanar River is not a mature river and is seasonal and ephemeral (Lasting for only short period of time)

Q51 Ans: B

Exp:

- Context: Chandrayaan-3 has made history by **becoming the first mission to soft-land on the lunar south pole, a region that has never been explored before**. The mission aimed to demonstrate safe and soft lunar landing, rover mobility, and in-situ scientific experiments.
- Chandrayaan-3 consists of an indigenous Lander module (LM), Propulsion module (PM) and a Rover with an objective of developing and demonstrating new technologies required for Inter planetary missions.
- **The Lander (Vikram) will have the capability to soft land at a specified lunar site and deploy the Rover (Pragyan) which will carry out in-situ chemical analysis of the lunar surface during the course of its mobility.**
- **It was launched by Launch Vehicle Mark-3 (LVM3) from SDSC SHAR, Sriharikota (Statement b is not correct)**
- **India now joins the United States, Russia, and China as one of the few countries to successfully land on the Moon.**

Q52 Ans: D

Exp:

- **Context:** World Water Week, taking place from 20th to 24th August, 2023 is the yearly global water forum organized by Stockholm International Water Institute. This year's theme, "Seeds of Change: Innovative Solutions for a Water-Wise World," spotlights innovation in addressing current water challenges.
- **Jal Jeevan Mission – Rural**
 - **Jal Jeevan Mission, is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India.** The programme will also implement source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, rain water harvesting. (Statement 1 is correct)
 - **It is being implemented by Ministry of Jal Shakti** (Statement 2 is correct)
 - It aims to
 - To provide FHTC to every rural household.
 - **to provide FHTCs at minimum service level of 55 lpcd** (Statement 3 is correct)
 - To promote and ensure voluntary ownership among local community by way of contribution in cash, kind and/ or labour and voluntary labour

Q53 Ans: C

Exp:

- **Context:** Recently, the Tamil Nadu Chief Minister revived the debate over the Katchatheevu, a longstanding point of contention between India and Sri Lanka, particularly with regard to fishing rights and sovereignty over the uninhabited island.



- Katchatheevu Island is a small uninhabited island located in the Palk Strait, between India and Sri Lanka. The island has been a subject of historical dispute between India and Sri Lanka regarding its sovereignty.
- The dispute arose in the context of the maritime boundaries between the two countries. **In 1974, India and Sri Lanka reached an agreement through the Indira Gandhi-Kumaratunga Accord. According to this agreement, Katchatheevu was ceded to Sri Lanka, and Indian fishermen were allowed to fish around the island.**

- While the agreement helped in defining the maritime boundary, it has also been a source of contention, especially concerning the traditional fishing rights of Indian fishermen in the region.
- Over the years, there have been discussions and protests from the Tamil Nadu regarding the impact of the agreement on the livelihoods of Indian fishermen.

Q54 Ans: C

Exp:

- Context: India Post Payments Bank (IPPB) has marked a significant milestone in the world of banking services with its continued profit streak, demonstrating its commitment to sustainable financial inclusion and citizen empowerment.
- A payments bank is like any other bank, but operating on a smaller scale without involving any credit risk.
- **It can carry out most banking operations but can't advance loans or issue credit cards. It can accept demand deposits (up to Rs 1 lakh)**, offer remittance services, mobile payments/transfers/purchases and other banking services like ATM/debit cards, net banking and third party fund transfers.
- In September 2013, the Reserve Bank of India constituted a committee headed by Dr **Nachiket Mor** to study 'Comprehensive financial services for small businesses and low income households'. The objective of the committee was to propose measures for achieving financial inclusion and increased access to financial services.
- The committee submitted its report to RBI in January 2014. One of the key suggestions of the committee was to introduce specialised banks or '**payments bank**' to cater to the lower income groups and small businesses so that by January 1, 2016 each Indian resident can have a global bank account
- The main objective of payments bank is to widen the spread of payment and financial services to small business, low-income households, migrant labour workforce in secured technology-driven environment.

Q55 Ans: C

Exp:

- Context: Government e-Marketplace (GeM) has reached a significant milestone, crossing Rs. 1 lakh crore in Gross Merchandise Value (GMV) within just 145 days in FY 2023-24. GeM is also integrated with e-Gram Swaraj for Panchayat-level procurement.
- Government e-Marketplace (GeM) is an online public procurement portal developed to streamline the acquisition of goods and services by government departments, agencies, and public sector undertakings.

- **Government e Marketplace (GeM) is a 100 percent Government owned & National Public Procurement Portal.** (statement 1 is correct)
- Launched in August 2016 as part of the "Digital India" initiative, GeM aims to enhance transparency, efficiency, and cost-effectiveness in public procurement while promoting the use of digital technology.
- Government e Marketplace (GeM) facilitates online procurement of common use Goods & Services required by various Government Departments / Organisations / PSUs.
- It provides the tools of e-bidding, reverse e-auction and demand aggregation to facilitate the government users, achieve the best value for their money
- **The purchases through GeM by Government users have been authorised and made mandatory by Ministry of Finance by adding a new Rule No. 149 in the General Financial Rules, 2017.** (statement 2 is correct)

Q56 Ans: D

Exp:

- Context: The western coast of the United States recently experienced Hurricane Hilary, which transformed into a sub-tropical storm upon reaching the US.
- California had an exceptionally wet winter with multiple 'atmospheric river' storms, and the area also witnessed the intriguing phenomenon of the 'Fujiwhara effect' during one of these storms, where two low-pressure areas interacted in an unexpected manner.
- **The Fujiwhara effect is a meteorological phenomenon that occurs when two nearby cyclonic systems, such as hurricanes or typhoons, come close enough to influence each other's motion.** Named after the Japanese meteorologist Sakuhei Fujiwhara, who first described the effect, it is most commonly observed in tropical cyclones.

Q57 Ans: A

Exp:

- Context: A report by the Australian Bureau of Meteorology said that the IOD index has risen beyond the positive threshold.
- The IOD refers to temperature shifts in the Indian Ocean basin, impacting monsoons in India. **A positive IOD event, characterized by warmer temperatures in the western basin, can enhance India's South-West monsoon.** (statement 1 is correct)
- **Positive IOD:**
 - **In this phase, the western Indian Ocean becomes warmer than the eastern part.** (statement 2 is not correct)

- This leads to increased convection and rainfall in the western Indian Ocean region, including parts of East Africa and the Arabian Peninsula, while causing drier conditions in the eastern Indian Ocean, including Australia and Indonesia.
- **Negative IOD:**
 - In this phase, the eastern Indian Ocean becomes warmer than the western part.
 - **This leads to higher rainfall and cooler conditions in the eastern Indian Ocean region, including Australia and Indonesia**, while causing drier conditions in the western Indian Ocean region. (statement 3 is not correct)

Q58 Ans: D

Exp:

- **Context: The National Tiger Conservation Authority (NTCA) recently granted approval for the establishment of the 54th tiger reserve in Rajasthan's Karauli and Dholpur districts.**
- This decision marks a significant stride in wildlife preservation efforts within Rajasthan. It will be the fifth tiger reserve in the state, joining the ranks of Mukundra Hills, Ranthambore, Sariska, and Ramgarh Vishdhari.
- Referring to this, Union Environment Minister Bhupender Yadav conveyed his enthusiasm on a social media platform stating that the inception of the Dholpur-Karauli Tiger Reserve will be a monumental advancement for wildlife conservation in Rajasthan. He urged the public to commit to safeguarding this invaluable ecosystem and its majestic tigers.

Q59 Ans: A

Exp:

- Context: The BRICS (Brazil, Russia, India, China, and South Africa) bloc met for its annual leader's summit in Johannesburg, South Africa on August 22–24, 2023.
 - **The highlight of the fifteenth summit was the agreement to admit six new member countries: Argentina, Egypt, Ethiopia, Iran, Saudi Arabia, United Arab Emirates, who will officially join the group in January 2024.** (statement 1 is correct)
 - **It has sent a strong signal that the post–World War II order should accept the multipolar reality and change with the times.** (statement 2 is also correct)
 - The new members will add their voices to advocating for a more equitable global governance system, reforming the UN Security Council, and increasing influence for the Global South.
 - Thus, Both Statement-I and Statement-II are correct and Statement-II is the correct
- Exp: for Statement-I

Q60 Ans: B

Exp:

- Context: Recently, the 20th ASEAN-India Economic Ministers' meeting was held in Semarang, Indonesia, marking a significant step in enhancing economic cooperation between India and the ASEAN member countries.
- The Association of Southeast Asian Nations, commonly known as ASEAN, is a regional intergovernmental organization comprising ten Southeast Asian countries. ASEAN was established on August 8, 1967, with the signing of the ASEAN Declaration (also known as the **Bangkok Declaration**) by **Indonesia, Malaysia, the Philippines, Singapore, and Thailand**.
- The organization has since expanded to include **Brunei, Cambodia, Laos, Myanmar, and Vietnam**.
- The ASEAN Secretariat, based in Jakarta, Indonesia, facilitates coordination and implementation of ASEAN activities



Q61 Ans: A

Exp:

- Context: Observing that pregnancy outside marriage, especially in cases of sexual assault, is injurious and a cause of stress, the Supreme Court of India allowed a rape survivor from Gujarat to terminate her 27-week pregnancy.
- Under the Indian Penal Code, 1860, voluntarily terminating a pregnancy is a criminal offence. The Medical Termination of Pregnancy Act, 1971 allows for aborting the pregnancy by medical doctors (with specified specialisation) on certain grounds.

- Termination is permitted only when continuance of the pregnancy would involve a risk to the life of the pregnant woman, cause grave injury to her mental or physical health (including rape and failure of birth control measures), or in the case of foetal abnormalities. **Termination is also allowed at any point during the pregnancy if there is an immediate necessity to save the woman's life.** (statement 3 is correct)
- Medical Termination of Pregnancy Act, 1971 regulates the conditions under which a pregnancy may be aborted
- **The Medical Termination of Pregnancy (Amendment) Bill, 2020 amended the 1971 Act.** Under 1971 Act abortion required the opinion of one doctor if it is done within 12 weeks of conception and two doctors if it is done between 12 and 20 weeks.
 - **The Bill allows abortion to be done on the advice of one doctor up to 20 weeks, and two doctors in the case of certain categories of women between 20 and 24 weeks.** (statement 1 is correct)
 - **The Bill sets up state level Medical Boards to decide if a pregnancy may be terminated after 24 weeks in cases of substantial foetal abnormalities.** (This implies that for a case requiring abortion due to rape, that exceeds 24-weeks, the only recourse remains through a Writ Petition.) (statement 2 is correct)

Q62 Ans: B

Exp:

- Context: Recently, the Ministry of Rural Development has provided insights into the advancements made in the implementation of Mission Amrit Sarovar, an initiative aimed at enhancing water security across various regions.
- With a view to conserve water for the future, the Prime Minister has launched a new initiative named Mission Amrit Sarovar on 24th April 2022.
- **The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country as a part of celebration of Azadi ka Amrit Mahotsav.**
- Eight Central Ministries/Departments, including Dept. of Rural Development, Department of land resources, Department of Drinking Water and Sanitation, Department of Water resources, Ministry of Panchayati Raj, Ministry of Forest, Environment and Climate changes, Ministry of Railway, Ministry of Road, Transport & Highways, actively contribute to the mission's execution.

Q63 Ans: B

Exp:

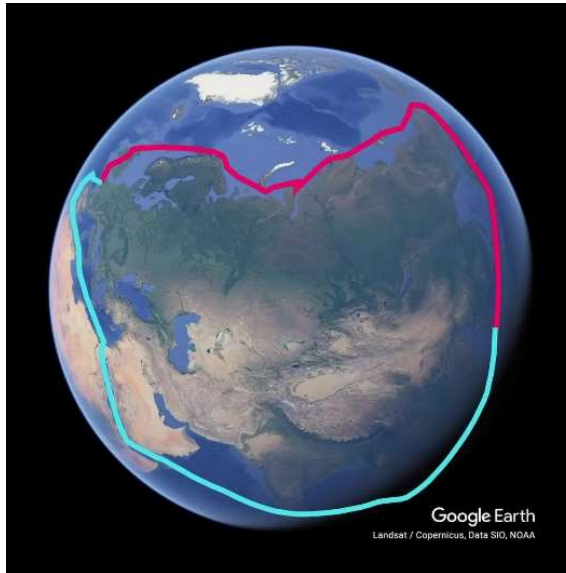
- Context: The African Union (AU) has suspended Niger from all of its institutions and activities following the recent coup that overthrew the democratically elected president of Niger.
- Niger, a landlocked country in West Africa, is characterized by its diverse yet challenging geographical features. The vast majority of its territory, approximately 80%, is covered by the expansive Sahara Desert. This arid landscape poses significant challenges to the country, contributing to issues such as drought and food insecurity. Despite these challenges, Niger boasts a variety of ecosystems, including the Sahel region and the presence of the Niger River.
- It shares border with **Chad**, **Nigeria**, **Algeria**, **Libya**, Burkina Faso, Benin, and Mali



Q64 Ans: B

Exp:

- Context: Murmansk, popularly called the capital of the Arctic Region and the beginning point of the Northern Sea Route (NSR), is witnessing the rising trend of Indian involvement in Cargo traffic.
- **The Northern Sea Route (NSR), or the Northeast Passage (NEP), connects the eastern and western parts of the Arctic Ocean.** While the Suez Canal route (depicted in blue in the image below) between Europe and Asia has a distance of 21,000 kilometres, the NSR (in red) has a distance of 13,000 kilometres, reducing the to and fro sailing time from one month to less than two weeks between Europe and Asia. (statement 1 is correct)



-
- **The shrinking of the ice cover due to global warming in recent years has presented opportunities for the Arctic countries to explore the NSR's potential as a new international trade route. (statement 2 is correct)**
- Like Russia's centuries-long quest to reach warm waters, **China has also been searching for faster ways to reach the European market.** Though not a member of the Arctic Council, China has shown great interest in the NSR, as it offers an effective solution to reduce its dependence on the Strait of Malacca, Asia's primary choke point to the eastern end of the Suez Canal route.
- The legal status of the Northern Sea Route is a matter of international law, and while the Arctic Council is involved in discussions related to the Arctic, it doesn't confer sovereign rights over the NSR to its members. (statement 3 is not correct)

Q65 Ans: D

Exp:

- Context: Recently, an opinion paper published in the journal "Plant and Soil" has raised concerns about the scientific validity of Nano Liquid Urea produced by the Indian Farmers and Fertiliser Cooperative (IFFCO).
- **The MRP of urea is statutorily fixed by the Government of India** and at present it is Rs. 242 for a 45 kg bag of urea. Urea is the only fertilizer at present with pricing and distribution being controlled statutorily by the Government. Thus, no one can sell urea above the MRP declared by the Govt. (Statement 2 is correct)
- **Concession Scheme on sale of phosphatic & potassic (P&K) fertilizers provides for indicative Maximum Retail Price declared by Department of Fertilizers at which these fertilizers are to be sold.** MRP for Single Super Phosphate under the Scheme is declared by the respective State/UT Government. These MRPs can be viewed on this site. (Thus, statement 1 is not correct)

Q66 Ans: B

Exp:

- Context: The Ministry of Coal is promoting the Rail-Sea-Rail (RSR) transportation strategy, aimed at streamlining the movement of domestic coal.
- Indian Coal has following characteristics
 - High ash content
 - Low sulphur content
 - In India coal is broadly classified into two types – coking and non-coking. The former constitutes only a small part of the total coal resources of the country.
- The ash fusion temperature is related to the behaviour of ash when coal is burned, and Indian coal can vary in this aspect.

Q67 Ans: D

Exp:

- Context: The Global Biodiversity Framework (GBF) Fund was ratified and launched at the Seventh Assembly of the Global Environment Facility (GEF) on 24 August, 2023 (statement 1 is correct)
- **The GBF Fund is uniquely dedicated to support the implementation of the Kunming-Montreal Global Biodiversity Framework, its goals and its targets.** It provides an opportunity to receive funding from all sources, quickly disburse through streamlined procedures, with enhanced access for indigenous peoples and local communities, according to their own priorities. (statement 2 is correct)
- **The GBF Fund Council will be open to representation by the following members, with more developing country representation compared to developed countries:**
 - 16 Members from developing countries
 - 14 Members from developed countries
 - 2 Members from the countries of central and eastern Europe and the former Soviet Union.
 - (statement 3 is also correct)
- Decisions of the GBF Fund Council are to be taken by consensus, along the lines of the GEF Instrument.
- The World Bank will be invited to serve as the Trustee of the GBF Fund

Q68 Ans: C

Exp:

- Context: Recently, a report released by World Health Organization (WHO) and the Indian Council for Research on International Economic Relations found that

India's Ultra-Processed Food Sector grew at a Compound Annual Growth Rate (CAGR) of 13.37 % in retail sales value from 2011 to 2021.

- The term 'ultra-processed foods' comes from the NOVA food classification system, which was developed by researchers at the University of São Paulo, Brazil. The system places food into four categories based on how much they have been processed during their production

- 1) **Unprocessed or minimally processed foods:** This includes produce such as fruit, vegetables, milk, fish, pulses, eggs, etc
- 2) **Processed ingredients:** This includes foods that are added to other foods rather than eaten by themselves, such as salt, sugar and oils
- 3) **Processed foods:** These are foods that are made by combining foods from groups 1 and 2, which are altered in a way that home cooks could do themselves.
- 4) **Ultra-processed foods:** Ultra-processed foods typically have five or more ingredients.

- **Examples:** Ice cream, ham, sausages, crisps, mass-produced bread, breakfast cereals, biscuits, carbonated drinks, fruit-flavoured yogurts, instant soups, and some alcoholic drinks including whisky, gin, and rum
- **These foods generally have a long shelf life.**
- **These often contain high levels of saturated fat, salt and sugar**
- **They tend to include many additives and ingredients that are not typically used in home cooking,** such as preservatives, emulsifiers, sweeteners, and artificial colours and flavours.
- Several studies have shown that eating higher amounts of ultra-processed foods is linked to a greater risk of:
 - high blood pressure
 - cardiovascular disease
 - heart attacks and strokes
 - early death.

Q69 Ans: B

Exp:

- Context: Recently, a committee chaired by former National Institution for Transforming India (NITI Aayog) CEO Amitabh Kant, formed by the Ministry of Housing and Urban Affairs (MoHUA), has put forward a series of recommendations to address the issue of stalled legacy real estate projects in India.
- Real Estate (Regulation and Development) Act, 2016
 - It regulates transactions between buyers and promoters of residential real estate projects.
 - **It establishes state level regulatory authorities called Real Estate Regulatory Authorities (RERAs) (Statement 1 is not correct)**

- **Residential real estate projects, with some exceptions, need to be registered with RERAs. Promoters cannot book or offer these projects for sale without registering them.** Real estate agents dealing in these projects also need to register with RERAs. (Statement 2 is correct)
- **70% of the amount collected from buyers for a project must be maintained in a separate bank account and must only be used for construction of that project.** The state government can alter this amount to less than 70%. (Statement 3 is correct)
- It establishes state level tribunals called Real Estate Appellate Tribunals. Decisions of RERAs can be appealed in these tribunals.

Q70 Ans: D

Exp:

- Context: The Union government's RTI Online portal has encountered a situation where a significant amount of public information, including past applications and responses, has gone missing.
- **The Central Information Commission has been constituted with effect from 12-10-2005 under the Right to Information Act, 2005.** (statement 1 is correct)
- **The jurisdiction of the Commission extends over all Central Public Authorities.** (statement 2 is correct)
- **The decisions of the Commission on appeals against the order of Central Public Information Officer (CPIO) are final and binding on CPIO** (statement 3 is correct)
- **It consists of a Chief Information Commissioner and not more than ten Information Commissioners** (statement 4 is not correct)
- They are appointed by the President on the recommendation of a committee consisting of the Prime Minister as Chairperson, the Leader of Opposition in the Lok Sabha and a Union Cabinet Minister nominated by the Prime Minister.
- The Chief Information Commissioner and an Information Commissioner shall hold office for such term as prescribed by the Central Government or until they attain the age of 65 years, whichever is earlier.

Q71 Ans: B

Exp:

- Context: The National Health Authority (NHA) has unveiled the "100 Microsites" project, aimed at accelerating the adoption of Ayushman Bharat Digital Mission (ABDM) across India.
- **National Health Authority (NHA) is the apex body responsible for implementing India's flagship public health insurance/assurance scheme called "Ayushman Bharat Pradhan Mantri Jan Arogya Yojana" & has been**

entrusted with the role of designing strategy, building technological infrastructure and implementation of “**National Digital Health Mission**” to create a National Digital Health Eco-system.

- National Health Authority is the successor of the National Health Agency, which was functioning as a registered society since 23rd May, 2018. Pursuant to Cabinet decision for full functional autonomy, **National Health Agency was reconstituted as the National Health Authority on 2nd January 2019, under Gazette Notification.**
- NHA has been set-up to implement PM-JAY, as it is popularly known, at the national level. An attached office of the Ministry of Health and Family Welfare with full functional autonomy.
- **NHA is governed by a Governing Board chaired by the Union Minister for Health and Family Welfare.** It is headed by a Chief Executive Officer (CEO), an officer of the rank of Secretary to the Government of India, who manages its affairs. The CEO is the Ex-Office Member Secretary of the Governing Board.

Q72 Ans: C

Exp:

- **What do bats, dolphins, and submarines have in common?** They use the same technique to get a sense of their surroundings: echolocation. Here, an animal or a device emits sound waves, and listens for their reflections by objects in their surroundings. Based on what the reflected waves, or echoes, sound like, the animal or device understands its environment.
- Animals that use echolocation emit high-frequency sound pulses, often beyond the range of human hearing. Bats, which have poor eyesight, use this ability to hunt and navigate in the dark while dolphins use it to locate objects and communicate underwater. Whales and some birds, such as the tawny oilbirds, swiftlets and the tenrec (from Madagascar), also use echolocation.

Q73 Ans: A

Exp:

- **Context: The constitution bench is hearing petitions on the abrogation of the Article 370 of Indian Constitution**
- Constitution Bench
 - A Constitution Bench is constituted whenever a matter of law arises that requires interpretation of a Constitutional provisions or if there is a significant legal question to be decided.
 - **Article 145(3) of the Constitution, which deals with the rules of the Court, provides for the setting up of such Constitution Benches and stipulates that a minimum of five judges need to sit for deciding a case involving a “substantial question of law as to the interpretation of the**

Constitution,” or for hearing any reference under Article 143, which deals with the power of the President to consult the Supreme Court. (statement 3 is not correct)

- **It is a bench consisting of five or more judges** of the supreme court of India. (statement 1 is correct)
- **These are the temporary benches** which get dissolved once a legal question or issue referred to them is resolved (statement 2 is not correct)
- The Chief Justice of India has the power to constitute the Constitution Bench & refer the issues or cases to it

Q74 Ans: A

Exp:

- Context: The Reserve Bank of India (RBI) anticipates inflation to stay above 5% until the first quarter of 2024-25, potentially reaching 6.2% in the current quarter (July-Sept) 2023, exceeding the RBI's comfort level of 4%.
- Inflation is the rate at which the general level of prices for goods and services rises over time, leading to a decrease in the purchasing power of a currency.
- **Demand Pull inflation**
 - Occurs when the overall demand for goods and services exceeds their supply, leading to upward pressure on prices.
 - Factors responsible for the demand pull inflation
 - Expansionary policies by the government
 - Fiscal stimulus
 - Higher purchasing power of the consumers
 - Lower interest rates
 - Tax Cuts
- Inflation-indexing of wages is more likely to mitigate the impact of inflation rather than contribute to demand-pull inflation.
- The tighter monetary policy would lead to increase in the interest rates and thus would decrease the level of the inflation
- The disturbance in the international oil trade would lead to cost push inflation and not the demand pull inflation

Q75 Ans: C

Exp:

- Context: July 2023 witnessed a notable increase in Retail Inflation, reaching 7.44%, creating Goldilocks scenario for India, making investors and savers uncertain about the economic situation.
- The Goldilocks scenario, in the context of economics and finance, refers to a situation where economic conditions are considered to be just right or optimal. **It**

typically involves a combination of factors that are balanced to promote stable and sustainable growth without excessive inflation or recession.

- It suggests that interest rates should be at a level that neither hinders economic growth by being too high nor fuels inflation by being too low. It implies a delicate balance where interest rates are conducive to borrowing and investment without causing runaway inflation.

Q76 Ans: C

Exp:

- Context: Recent advances in genome sequencing unveil the impact of somatic genetic variants on human health, from cancer development to immune disorders, driving innovation in disease detection and treatment strategies.
- DNA barcoding is a technique that involves using short, standardized DNA sequences to identify and distinguish between different species. This method has a variety of applications across different fields. Here are seven uses of DNA barcoding:
 - DNA barcoding is employed to identify and catalogue various species in biodiversity studies. **It helps in distinguishing between species that may have similar morphological characteristics but different genetic codes.** (2 is correct)
 - **In the food industry, DNA barcoding is used to authenticate and verify the origin of food products. This ensures the accuracy of labelling and helps prevent fraud, such as mislabelling the origin of seafood or the species of meat.** (3 is correct)
 - **DNA barcoding is utilized in forensic science for the identification of species in criminal investigations.** It can be applied to trace evidence such as animal hairs, plant fragments, or other biological materials found at crime scenes.
 - In agriculture and trade, DNA barcoding is employed to detect and identify invasive species or pathogens. (5 is correct)
 - DNA barcoding is used in environmental DNA (eDNA) analysis to detect and identify species in water, soil, or air samples. This aids in monitoring changes in ecosystems, tracking the presence of endangered species, and assessing the impact of pollution or climate change on biodiversity.
 - **DNA barcoding contributes to species conservation efforts by helping scientists identify and study rare or elusive species.** (4 is correct)
- **It helps in distinguishing between species that may have similar morphological characteristics but different genetic codes.** (1 is not the correct use)

Q77 Ans: A

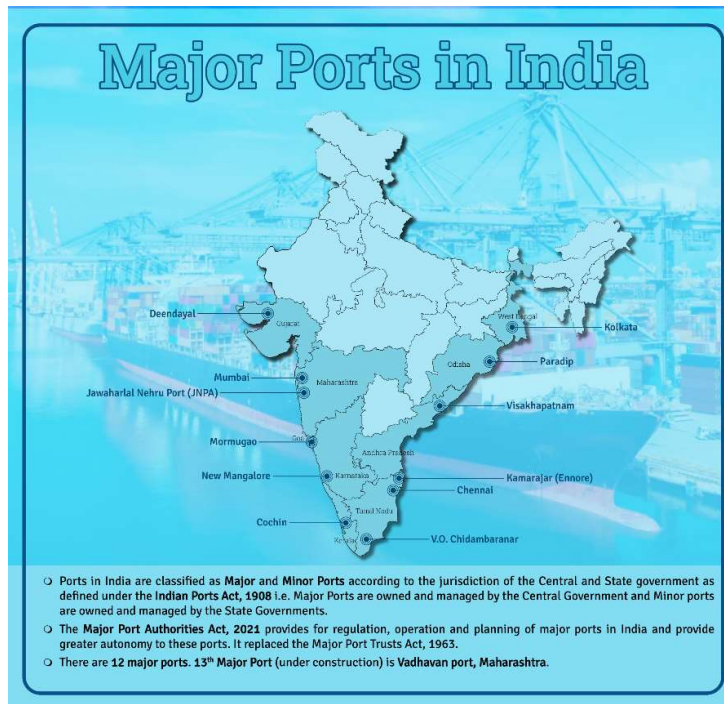
Exp:

- Context: **Under Centrally Sponsored Scheme of Department of Justice, Ministry of Law & Justice, Fast Track Special Courts (FTSCs) disposed of 1.74 lakhs cases of Rape & POCSO Act as on 30.06.2023, providing speedy justice to the victims.** (statement 1 is correct and 3 is not correct)
- The Union Cabinet chaired by the Prime Minister Shri Narendra Modi had approved the continuation of Fast Track Special Court (FTSCs) as, a Centrally Sponsored Scheme (CSS) from 01.04.2023 to 31.03.2026 with financial implication of Rs. 1952.23 crore (Rs. 1207.24 crore as Central Share and Rs. 744.99 crore as State share). **Central Share is to be funded from Nirbhaya Fund.** The Scheme was launched on 02.10.2019.
- FTSCs, designed as dedicated courts, are expected to ensure swift dispensation of justice, offering quick relief to victims while strengthening the deterrence framework for sexual offenders.
- **Setting up of Fast Track Courts (FTCs) and its functioning lies within the domain of State Governments in consultation with the respective High Courts.** (statement 2 is correct)

Q78 Ans: D

Exp:

- Context: Recently, the Deendayal Port Authority and Dubai-based DP World, a multinational logistics company, partnered for the Mega Container Terminal Project at Tuna Tekra, Gujarat. The initiative was initiated by India's Ministry of Ports, Shipping & Waterways (MoPSW).
- **There are 12 major ports and 200 non-major ports (minor ports) in the country.** (statement 1 is correct)
- **While the Major Ports are under the administrative control of Ministry of Shipping, the non-major ports are under the jurisdiction of respective State Maritime Boards/ State Government.** (statement 2 is correct)
- All the 12 Major ports are functional, with one port under construction near Vadhvan, Maharashtra. Out of the 200 non-major ports, around 65 ports are handling cargo and the others are "Port Limits" where no cargo is handled and these are used by fishing vessels and by small ferries to carry passengers across the creeks etc
- The Ports Wing in Ministry of Ports is primarily responsible for the development of 12 Major Ports with the objective to provide necessary and adequate cargo handling capacity to meet India's EXIM trade.
- **The Ports in the country handle around 90% of EXIM Cargo by volume and 70% by value.** In order to meet the ever increasing trade requirements, expansion of Port Capacity is accorded the highest priority. (Statement 3 is correct)



Q79 Ans: B

Exp:

- Context: Both China and India are pushing to become self-reliant in the semiconductor space as they recognise the strategic importance of semiconductor manufacturing for technological advancement as well as economic growth
- Semiconductors are at the heart of all electronic products and constitute a significant share in the Bill of Material (BOM). The National Policy on Electronics 2019 aims to position India as a global hub for Electronics System Design and Manufacturing (ESDM) and envisions creation of a vibrant semiconductor chip design ecosystem in the country.
- **Ministry of Electronics and Information technology has announced the Design Linked Incentive (DLI) Scheme** to offset the disabilities in the domestic industry involved in semiconductor design in order to not only move up in value-chain but also strengthen the semiconductor chip design ecosystem in the country. CDAC is responsible for implementation of the DLI Scheme as Nodal Agency. (Statement 3 is not correct)
- **The Design Linked Incentive (DLI) Scheme aims to offer financial incentives as well as design infrastructure support across various stages of development and deployment of semiconductor design(s)** for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores and semiconductor linked design(s) over a period of 5 years. (statement 1 is correct)
- **Eligibility**

- Financial incentives and design infrastructure support will be extended to **domestic companies, Startups and MSMEs** engaged in semiconductor design or semiconductor linked design.
- **The approved applicants that claim incentives under the scheme shall retain their domestic status (i.e. more than 50% of the capital in it is beneficially owned by resident Indian citizens and/ or Indian companies, which are ultimately owned and controlled by resident Indian citizens) for a period of three years after claiming incentives under the scheme. (statement 2 is correct)**
- An applicant must meet the Threshold and Ceiling Limit to be eligible for disbursement of incentive as indicated here

Q80 Ans: A

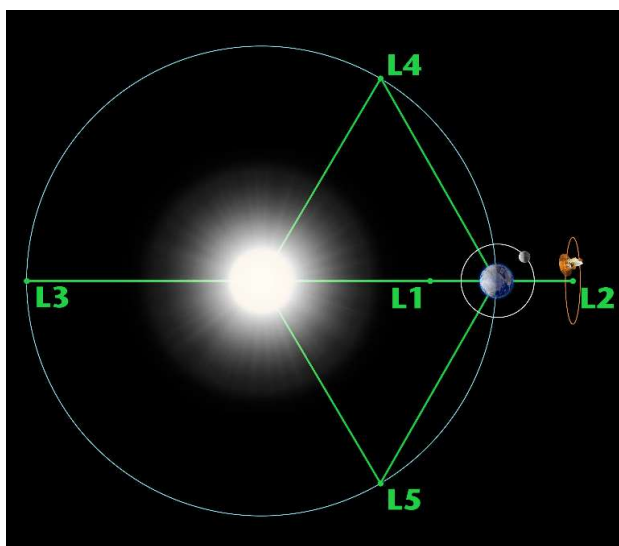
Exp:

- Context: African health ministers adopt PEN-PLUS strategy against non-communicable diseases
- Africa has adopted a new strategy to boost access to the diagnosis, treatment and care of severe non-communicable diseases (NCD).
- **PEN-PLUS, A Regional Strategy to Address Severe Non-communicable Diseases at First-Level Referral Health Facilities'**, the strategy is aimed at bridging the access gap in treatment and care of patients with chronic and severe NCDs.
- Health ministers of African countries endorsed the plan at the 72nd session of the World Health Organization (WHO) Regional Committee for Africa in Lome, Togo to reduce premature mortality from NCDs.

Q81 Ans: A

Exp:

- Context: The Indian Space Research Organisation (ISRO) will launch the Aditya-L1 solar mission on September 2, 2023.
- The spacecraft will be launched from the Sriharikota spaceport on the **PSLV rocket. (statement 1 is not correct)**
- **Aditya-L1 aims to study the Sun from a halo orbit around the Lagrangian point 1 (L1) of the Sun-Earth systems, about 1.5 million km away from Earth. (statement 2 is correct)**
- The Lagrange points, also known as libration points or Lagrangian points, are specific points in space where the gravitational forces of two large bodies, such as a planet and a moon or a planet and the Sun, produce enhanced regions of attraction and repulsion. There are five Lagrange points labeled L1 to L5.
- **In the Earth – Sun system, the L1 is situated in between the Sun and the Earth's orbit. (statement 3 is not correct)**



Q82 Ans: A

Exp:

- Context: The SVAMITVA Scheme, initiated by the Ministry of Panchayati Raj, has been awarded the prestigious National Award for e-Governance 2023 (Gold) for its innovative use of emerging technologies to provide citizen-centric services.
- **SVAMITVA, a Central Sector Scheme of Ministry of Panchayati Raj** was nation-wide launched by the Hon'ble Prime Minister on National Panchayati Raj Day, 24th April 2021 after successful completion of pilot phase of scheme (2020-2021) in 9 states. (Statement 1 and 2 are not correct)
- **Scheme is a reformative step towards establishment of clear ownership of property in rural inhabited ("Abadi") areas, by mapping of land parcels using drone technology and providing 'Record of Rights' to village household owners with issuance of legal ownership cards (Property cards/Title deeds) to the property owners.** (Statement 3 is correct)
- The Scheme is implemented with the collaborative efforts of the Ministry of Panchayati Raj, State Revenue Department, State Panchayati Raj Department and Survey of India.
- The scheme covers multifarious aspects viz. facilitating monetisation of properties and enabling bank loan; reducing property related disputes; comprehensive village level planning, would be the stepping-stone towards achieving Gram Swaraj in true sense and making rural India Atmanirbhar .

Q83 Ans: C

Exp:

- **Context:** The Ministry of Jal Shakti has released the 6th census report on minor irrigation (MI) schemes, providing crucial data for effective planning and policy-making in this sector.
- **Irrigation in India:** Irrigation Projects in India are classified into three categories viz. Major, Medium and Minor Irrigation.
 - **Major Irrigation Projects:** Projects which have a Cultivable Command Area (CCA) of more than 10,000 hectare are termed as Major Projects (Pair 1 is correctly matched)
 - **Medium Irrigation Projects:** Projects which have a CCA of less than 10,000 hectare but more than 2,000 hectare are termed as Medium projects
 - **Minor Irrigation Projects:** Irrigation Projects which have a CCA of 2,000 hectare or less are known as Minor projects. (pair 2 is correctly matched)
- **Types of Irrigation Technique:** Various types of irrigation techniques differ in how the water obtained from the source is distributed within the field
 - **Surface Irrigation:** In surface irrigation systems, water moves over and across the land by simple gravity flow in order to wet it and to infiltrate into the soil
 - **Localized Irrigation:** Localized irrigation is a system where water is distributed under low pressure through a piped network, in a predetermined pattern, and applied as a small discharge to each plant or adjacent to it.
 - **Drip Irrigation:** Drip irrigation, also known as trickle irrigation, functions as its name suggests. Water is delivered at or near the root zone of plants, drop by drop.
 - **Sprinkler Irrigation:** In sprinkler or overhead irrigation, water is piped to one or more central locations within the field and distributed by overhead high-pressure sprinklers or guns.
 - **Sub-Irrigation:** Sub-irrigation also sometimes called seepage irrigation has been used for many years in field crops in areas with high water tables. **It is a method of artificially raising the water table to allow the soil to be moistened from below the plants' root zone.** (pair 3 is correctly matched)

Q84 Ans: C

Exp:

- **Context:** In a significant step towards preserving the world's big cats and their habitats, the Integrated Tiger Habitat Conservation Programme (ITHCP) has launched a Call for Concept Notes for Phase IV of the Tiger Programme.
- **ITHCP**
 - Initiated in 2014, the Integrated Tiger Habitat Conservation Programme (ITHCP) is a grant-making initiative which contributes to the Global Tiger Recovery Programme (GTRP).
 - Tiger populations have plummeted from around 100,000 individuals in 1910 to 3,200 individuals in 2010, occupying 7% of their original range. Poaching, habitat destruction and human-wildlife conflict are to blame.

Effective policy and conservation programmes are imperative for tiger survival.

- ITHCP marks a pivotal juncture in the global fight to safeguard tiger populations and their ecosystems. Following the IUCN Red List of Threatened Species™ tiger assessment released last year, we now know that there has been a 40% increase of tigers in the wild since 2015. This upward trend indicates that programmes such as the ITHCP are successful, and species recovery is possible as long as conservation efforts continue.

Q85 Ans: B

Exp:

- Context: A significant step has been taken by 48 African countries to adopt the **Kampala Ministerial Declaration on Migration, Environment, and Climate Change (KDMECC)** to address the interconnection between human mobility and climate change on the continent.
- The initiative was supported by the **International Organization for Migration (IOM)** and the **UN Framework Convention on Climate Change (UNFCCC)**.
- The Declaration calls for enhanced cooperation and action to address five areas of concern:
 - Progressive desertification and land degradation creating forced mobility of people and livestock
 - Unsustainable use of ecosystems and the impact of frequent and intense extreme weather events on people and livestock
 - Unplanned migration of people from rural to urban centres as a result of climate change and disasters
 - Paucity of data and statistics on the impact of climate change on human and livestock mobility in the region
 - Limitations of partnerships and financing to respond to the climate crisis adversely affecting the mobility of our people and livestock in the region

Q86 Ans: D

Exp:

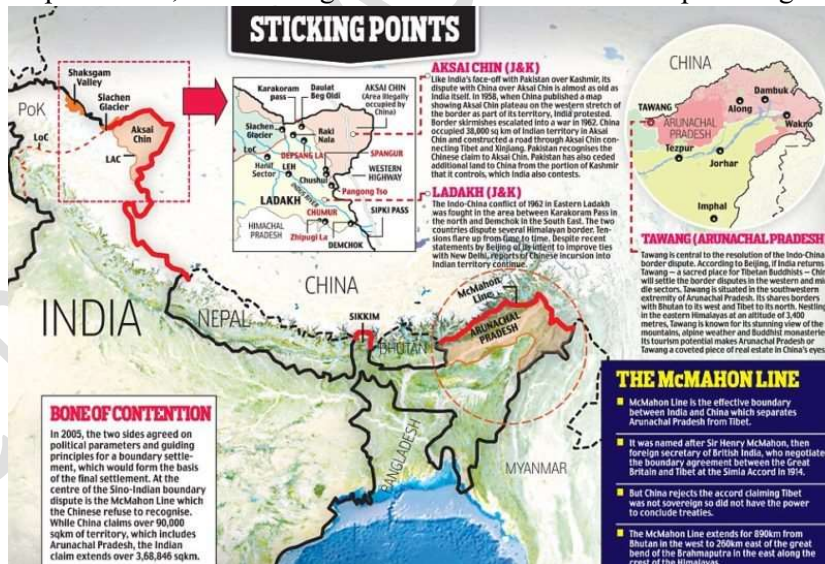
- Context: Recently, India and Greece have taken a significant step by upgrading their relationship to a strategic partnership. The partnership aims to double trade, enhance defence and security collaboration, and address shared challenges.
- On this occasion, the Greek President Katerina Sakellaropoulou conferred the Prime Minister(PM) of India with “The Grand Cross of the Order of Honour”

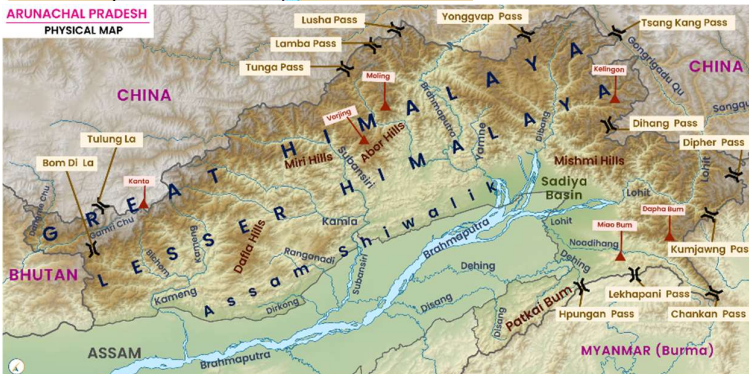


Q87 Ans: D

Exp:

- Source: China's government recently unveiled the "2023 edition of the standard map of China," reaffirming its territorial claims over disputed regions.





Q88 Ans: B

Exp:

- Context: As per a study published in the journal Nature Communications, the combination of global warming and the Pacific Decadal Oscillation (PDO) could make such cyclones more frequent in the coming years.
- Equatorial origin or Low Latitudes Cyclones (LLCs) originate between 5°N and 11°N. These cyclones are much smaller in size than those in higher latitudes but intensify more rapidly. Cyclones forming near the equator (low-latitude) is usually rare but when the waters are warm, they can gain more moisture and rise in intensity. (Statement 2 and 3 are correct)
- Coriolis force is crucial for cyclone formation. Near the equator, the Coriolis force is weak due to the shorter distance travelled by the air. This weak Coriolis force makes it difficult for cyclones to form directly over the equator. (statement 1 is not correct)

Q89

Ans: C

Exp:

- Context: : As per a study published in the journal Nature Communications, the combination of global warming and the Pacific Decadal Oscillation (PDO) could make such cyclones more frequent in the coming years

- The Pacific Decadal Oscillation (PDO) is a long-term ocean fluctuation of the Pacific Ocean. **The PDO waxes and wanes approximately every 20 to 30 years.** (a is correct)
- The 'cool' phase is characterized by a cool wedge of lower than normal sea-surface heights/ocean temperatures in the eastern equatorial Pacific and a warm horseshoe pattern of higher than normal sea-surface heights connecting the north, west and southern Pacific.
- **In the 'warm' or 'positive' phase, the west Pacific Ocean becomes cool and the wedge in the east warms.** (b is correct)
- A 'cool' phase occurred from 1947 to 1976 (29 years), and a 'warm' phase from 1977 to 1999 (22 years). However, more recently, the 'warm' and 'cold' phases have been much shorter. In 1999, we entered into a 'cold' phase for about 4 years (1999-2002) followed by a 'warm' phase that continued for 3 years. The phase was then neutral until 2007, when we entered into a 'cold' phase that lasted through 2013. The last PDO phase shift was in 2014, when it turned strongly positive. **In 2019, the PDO entered a cooler, negative phase and which is continuing till date.**
- **A warmer (positive-phased) PDO implies fewer equatorial-origin cyclones in the Indian Ocean** (c is correct)
- **The negative phase of the PDO increases the rainfall over the Indian subcontinent. While the positive phase leads to decrease in the rainfall in India.** (d is not correct)

Q90 Ans: C

Exp:

- Context: Recently, the government introduced a Bill that seeks to replace the Chief Justice of India with a cabinet minister nominated by the Prime Minister in the committee of selection for the appointment of the Chief Election Commissioner and other Election Commissioners in India.
- **Article 324 of the Constitution states that the Election Commission will comprise the Chief Election Commissioner (CEC) and such number of Election Commissioners (ECs), as the President may decide.**
- The Constitution specifies that the President will appoint the CEC and ECs, subject to the provisions of an Act of Parliament.
- In 1991, Parliament passed the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act. The Act set the salary of the CEC and ECs at the same level as a Supreme Court judge. **It did not provide for their appointment process, which continued to be decided by the President.**
- In March 2023, while examining the appointment of the CEC and ECs, the Supreme Court declared that their appointment should not be done solely by the Executive. The Court directed that the appointment should be done by the President

on the recommendation of a Selection Committee. The Selection Committee will consist of:

- 1) the Prime Minister,
- 2) the Leader of Opposition in Lok Sabha
- 3) the Chief Justice of India.

- **Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023**

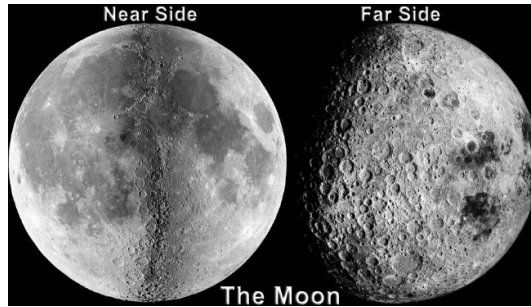
- The Bill replaces the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991
- The CEC and ECs will be appointed by the President upon the recommendation of a Selection Committee. (statement 1 is correct)
- The Selection Committee will consist of the
 - Prime Minister,
 - a Union Cabinet Minister, and
 - Leader of Opposition/leader of the largest opposition party in Lok Sabha. (statement 2 is correct)
- Recommendations of the Selection Committee will be valid even when there is a vacancy in this Committee.
- A Search Committee headed by the Cabinet Secretary will propose a panel of names to the Selection Committee
- The Election Commission will consist of a Chief Election Commissioner (CEC) and other Election Commissioners (ECs). **The President will periodically fix the number of ECs.** (statement 3 is correct)

Q91 Ans: B

Exp:

- Context: The controlled descent of the Vikram lander of Chandrayaan-3 made it one of the closest approaches of a lunar mission to the moon's South Pole. However like most of the lunar-landing missions before, Vikram too landed on the near side, making the Chinese Chang'e 4 mission the only one to have landed on the far side.
- **The near side refers to the portion of the moon — about 60% — that is visible to us. It is always the same side that is visible from Earth** because the moon takes the same time to rotate about its axis as it does to circle around the Earth. (statement 1 is correct)
- **However this doesn't imply that the half the moon is in perpetual darkness. The far side of the moon receives the sunlight on the new moon, while the near side receives the sunlight on the occasion of full moon.** (Statement 2 is not correct)
- **The far side of the Moon has a different geological composition, with more rugged and mountainous terrain.** It also has a higher density of impact craters compared to the near side. The near side, on the other hand, has more extensive lunar maria, which are smoother plains formed by ancient volcanic activity. (statement 3 is also correct)

- The crust of the near side of the moon is thinner, while the crust of the far side is thicker.



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Q92 Ans: B

Exp:

- **Context: The UNDP (United Nations Development Programme) has created an open-source software named the National Carbon Registry for effectively managing national data and processes related to trading carbon credits.**
- The software, called the National Carbon Registry, has recently been accredited as a **digital public good (DPG)**. As a DPG, the registry uses open-source code, which allows countries to replicate and adapt the information to fit their own needs and contexts.
- The registry's modules, software and technical documentation can be reused and tailored by countries, which could potentially reduce production costs and implementation timelines.
- The registry follows national and international best practices based on inputs from countries and is a result of ongoing work by the Digital4Climate (D4C) Working Group, which includes UNDP, the World Bank, the United Nations Framework Convention of Climate Change (UNFCCC) and the European Bank for Reconstruction and Development (EBRD) among others.

Q93 Ans: D

Exp:

- **Context: Primatologists have proposed a solution to address the division caused by a 1.65-km long railway track within the Hollongapar Gibbon Sanctuary in eastern Assam, dedicated to the western hoolock gibbon.**
- **Gibbons, known as the smallest and fastest of all apes, inhabit tropical and subtropical forests in Southeast Asia. (statement 1 is correct)**
- **They have high intelligence, distinct personalities, and strong family bonds similar to other apes. (statement 2 is correct)**
- They represent one of the 20 gibbon species found worldwide. **Hoolock gibbon is the only Ape found in India**

- Two distinct hoolock gibbon species are found in India's northeastern region: (statement 3 is correct)
 - the eastern hoolock gibbon (*Hoolock leuconedys*) and
 - Vulnerable in IUCN red list
 - the western hoolock gibbon (*Hoolock hoolock*)
 - Endangered in IUCN red list
- Both are protected under the Schedule I of the Wildlife Protection Act (statement 4 is correct)

Q94 Ans: B

Exp:

- **Context: The Air Quality Life Index (AQLI) report by the University of Chicago reveals that fine particulate air pollution (Particulate Matter 2.5) reduces the average Indian's life expectancy by 5.3 years.**
- In India AQI has been developed for eight pollutants viz.
 - **PM2.5 and PM10:** PM is a common proxy indicator for air pollution. There is strong evidence for the negative health impacts associated with exposure to this pollutant. The major components of PM are sulphates, nitrates, ammonia, sodium chloride, black carbon, mineral dust and water.
 - **Ammonia**
 - **Lead**
 - **Nitrogen oxides:** NO₂ is a gas that is commonly released from the combustion of fuels in the transportation and industrial sectors.
 - **Sulphur dioxide:** SO₂ is a colourless gas with a sharp odour. It is produced from the burning of fossil fuels (coal and oil) and the smelting of mineral ores that contain sulphur.
 - **Ozone:** Ozone at ground level – not to be confused with the ozone layer in the upper atmosphere – is one of the major constituents of photochemical smog and it is formed through the reaction with gases in the presence of sunlight.
 - **Carbon monoxide:** Carbon monoxide is a colourless, odourless and tasteless toxic gas produced by the incomplete combustion of carbonaceous fuels such as wood, petrol, charcoal, natural gas and kerosene.
- According to WHO, air pollution is one of the greatest environmental risk to health. By reducing air pollution levels, countries can reduce the burden of disease from stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma.

Q95 Ans: D

Exp:

- **Context: Recently, the state government of Gujarat hiked reservations for Other Backward Classes (OBCs) from the existing 10% to 27% in the panchayats and urban local bodies.**
- The provision of reservation in 73rd and 74th Constitution Amendment
 - **Seats shall be reserved for Schedule Castes and Schedule Tribes and chairpersons of the Panchayats at all levels in proportion to their population.**
 - **One third of the positions in all panchayat institutions are reserved for women.** However, states are free to increase the reservation of women up to 50%
 - **The State legislature has been empowered to make any provision for reservation in the municipality at any level in favour of the backward class.** However, it is not mandatory provision and is discretionary.

Q96 Ans: B

Exp:

- **Context: Recently, India and New Zealand signed a Memorandum of Understanding (MoU) to boost cooperation in civil aviation.**
- **The Great Victoria Desert** is a large desert region located in **Australia**. It lies in western Australia and South Australia, extending from the Gibson desert on the north to the Nullarbor plain on the south and eastward from Kalgoorlie-Boulder almost to the Stuart Range.
- **The Grand Canyon** is a famous canyon located in the **United States**, specifically in the state of Arizona. It is not in Mexico.
- **Mount Kilimanjaro** is the highest mountain in **Africa** and is located in **Tanzania**, not Uganda.
- **The Southern Alps** are a mountain range that runs along the **South Island of New Zealand**.

Q97 Ans: C

Exp:

- **Context: India and Kenya signed a Memorandum of Understanding (MoU) for shipbuilding collaboration.** The agreement focuses on capacity building and collaboration in ship design and construction. The partnership aims to enhance Kenya's maritime capabilities along the Indian Ocean.
- Kenya is bordered by the Indian Ocean to the southeast. Its neighbouring countries are Ethiopia, Somalia, South Sudan, Tanzania, and Uganda.

- As a part of Aatmanirbhar Bharat package, ₹ 50,000 crore Equity infusion for MSMEs through Fund of Funds was announced. (Statement 1 and 2 are correct)
- In compliance with the announcement, Self Reliant India (SRI) Fund has been set up to infuse ₹50,000 crore as equity funding in those MSMEs which have the potential and viability to grow and become large units.
- Under this Fund of ₹50,000 crore, there is a provision of ₹ 10,000 Crore from the Government of India and ₹ 40,000 Crore through Private Equity / Venture Capital funds. (Statement 3 is incorrect)
- SRI fund operates through a mother-fund and daughter-fund structure for equity or quasi-equity investments. NSIC Venture Capital Fund Limited (NVCFL) which operates as Mother Fund in SRI Fund implementation, was registered as a Category-II Alternative Investment Fund (AIF) with SEBI, on 1st September, 2021.

Q100 Answer (b)

Exp:

- **Jalesar Dhatu Shilp, a complex metal craft, originates from the town of Jalesar in the Etah district of Uttar Pradesh.** More than 1,200 small units in this area are dedicatedly involved in crafting intricate metalwork and brassware. The skilled craftsmanship focuses on creating decorative pieces like ghungrus (anklets) and ghantis (bells). This traditional art form is especially honed by the local Thatheras community residing in Hathuras. (Pair 1 is correctly matched)
- **Hailing from Goa, the Goa Mankurad Mango, alternatively known as Goa Mancurad or Goa Alphonso,** is a captivating mango variety cultivated in the region. Renowned for its exquisite sweetness, juicy pulp, thin skin, and delightful aroma, it holds a distinguished status as one of India's finest mango varieties. (Pair 2 is not matched correctly)
- **Hailing from Rajasthan, the Udaipur Koftgari Metal Craft specializes in crafting ornate weapons.** This elaborate art form entails a sophisticated process of etching intricate designs, embedding gold and silver wires into metal, and painstakingly polishing the final product to achieve perfection. The primary objective of this craft is to adorn weapons, providing them with a majestic and artistic allure. (Pair 3 is correctly matched)
- Other GI tagged Products
 - **Goan Bebinca (traditional dessert hailing from Goa)**
 - **Bikaner Kashidakari Craft from Rajasthan** offers exquisite needlework for special occasions.
 - **Bandhej**, known as one of the most renowned textile art forms of Rajasthan, is the Rajasthani art of tying and dyeing.
 - **The Bikaner Usta Kala Craft, from Rajasthan,** also referred to as gold nakashi or gold manauti work for its enduring golden hue, showcases artistic camel hide craftsmanship. This unique art form entails treating raw camel hide and skillfully molding it into a range of products.

Q101 Answer (a)

Exp:

- **Quantum Cryptography leverages the principles of quantum mechanics for secure communication.** (Statement 1 is correct)
 - **Superposition** allows quantum bits (qubits) to exist in multiple states simultaneously, and entanglement enables a strong correlation between particles regardless of the distance between them. Quantum Cryptography uses these properties to create a secure key distribution system.
 - Through **quantum entanglement**, the act of measuring one entangled particle instantaneously affects the state of the other, providing a means to detect any eavesdropping attempts.
- Quantum Cryptography deviates from traditional binary encryption methods. Instead of relying on mathematical complexity, it harnesses quantum properties to ensure the security of communication. (statement 2 is not correct)
- **The primary emphasis of Quantum Cryptography is on security.** While classical encryption methods often prioritize speed and efficiency, Quantum Cryptography prioritizes the security of communication channels. By utilizing the principles of quantum mechanics, it provides a method to detect any attempt to intercept quantum information, ensuring the integrity and confidentiality of the transmitted data. (Statement 3 is not correct)

Q102 Answer (b)

Exp:

- Union Minister of Earth Sciences, Shri Kiren Rijiju informed Rajya Sabha that the India Meteorological Department (IMD) has recently launched the Heat Index on experimental basis. (Hence Statement 1 is not correct)
- Heat Index has been launched by IMD to provide general guidance for the regions within India where, the apparent temperature/feel like temperature (**considering the impact of humidity along with the temperature**) are on the higher side causing discomfort for the people. (Statement 2 is correct)
- At present, heat index is derived using the heat index equation similar to what is used by National Weather Service, National Oceanic and Atmospheric Administration (NOAA), USA.
- There will be four Colour codes used for Experimental Heat Index are as follows:
 - Green: - Heat Index less than 35 deg C
 - Yellow: - Heat Index in the range 36-45 deg C
 - Orange: - Heat Index in the range 46-55 deg C
 - Red: - Heat Index greater than 55 deg C

Q103. Answer (a)

Exp:

- A commission for Other Backward Classes (OBCs) had been appointed under the **chairmanship of Justice G Rohini**, Retd. Chief Justice of Delhi High Court to examine sub-categorization of OBCs. The commission was set up by the President of India, **mandated under Article 340 of the Indian Constitution**.
- The commission also included JK Bajaj, director of the Centre for Policy Studies, Chennai; Gauri Basu, director of Anthropological Survey of India, Kolkata (ex-officio member); and Vivek Joshi, registrar general and census commissioner (ex-officio member).
- The Commission had been entrusted with the task to study the various entries in the Central List of OBCs and recommend the correction of any repetitions, ambiguities, inconsistencies and errors of spellings or transcription.
- It was also entrusted to examine the extent of inequitable distribution of benefits of reservation among the OBCs and work out the mechanism, criteria, norms and parameters for sub-categorization within such OBCs.
- In 2018, the commission analysed more than 130,000 government jobs and admission to government education institutes that had the OBC quota.
- It has submitted its report to the President of India
- **Findings**
 - The commission found that 97 per cent of the reserved jobs and seats have gone to 25 per cent of OBC sub-castes
 - Only 10 OBC communities have taken the 25 per cent of reserved central jobs and institutional seats.
 - As many as 983, or 37 per cent, of the 2,600 communities under the OBC category had zero representation in jobs and institutes
 - only 2.68 per cent reservation has been used by 994 castes.
- Hence Option a is correct