

R.C. Reddy IAS Study Circle
CURRENT AFFAIRS TEST SERIES- CSE PRELIMS 2024
CURRENT AFFAIRS TEST-8 - (June - 2023)

Test Solutions

Q1 Answer (b)

Explanation

- Context: Serbian protesters and NATO (North Atlantic Treaty Organization) peacekeepers recently clashed in Kosovo, leading to more than 60 injuries. It is the most serious violence seen in the region in over a decade.
- **Kosovo conflict**
 - The Kosovo conflict refers to the long-standing ethnic and political tensions between ethnic Albanians and Serbs in the region of Kosovo, which is located in the Balkans. The conflict escalated in the late 1990s, leading to a brutal armed conflict between Serbian forces and ethnic Albanian separatists, primarily represented by the Kosovo Liberation Army (KLA).
 - The conflict intensified in 1999, prompting NATO to intervene with a bombing campaign against Serbian forces. This intervention eventually led to the withdrawal of Serbian forces from Kosovo and the establishment of a UN-administered interim government in the region. In 2008, Kosovo unilaterally declared independence from Serbia.
 - India, along with Russia does not recognise Kosovo as independent country.
- **The North Kivu and Ituri conflict** refers to ongoing armed conflicts and violence primarily in the North Kivu and Ituri provinces of the Democratic Republic of the Congo (DRC). These conflicts are characterized by ethnic tensions, competition over land and resources, and the presence of various armed groups.
- **Abyei, a region between Sudan and South Sudan, has been in the news due to conflicts and disputes between these two countries, rather than an insurgency in Mozambique.**

Q2 Answer (b)

Explanation

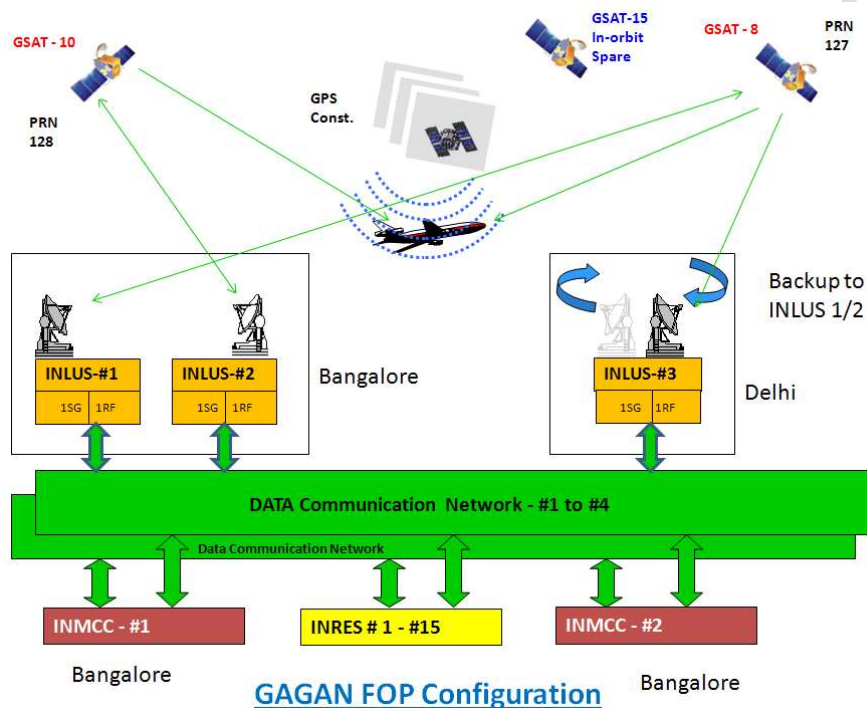
- **Context:** A recent report called 'Low-cost finance for energy transition,' released by the International Renewable Energy Agency (IRENA), has recognized and praised India's outstanding progress in expanding its renewable energy capacity.
 - **The report describes India's achievements as unprecedented.**
- The International Renewable Energy Agency (IRENA) is a lead global intergovernmental agency for energy transformation that serves as the principal platform for international cooperation, supports countries in their energy transitions, and provides state of the art data and analyses on technology, innovation, policy, finance and investment.
- IRENA drives the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, and energy security, for economic growth, social resilience and prosperity and a climate-proof future.

- IRENA’s membership comprises 168 countries and the EU. **India is founding member of IRENA** (statement 2 is correct)
- The **Headquarters of IRENA is in Abu Dhabi, UAE.** (Statement 1 is not correct)
- **It publishes the World Energy Transition Outlook.** (Statement 3 is correct)

Q3 Answer (a)

Explanation

- **Context:** Recently, the Prime Minister of India lauded Asia’s first demonstration of Performance-Based Navigation for helicopters for a flight from Juhu to Pune using GAGAN satellite technology.
- The Indian Space Research Organization (ISRO) and the Airports Authority of India (AAI) have implemented the GAGAN project as a Satellite Based Augmentation System for the Indian Airspace. (Statement 1 is correct)



- **The GAGAN is primarily designed to provide the additional accuracy, availability, and integrity necessary to enable users to rely on GPS for all phases of flight, from en route through approach for all qualified airports within the GAGAN service volume.** GAGAN will also provide the capability for increased accuracy in position reporting, allowing for more uniform and high-quality Air Traffic Management (ATM). (Statement 2 is not correct)
- In addition, GAGAN will provide benefits beyond aviation to all modes of transportation, including maritime, highways, railroads and public services such as defense services, security agencies, telecom industry and personal users of position location applications.
- GAGAN is a system of satellites and ground stations that provide GPS signal corrections, giving you better position accuracy. (Statement 3 is not correct)

Q4 Answer (a)

Explanation

- **Context:** The **Centrally Sponsored Scheme (CSS) of Department of Justice, Ministry of Law and Justice for Judicial Infrastructure**, with technical assistance of NRSC, ISRO is catering to a user-friendly and transparent web portal to facilitate better delivery of judicial infrastructural projects via **Nyaya Vikas Portal** (statement 1 and 2 are not correct)
- The Department of Justice has been implementing the Centrally Sponsored Scheme(CSS) for Development of Infrastructure Facilities for Districts and Subordinate Judiciary since 1993-94.
- Under the Scheme , the central assistance is provided to the State Government / UT Administrations for construction of court halls and residential units for Judicial Officers / Judges of District and Subordinate Courts. With further extension of the scheme beyond 31.03.2021, some new features like Lawyers Hall, Toilet complexes and Digital computer rooms have been added to the scheme for the convenience of lawyers and litigants, besides court halls and residential units
- **The Nyaya Vikas portal has been created for monitoring the implementation of this Scheme.** (Statement 3 is correct)

Q5 Answer(a)

Explanation

- **Context:** Punjab and Himachal Pradesh are set for a face-off as the 99-year lease on the British-era 110 MW **Shanan hydropower project situated at Jogindernagar in Mandi district of Himachal Pradesh, presently under the control of the Punjab Government**, will expire in March 2024. (Statement 1 is correct)
- The 110 MW Shanan power project was envisaged by Col. Batty, the then Chief Engineer of the Government of Punjab, in 1922. The first stage (48 MW) of the project was commissioned in 1932. The project was constructed following the execution of the lease agreement in 1925.
- The Shanan project was allocated to the State of Punjab in accordance with the provisions of the Punjab Reorganisation Act, 1966. Under the Act, the Shanan project was allocated to Punjab State by the Ministry of Irrigation and Power, Government of India.
- In 1972, the Centre responded with a clarification to an objection raised by Himachal Pradesh, reaffirming the allotment of the project in favour of Punjab State, the official added.
- **The project is constructed on the river Uhl, tributary of the river Beas** (statement 2 is not correct)

Q6 Answer (a)

Explanation

- **Context:** Fourteen fixed-dose combination (FDC) medicines found to lack therapeutic relevance have been banned by the Central Government through a gazette notification issued over the weekend.
- The banned FDCs are part of 344 fixed-dose combinations prohibited for sale by the Union Health Ministry in 2016. **However, not all FDCs are banned in India.** (Statement 2 is incorrect)
- According to the Central Drugs Standard Control Organisation (CDSCO), **FDCs refer to products containing one or more active ingredients used for a particular indication(s).** (Statement 1 is correct)
- **FDCs are not exclusively used to treat chronic diseases.** They can be used for various medical conditions, including acute and chronic ailments, depending on the specific combination of drugs and their therapeutic indications. (Statement 3 is not correct)

Q7 Answer (d)

Explanation

- **Context:** In Tamil Nadu, Adivasi craftsmen create life-sized elephants from **lantana camara, an invasive plant species in India's forests.**
- **Invasive growth of the grass Paspalum distichum** has changed the ecological character of large areas of the Keoladeo National Park, reducing its suitability for certain waterbird species including the Siberian Crane
- **Prosopis juliflora**, also known as mesquite, is notorious for its ability to spread rapidly and outcompete native vegetation, leading to desertification in some areas.
- **Actinodaphne lawsonii is a vulnerable species which belongs to the Lauraceae family**, is present in the evergreen forest region of Kerala. It is found in the high elevation between 1200 to 2400 meters. Its aromatic leaves have medicinal use. **The plant population is decreasing because of habitat loss.**

Q.8 Answer (b)

Explanation:

- **Context:** Iran has recently unveiled its first-ever hypersonic missile, Fattah, which it says can penetrate missile defence systems and will give it a military edge.
- A ballistic missile is a self-guided, fuel-powered weapon that follows a parabolic trajectory to deliver a payload to a predetermined target.
- A ballistic missile is launched as a projectile and cannot be controlled after launch.
- It is fired directly into the Earth's atmosphere and travels outside the atmosphere before releasing its warhead. (Statement 1 is incorrect)
- The trajectory of a ballistic missile resembles that of a ball thrown upwards, as it follows a high arc before returning to Earth.
- Ballistic missiles can be launched from either land or sea platforms.
- The trajectory of a ballistic missile is primarily influenced by the gravitational pull of the Earth.
- These missiles have a longer range compared to cruise missiles, capable of traveling distances up to 10,000 km in a short period.
- They reach terminal speeds of over 5,000 m/s, making them much more difficult to intercept than cruise missiles due to their shorter flight time.
- Examples of ballistic missiles in the Indian armed forces include the AGNI (ICBM) series, PRITHVI (SRBM) series, and DHANUSH.
- A hypersonic missile is a weapon system which flies at least at the speed of Mach 5 i.e. five times the speed of sound and is manoeuvrable.

Q.9 Answer (b)

Explanation:

- **Context:** Only 66% districts in country free of manual scavenging: Social Justice Ministry report
- About Manual Scavengers and their Rehabilitation Act,
 - Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 (PEMSR) to prohibit the practice of manual scavenging.

- Under this act, it is illegal to employ individuals for manually cleaning, carrying, disposing of, or handling human excreta.
- The definition of manual scavengers was expanded in 2013 to include those cleaning septic tanks, ditches, or railway tracks.
- Under this Act, the states are now responsible for identifying and rehabilitating manual scavengers.
- The Act recognizes manual scavenging as a “dehumanizing practice” and aims to rectify the historical injustice and indignity suffered by manual scavengers.
- The National Commission for Safai Karamcharis (NCSK)
 - It was established to investigate the conditions of waste collectors in India and provide recommendations to the Government.
 - Currently, it functions as a non-statutory body under the Ministry of Social Justice and Empowerment.
 - Initially established in 1993 under the NCSK Act 1993, it was intended to operate until March 31, 1997, functioning as a statutory body. (Statement 3 is incorrect)
 - The validity of the NCSK Act was extended first until 2002 and then until 2004.
 - However, the NCSK Act ceased to be effective from February 29, 2004.
- Constitutional Mandate
 - The Constitution of India provides various rights and safeguards for manual scavengers, including:
 - Article 14 ensures equality before the law and equal protection of the laws.
 - Article 17 mandates the abolition of untouchability and prohibits its practice in any form.
 - Article 21 guarantees the protection of life and personal liberty.
 - Article 23 prohibits traffic in human beings and forced labour.

Q.10 Answer (d)

Explanation:

Context: Recently, the World Bank (WB) has released its Global Economic Prospects Report, which shows that the global economy may witness a poor performance by the end of 2024, the slowest half-decade of GDP (Gross Domestic Product) growth in 30 years.

- Growth in India is expected to slow further to 6.3 % in FY 2023/24 (April-March), a 0.3 percentage point downward revision from January.
- The global economy is anticipated to witness its slowest half-decade of GDP growth in 30 years, with a projected growth rate of 2.4% in 2024.
- Despite the slow growth, there's an improved outlook compared to the previous year, attributed to the robustness of the US economy, reducing the risk of a global recession.
- However, mounting geopolitical tensions pose fresh near-term hazards for the world economy.
- While the global economy shows signs of improvement compared to a year ago, the medium-term outlook has deteriorated for many developing economies due to factors such as slowing growth, sluggish global trade, and tight financial conditions.
- Global trade growth in 2024 is expected to be only half of the average in the decade before the pandemic, and borrowing costs for developing economies, especially those with low credit ratings, are anticipated to remain high.
- Global growth is projected to decelerate for the third consecutive year, dropping from 2.6% in 2023 to 2.4% in 2024.
- Developing economies are expected to grow by just 3.9%, more than one percentage point below the average of the previous decade, with low-income countries projected to grow by 5.5%, lower than initially expected.

Q.11 Answer (b)

Explanation:

- **Context:** Ramanathapuram DFO wins UNESCO award for Gulf of Mannar Biosphere Reserve management.
- About Gulf of Mannar National Park
 - Designated as a Biosphere Reserve, the Gulf of Mannar is one of mainland India's biologically richest coastal regions.
 - It holds the distinction of being the first Marine Biosphere Reserve in South and Southeast Asia.
 - Location-wise, it spans 160 km between Dhanushkodi and Thoothukudi in Tamil Nadu.
 - This Marine Biosphere Reserve encompasses a chain of 21 islands (with 2 already submerged) and adjoining coral reefs off the coasts.
 - The Gulf of Mannar Marine National Park, established in 1980, features three distinct aquatic ecosystems: mangroves, seagrass, and coral reef.
 - Flora in the intertidal areas is dominated by mangroves from the Rhizophora, Avicennia, and Bruguiera genus, while seagrass and about 12 species of seaweeds thrive in its waters.
 - Notably, the parklands harbor one endemic plant, a flowering herb called Pemphis acidula.
 - As for fauna, the Gulf of Mannar Marine National Park is home to the endangered marine mammal, the dugong, and boasts a diverse array of marine life, including 117 species of hard coral.
 - It serves as habitat for various vulnerable whale species like humpback whales, blue whales, and fin whales.
- There are a total of 6 Marine National Parks in India namely Mahatma Gandhi Marine National Park, Malvan Marine Sanctuary, Gahirmatha Marine Sanctuary, Gulf of Mannar Marine National Park, and Rani Jhansi Marine National Park. (Statement 1 is incorrect)
- Michel Batisse Award
 - For year 2023 United Nations Educational, Scientific and Cultural Organization (UNESCO) award, Michel Batisse Award, will be received by Director of Gulf of Mannar Marine National Park for his efforts in Biosphere Reserve Management.
 - This is a The \$12,000 reward given by UNESCO every two years during the MAB Council.
 - It is given for outstanding achievements in the management of biosphere reserves in line with the recommendations of Seville Strategy.

Q.12 Answer (c)

Explanation:

- **Context:** The Organization of the Petroleum Exporting Countries and allies including Russia, a group known as OPEC+ which pumps around 40% of the world's crude, agreed on a new oil output deal on Sunday.
- The Organization of the Petroleum Exporting Countries (OPEC)
 - It is a permanent intergovernmental organization formed at the Baghdad Conference in 1960 by Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.
 - Initially headquartered in Geneva, Switzerland, it relocated to Vienna, Austria, in 1965.
 - OPEC accounts for approximately 44% of global oil production and 81.5% of the world's proven oil reserves.

- Its objectives include coordinating and unifying petroleum policies among member countries to secure fair and stable prices for petroleum producers, ensuring the efficient, economic, and regular supply of petroleum to consuming nations, and providing a fair return on capital to industry investors.
- Currently, OPEC consists of 13 member countries: Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, and Venezuela. (Optional c is correct)
- Qatar terminated its membership on January 1, 2019, while Ecuador suspended its membership in December 1992, rejoined in October 2007, and withdrew its membership effective January 1, 2020.
- About OPEC+
 - It refers to the alliance of non-OPEC countries that export crude oil along with the 14 OPEC members.
 - OPEC+ includes Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan.
 - Saudi Arabia and Russia are key members of the OPEC+ alliance, which aims to stabilize oil prices through production cuts.

Q.13 Answer (b)

Explanation:

- **Context:** In order to boost domestic production, Government removes ceiling for procurement of Tur, Urad and Masur under Price Support Scheme (PSS) for 2023-24.
- About Price Support Scheme
 - The Price Support Scheme (PSS) is a component of the Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA) scheme, launched in 2018 to ensure fair prices for farmers' crops.
 - Implemented by the Department of Agriculture & Cooperation, PSS aims to procure oil seeds, pulses, and cotton at the Minimum Support Price (MSP) declared by the government.
 - NAFED serves as the central nodal agency for the implementation of PSS.
 - MSP is a pre-announced price at which the government commits to purchasing crops from farmers, regardless of market prices.
 - Main crops covered under PSS include Bajra, Jowar, Maize, Paddy, Cotton, Tur, Moong, Urad, Groundnut, Sesamum, Wheat, Gram, Mustard, and Sugarcane.
 - PSS becomes operational when market prices fall below MSP and continues until prices stabilize at or above MSP.
 - Procurement under PSS adheres to specified Fair Average Quality (FAQ) standards and guidelines.

Q.14 Answer (d)

Explanation:

- **Context:** Arikomban elephant, which was captured near Erasappanaickanur in Theni district on June 5 being transported to Kalakad Mundanthurai Tiger Reserve in Kanniyakumari district.
- About The Kalakad Mundanthurai Tiger Reserve (KMTR)
 - It is located in Tirunelveli and Kanyakumari District of Tamil Nadu, is renowned for its diverse flora and fauna. It is Southern most tiger reserve of India.
 - It was designated as the “First Tiger Reserve of Tamil Nadu” and the 17th Tiger Reserve of the country.
 - KMTR comprises the Kanyakumari Wildlife Sanctuary in the south and the Nellai Wildlife Sanctuary in the north.

- The river Thamirabarani originates from this tiger reserve, earning it the nickname “River Sanctuary,” with 14 rivers originating from within its boundaries.
- The vegetation in this region transitions from dry thorn forest to dry deciduous, moist deciduous, and patches of West coast wet evergreen forests in higher elevations.
- Notable fauna includes the Lion-Tailed Macaque, Nilgiri Tahr, Nilgiri Pipit, Grey Headed Bulbul, and Blue Winged Parakeet.
- Nagarjunsagar-Srisailem Tiger Reserve is the largest tiger reserve in India, having the largest area under "Critical Tiger Habitat". (Statement d is incorrect)
- Critical 'tiger' habitats (CTHs), also known as core areas of tiger reserve, are identified under the Wild Life Protection Act (WLPA), 1972.

Q.15 Answer (a)

Explanation:

- **Context:** Recently scientists have for the first time identified an element by X-raying a single atom.
- Electromagnetic radiation, including visible light, UV light, and X-rays, consists of waves of energy that travel through space. These waves differ in their wavelengths, with shorter wavelengths corresponding to higher energy levels. X-rays have wavelengths shorter than those of UV light, placing them in the high-energy end of the electromagnetic spectrum.
- Because of their shorter wavelengths, X-rays possess the ability to penetrate materials, including tissues in the human body. This property makes them valuable for various applications, such as medical imaging to visualize internal structures and diagnose medical conditions, as well as industrial testing to inspect the integrity of materials.
- However, the human eye is only sensitive to a narrow range of wavelengths within the electromagnetic spectrum, known as the visible spectrum. This spectrum includes colours ranging from violet to red, with each colour corresponding to a specific wavelength of light.
- X-rays, with their wavelengths shorter than UV light, fall outside the visible spectrum, making them invisible to the human eye.
- Therefore, although X-rays have practical applications in various fields, they cannot be perceived by the human visual system due to their wavelengths being outside the range of visible light

Q.16 Answer (b)

Explanation:

- **Context:** The Initiative on Critical and Emerging Technologies (iCET) indeed represents a significant step in the bilateral strategic relationship between **India and the United States**.
- This framework, announced in May 2022 and launched in January 2023, aims to foster collaboration and cooperation in critical and emerging technology domains.
- Key focus areas of the iCET include:
 - **Research Agency Partnership:** Both countries are working towards setting up a research agency partnership to drive collaboration in crucial areas such as Artificial Intelligence (AI). This collaboration will likely involve sharing expertise, resources, and possibly joint research efforts to advance the state of the art in AI and related fields.
 - **Innovation Ecosystems:** Collaboration in fostering innovation ecosystems is another important aspect of iCET. This likely involves initiatives to promote entrepreneurship, start-up culture, and the development of technology hubs where ideas can flourish and be translated into real-world solutions.

- **Defence Industrial and Technological Cooperation:** Cooperation in defence industrial and technological sectors is crucial for both countries' national security interests. iCET aims to facilitate exchanges in defence-related technologies, including cooperation with defense startups.
- **Cooperation in Human Spaceflight:** Space exploration and human spaceflight represent frontier areas where collaboration can lead to significant advancements. iCET likely involves cooperation in space technology development, sharing of resources, and possibly joint missions or projects.
- **Semiconductor Ecosystem Development:** Semiconductors are fundamental to modern technology, and developing a robust semiconductor ecosystem is critical for both India and the US. iCET likely involves initiatives to enhance semiconductor manufacturing capabilities, research, and development.
- **Advancement in 5G and 6G Technologies:** Next-generation telecommunications technologies like 5G and future 6G are areas of significant interest and competition globally. Collaboration under iCET could involve joint research, standardization efforts, and deployment strategies for these technologies.

Q.17 Answer (b)

Explanation:

- **Context:** On the occasion of the 5th World Food Safety Day on June 7th, the **Union Health Minister** unveiled the 5th State Food Safety Index (SFSI), a significant **initiative by the Food Safety and Standards Authority of India (FSSAI)** that was first introduced in the 2018-19 period. (Statement 3 is incorrect)
- The primary objective behind the State Food Safety Index (SFSI) is to instigate healthy competition among various states and Union Territories (UTs) of India, thereby stimulating positive transformations within the food safety landscape across the nation.
- The methodology employed for the SFSI involves the evaluation of states and UTs based on six distinct parameters pertaining to food safety:
 - Human Resources and Institutional Data (18% weightage)
 - Compliance (28% weightage)
 - Food Testing Infrastructure (18% weightage)
 - Training and Capacity Building (8% weightage)
 - Consumer Empowerment and FSSAI Initiatives (18% weightage)
 - Improvement in Rank of States/UTs from the previous State Food Safety Index (10% weightage)
- For the 2022-23 period, the top-performing states and UTs are as follows:
 - Among Larger States: Kerala emerged as the top performer, followed by Punjab and Tamil Nadu.
 - Among Smaller States: Goa secured the top position, with Manipur and Sikkim following closely.
 - Among Union Territories: Jammu and Kashmir led the rankings, with Delhi and Chandigarh following suit.
- This index serves as a crucial tool for assessing and enhancing the effectiveness of food safety measures across different regions of India, ultimately aiming to ensure the well-being of consumers and the integrity of the food supply chain.

Q.18 Answer (d)

Explanation:

- **Context:** Recently Cyclone 'Biparjoy' has rapidly intensified into a severe cyclonic storm in Arabian Ocean, It is the first storm brewing in the Arabian Sea this year.
- The intensification of cyclones in the Arabian Sea can be attributed to several factors, each contributing to the conducive environment for cyclone formation and strengthening:
 - **Rising Sea Surface Temperatures:** Global warming has led to an increase in sea surface temperatures, providing the necessary heat energy for cyclone formation and intensification. The Arabian Sea experiences rapid warming due to its relatively smaller size and shallower depths compared to the Bay of Bengal.
 - **Abundant Energy:** The warming of seawater in the Arabian Sea results in the availability of abundant energy, which fuels the strengthening of cyclones. Cyclone Tauktae, for example, intensified rapidly due to warm seawater extending up to considerable depths.
 - **Wind Gradient:** The Arabian Sea exhibits favorable wind shear conditions, which facilitate the development and intensification of cyclones. Wind gradients, such as higher-level easterly winds, can contribute to cyclone formation and movement within the Arabian Sea region.
 - **Climatic Phenomenon of El Nino:** El Nino, a variant of the El Nino Southern Oscillation (ENSO), influences sea surface temperatures and atmospheric conditions, creating a conducive environment for cyclone formation in the Arabian Sea. Unlike the Bay of Bengal, where El Nino Modoki tends to suppress cyclone activity, its occurrence in the Arabian Sea promotes cyclone development.
 - **Aerosol Emissions:** Anthropogenic emissions of aerosols, such as pollutants and particulate matter, have increased significantly since the 1930s. These aerosols can affect atmospheric dynamics, including wind patterns, which may alter precipitation and cyclone behavior over the Arabian Sea. Weakening upper-level easterly winds and southwesterly winds can influence the movement of precipitation systems, potentially contributing to cyclone formation and intensity.

Q.19 Answer (C)

Explanation:

- **Context:** Recently Apple has unveiled the Vision Pro, a mixed reality headset that allows “spatial computing” by using the wearer’s eyes, voice and hands.
- Spatial computing refers to a paradigm of computing that facilitates seamless interaction between machines or between humans and machines within a three-dimensional environment, leveraging technologies such as augmented reality (AR), virtual reality (VR), and mixed reality.
- First articulated by Simon Greenwold in 2003, spatial computing enables the integration of digital and physical elements, blurring the boundaries between the real and virtual worlds.
- The advent of spatial computing has been propelled by the increasing adoption of technologies like the Internet of Things (IoT), as well as the proliferation of VR and AR applications and devices.
- This paradigm extends beyond traditional two-dimensional interfaces, allowing for more immersive and intuitive experiences.
- **Key characteristics of spatial computing include:**
 - **Seamless Interaction:** Spatial computing enables natural interaction between users and digital content within a three-dimensional space. Users can manipulate virtual objects, access information, and engage with digital environments using gestures, voice commands, and other intuitive interfaces.
 - **Integration of AR, VR, and MR:** Spatial computing encompasses a spectrum of immersive technologies, including AR, VR, and mixed reality (MR). These technologies enable users to overlay digital content onto the physical world (AR), immerse themselves in entirely virtual environments (VR), or seamlessly blend digital and physical elements (MR).
 - **Data Collection and Control:** Spatial computing systems utilize sensors and IoT devices to collect real-time data from the physical environment. **Enhanced Visualization and Collaboration:** Spatial

computing facilitates enhanced visualization and collaboration by providing a shared virtual space where users can interact and collaborate in real-time.

- **Applications Across Industries:** Spatial computing has diverse applications across industries, including gaming, entertainment, education, healthcare, architecture, manufacturing, and retail.

Q.20 Answer (a)

Explanation:

- **Context:** The Cabinet Committee on Economic Affairs (CCEA) has approved the continuation of the **central-sector scheme** aimed at promoting the **exploration of coal and lignite resources**. This scheme is slated to run from 2021-22 to 2025-26, with an estimated outlay of ₹2,980 crore.
- Exploration activities are conducted in two main stages:
 - Promotional (Regional) Exploration: This phase involves covering approximately 1300 square kilometres of area under regional exploration.
 - Detailed Exploration in Non-Coal India Limited Blocks: Approximately 650 square kilometres of area are earmarked for detailed exploration.
- The primary objective of these exploration efforts is to ascertain and estimate the coal and lignite resources available in the country. The data gathered through these exploration activities plays a critical role in preparing detailed project reports necessary for initiating coal mining operations
- Coal is classified into several types based on its.
- **The main types of coal based on carbon content, heat value, and other properties:**
 - Anthracite: This type of coal has the highest carbon content ranging from 86% to 97%. It is known for its high heat value and low moisture content, making it ideal for use in industrial settings, particularly in the metals industry.
 - Bituminous: Bituminous coal has a slightly lower carbon content compared to anthracite, ranging from 45% to 86%. It is widely used for electricity generation and steel production due to its moderate heat value and versatility.
 - Sub-bituminous: Sub-bituminous coal falls between lignite and bituminous coal in terms of carbon content, typically ranging from 35% to 45%. It has a higher heat value and lower moisture content compared to lignite, making it suitable for electricity generation.
 - Lignite: also known as brown coal, has the lowest carbon content among all coal ranks, typically ranging from 25% to 35%. It is characterized by its light colour, high moisture content, and crumbly texture
 - Peat: Peat is considered the earliest stage of coal formation and has the lowest calorific value and carbon content among all coal types. It is formed from partially decomposed plant matter in wetlands and is used primarily as a fuel for heating and cooking in some regions.

Q.21 Answer (b)

Explanation:

- **Context:** The ground-level ozone pollution affecting parts of the Delhi-National Capital Region (NCR) was lower this year than in the last five years, but the duration of its exceedance was higher, a new analysis by New Delhi-based non-profit Centre for Science and Environment (CSE) has found.
- Ground-level ozone, also known as **tropospheric ozone**, is a type of ozone gas that forms near the Earth's surface, typically within about two miles above the ground. (Statement 1 is incorrect)
- Unlike ozone found in the stratosphere, which plays a protective role by blocking harmful ultraviolet radiation from the sun, ground-level ozone is considered a pollutant and a major component of smog.
- This colourless and highly irritating gas is not directly emitted from specific sources but is instead formed through complex chemical reactions involving precursor pollutants. (Statement 2 is incorrect)

- These precursors primarily include nitrogen oxides (NOx), volatile organic compounds (VOCs), and carbon monoxide (CO), which are emitted from various sources such as vehicles, power plants, industrial facilities, and other combustion sources.
- When these precursor pollutants are released into the atmosphere, they undergo a series of chemical reactions in the presence of sunlight. This process, known as **photochemical smog formation**, leads to the production of ground-level ozone.
- High concentrations of ground-level ozone can be harmful to human health, as it can irritate the respiratory system, exacerbate asthma and other respiratory conditions, and contribute to cardiovascular problems.
- Additionally, ground-level ozone can have detrimental effects on vegetation, ecosystems, and materials. It can damage plant tissues, reduce crop yields, and impair the growth and development of certain plant species. Ozone exposure can also lead to the degradation of building materials, rubber, and plastics.
- Efforts to reduce ground-level ozone pollution typically involve controlling emissions of NOx, VOCs, and other ozone precursors through measures such as vehicle emissions standards, industrial regulations, and the promotion of cleaner technologies.

Q.22 Answer (a)

Explanation

- Context: **The Cabinet Committee on Economic Affairs (CCEA) chaired by the Hon'ble Prime Minister Shri Narendra Modi has approved the increase in the Minimum Support Prices (MSP) for all mandated Kharif Crops for Marketing Season 2023-24.**
- While the government does announce Minimum Support Prices (MSP) for certain agricultural produce, there is **no legal guarantee for procurement at MSP** from farmers. (Statement 1 is not correct)
- The Commission for Agricultural Costs and Prices (CACP) is responsible for recommending MSPs for various crops to the government of India. **However, it is approved by Cabinet Committee on Economic Affairs (CCEA).** (statement 2 is not correct)
- It is announced for following crops (statement 3 is correct)

CROPS COVERED UNDER MSP		
KHARIF CROPS (14)	RABI CROPS (7)	CALENDAR YEAR CROPS (4)
1. Paddy	1. Wheat	1. Copra
2. Jawar	2. Barley	2. De-husked Coconut
3. Bajara	3. Gram	3. Jute
4. Ragi	4. Masur	4. Sugar Cane (FRP)
5. Maize	5. Rapeseed& Mustard	
6. Arhar	6. Safflower	
7. Moong	7. Torai	
8. Urad		
9. Cotton		
10. Ground Nuts		
11. Sunflower		
12. Soyabean		
13. Sesamum		
14. Nigarseed		

• CACP recommends MSP for **22** crops before the sowing period each year

• MSP derived for Toria based on MSP for Rapeseeds and Mustard and for De-husked Coconut on the Basis of MSP of Copra.

• Fair and Remunerative prices for Sugar is also declared

Q23 Answer (c)

Explanation

- Context: **The United States and the United Kingdom have announced the Atlantic Declaration for a Twenty-First Century U.S.-UK Economic Partnership.**

- This declaration aims to adapt, reinforce, and reimagine the longstanding alliance between the two nations to effectively address the challenges of the current era.
- It has five pillars
 - Ensuring U.S.-UK leadership in critical and emerging technologies,
 - Advancing ever-closer cooperation on economic security and technology protection toolkits and supply chains,
 - Partnering on an inclusive and responsible digital transformation,
 - Building the clean energy economy of the future, and
 - Further strengthening alliance across defense, health security, and space.

Q24 Answer (c)

Explanation

- **Context: The recent news of a baby born in the UK with three parents' DNA has sparked curiosity and discussions** about the scientific breakthrough behind this remarkable achievement
- **Mitochondrial replacement therapy (MRT) is a reproductive technique designed to prevent the transmission of mitochondrial diseases from mother to child, as mitochondria are inherited maternally.** (Statement c is not correct)
- MRT involve the manipulation of nuclear DNA to correct mutations in mitochondrial DNA.
- **It involves replacing faulty mitochondria in an embryo with healthy mitochondria from a donor.** This is typically done through one of several techniques, such as pronuclear transfer or spindle transfer.
 - In pronuclear transfer, the nucleus from a fertilized egg with faulty mitochondria is transferred to a donor egg with healthy mitochondria, which has had its nucleus removed.
 - In spindle transfer, the nucleus from a mother's egg with faulty mitochondria is transferred to a donor egg with healthy mitochondria, which has had its nucleus removed prior to fertilization.

Q.25 Answer (b)

Explanation

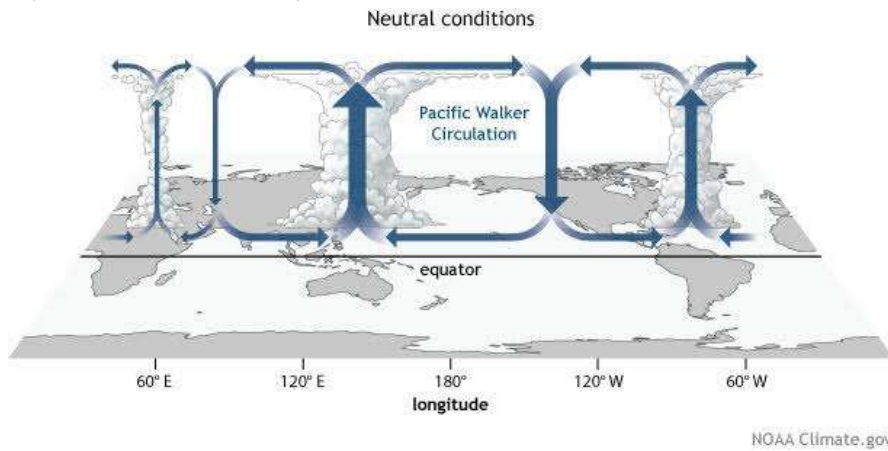
- **Context: The Ministry of Power and the Ministry of New and Renewable Energy have jointly launched a National Mission to quickly identify emerging technologies in the power sector and develop them indigenously,** at scale, for deployment within and outside India. (Statement 1 is not correct and 2 is correct)
- The National Mission, titled “**Mission on Advanced and High-Impact Research (MAHIR)**” aims to facilitate indigenous research, development and demonstration of the latest and emerging technologies in the power sector.
- The Mission will be funded by pooling financial resources of the Ministry of Power, Ministry of New and Renewable Energy and the Central Public Sector Enterprises under the two Ministries.
- Planned for an initial period of five years from 2023-24 to 2027-28, the Mission will follow the technology life cycle approach of Idea to Product.

Q.26 Answer (b)

Explanation

- **Context:** Recently, an unusual phenomenon is developing along the equatorial Pacific region, indicating the emergence of El Nino conditions in 2023.
- **The Walker Circulation**

- **The Walker Circulation refers to an east-west circulation of the atmosphere above the tropical Pacific**, with air rising above warmer ocean regions (normally in the west), and descending over the cooler ocean areas (normally in the east). (Statement 1 is not correct)
- Its strength fluctuates with that of the El Niño Southern Oscillation (ENSO). **During El Niño events the Walker Circulation weakens and may even reverse in the more intense episodes.** (Statement 3 is correct)



- The Walker Circulation regulates global exchange of momentum, heat, and water vapor within the tropics via massive overturning motions. In doing so, it plays an important role in the balance of atmospheric energy in the equatorial region and in determining the characteristics of weather and climate in the tropics
- **The Walker circulation is the result of a difference in surface pressure and temperature over the western and eastern tropical Pacific Ocean.** A pressure gradient from east to west creates an air circulation from the Eastern pacific i.e. along the coast of Peru-Chile to western Pacific(Australia-New Guinea) (statement 2 is correct)

Q.27 Answer (c)

Explanation

- **Context:** Recently, the Reserve Bank of India's Monetary Policy Committee (MPC) has decided to keep the policy rates unchanged, taking into account the evolving macroeconomic situation.
- Monetary policy refers to the actions undertaken by a central bank, such as the Reserve Bank of India (RBI) in the case of India, to control the money supply and interest rates in the economy.
- The central bank sets key interest rates, such as the **repo rate, reverse repo rate, and marginal standing facility rate**, to influence borrowing and lending rates in the economy.
- **Open Market Operations (OMO):** OMOs involve the buying and selling of government securities by the central bank in the open market. It is also a tool for monetary policy.
- **However, public investment is not a tool of monetary policy.** Public investment refers to government spending on infrastructure, education, healthcare, and other projects aimed at stimulating economic growth and development.

Q.28 Answer (b)

Explanation

- **Context:** Recently, Fermi energy has gained significant attention due to its wide range of daily practical applications in various fields, driven by the principles of quantum physics.

- **Fermi energy is the energy of the highest occupied state of electrons (that is energy of electrons in outermost shell of atom) in a material at absolute zero temperature (-273° C or 0K). (b is correct)**
- Fermi energy determines electron velocity in conduction, as only electrons with energies close to the Fermi energy can participate in the conduction process.
- Metals, such as copper, aluminum, and silver, exhibit high Fermi energies, even at extremely low temperatures.
- The Fermi energy and fermionic behavior of electrons, governed by quantum mechanics, are responsible for various properties of metals, including their reflectivity, electrical conductivity, and thermal conductivity.
- Fermi energy is measured by Fermi level.
- Understanding Fermi energy is essential for comprehending the fundamental behaviours and applications of metals in our daily lives.
- The Fermi energy plays a crucial role in determining the electrical, thermal, and optical properties of materials, as it influences phenomena such as electrical conductivity, thermal conductivity, and the behaviour of electrons in semiconductors and metals.

Q.29 Answer (c)

Explanation

- **Context:** The Cabinet Committee on Economic Affairs (CCEA) chaired by the Hon'ble Prime Minister Shri Narendra Modi has approved the increase in the Minimum Support Prices (MSP) for all mandated Kharif Crops for Marketing Season 2023-24.
- **Sugarcane Pricing in India**
- **Central Government: Fair and Remunerative Price (FRP)**
 - The Central Government announces Fair and Remunerative Prices which are determined on the recommendation of the Commission for Agricultural Costs and Prices (CACP) and announced by the Cabinet Committee on Economic Affairs (CCEA). (Statement 1 is correct)
 - **It is announced only for sugarcane** (statement 2 is correct)
 - **The pricing of sugarcane is governed by the statutory provisions of the Sugarcane (Control) Order, 1966 issued under the Essential Commodities Act (ECA), 1955.** (Statement 3 is correct)
 - While Minimum Support Price (MSP) has no statutory backing.
- **State Government: State Advised Prices (SAP)**
 - The SAP are announced by the Governments of key sugarcane producing states.
 - SAP is generally higher than FRP.

Q.30 Answer (a)

Explanation

- **Context:** Three persons engaged as mahouts (keepers and drivers of an elephant) in the Kaziranga National Park and Tiger Reserve, Assam, have been arrested for capturing and consuming spotted pond turtles, a rare species of a freshwater turtle.
- **Kaziranga National Park**
 - It is located in Assam

- The park, which hosts two-thirds of the world's Indian rhinoceroses, is a **UNESCO World Heritage Site**
- The landscape of Kaziranga is of sheer forest, tall elephant grass, rugged reeds, marshes & shallow pools.
- The Brahmaputra River forms the northern boundary of Kaziranga National Park.
- The Manas river is right bank tributary of Brahmaputra, while the park is located to South of Brahmaputra.
- **Ranthambore National Park**
 - Ranthambore National Park is one of the largest and most renowned national parks in Northern India, located in the Sawai Madhopur district of Rajasthan.
 - The river Banas and Chambal traverse through it.
- **Pench National Park**
 - The Pench National Park is located in the southern part of Madhya Pradesh, India, and also extends into the neighboring state of Maharashtra
 - It is situated around the river **Pench**.

Q.31 Answer (b)

Explanation

- **Context:** Recently, the Reserve Bank of India Governor Shaktikanta Das has launched 'Antardrishti', a financial inclusion dashboard aimed at monitoring and evaluating the progress of financial inclusion in India. (Statement 3 is correct)
- **The development of the Financial Inclusion (FI) Index, introduced by the RBI in 2021, involved collaboration between the government, sectoral regulators, and the central bank.** (Statement 1 is not correct)
- The FI Index provides a comprehensive overview of financial inclusion in India, **considering dimensions such as 'Access (35%)', 'Usage (45%)', and 'Quality (20%)'** across sectors including banking, investments, insurance, postal services, and pensions. (Statement 2 is correct)
- This inclusive approach ensures accurate assessment of the progress and challenges in achieving financial inclusion goals, guiding the formulation of policies and initiatives to create a more inclusive financial ecosystem in the country

Q.32 Answer (d)

Explanation

- **Context:** In its non-price policy recommendations for the Kharif crops 2023-2024 season, the **Commission for Agricultural Costs and Prices (CACP) has recommended that Urea should be brought under the Nutrient-Based Subsidy (NBS) regime** to address the problem of imbalanced nutrient usage in agriculture.
- Government of India decontrolled Phosphatic and Potassic (P&K) fertilizers with effect from 25th August 1992 on the recommendations of Joint Parliamentary Committee. Consequent upon the decontrol, the prices of the Phosphatic & Potassic fertilizers registered a sharp increase in the market, which exercised an adverse impact on the demand and consumption of the same.
- It led to an imbalance in the usage of the nutrients of N, P & K (Nitrogen, Phosphate and Potash) and the productivity of the soil. Keeping in view the adverse impact of the decontrol of the P&K fertilizers, Department of Agriculture & Cooperation introduced Concession Scheme for decontrolled Phosphatic

& Potassic (P&K) fertilizers on ad-hoc basis w.e.f. 1.10.1992, which has been allowed to continue by the Government of India upto 31.3.2010 with changed parameters from time to time.

- **Then the Government introduced Nutrient Based Subsidy Policy w.e.f. 1.4.2010 (w.e.f. 1.5.2010 for SSP) in continuation of the erstwhile Concession Scheme for decontrolled P & K fertilizers.**
- **It is a central sector scheme**

Q.33 Answer (a)

Explanation

- **Context:** The direction of realizing the Prime Minister's vision of "Sahkar Se Samridhi", the Government has taken five new decisions to increase the income of Primary Agricultural Credit Societies (PACS), as well as increase the employment opportunities in rural areas.
- **Primary Agricultural Credit Societies are the grass root level arms of the short-term co-operative credit structure. PACS deals directly with the rural (agricultural) borrowers, give those loans and collect repayments of loans given and also undertake distribution and marketing functions. (Statement 1 is correct)**
- **Organisational Structure of PACS**
 - **General Body of PACS:** Exercise the control over board as well as management.
 - **Management Committee:** Elected by the general body to perform the work as prescribed by the society's rules, acts, and by-laws. **It is elected by members of PACS and not members of Gram Sabha. (Statement 2 is not correct)**
 - **Chairman, Vice-Chairman, and Secretary:** Work for the benefit of the members by performing their roles and duties as assigned to them.
 - **Office Staff:** Responsible for performing day to day work.
- **PACS are allowed to do business. Many PACS are running the PMBJP (Pradhan Mantri Bhartiya Janaushadhi Pariyojana) Kendras.** They are also acting as retailers for distribution of fertilizers. **(Statement 3 is not correct)**

Q.34 Answer (d)

Explanation

- **Context:** In 2023, the monsoon arrived over the Kerala coast on June 8, which is a delay compared to its normal onset date of June 1.
- **Factors influencing the monsoon**
 - **The differential heating and cooling of land and water** creates a low pressure on the landmass of India while the seas around experience comparatively high pressure.
 - **Tibetan High** is a warm anticyclone (in this wind are changing in a clock-wise direction in the Northern Hemisphere and it will have always outflow of winds) located over Tibetan Plateau. The outflow of winds from Tibetan High as the easterly flow concentrates into jet stream centred near about the Latitude of Chennai. The jet stream runs from the east coast of Vietnam to the west coast of Africa. Thus the **location of the Tropical Easterly Jetstream** seems to influence the pattern of monsoon rainfall. Shifting its position east or west causes variation of monsoon activity over India.
 - **Mascarene High** is a high-pressure area that is found around Mascarene Islands (in south Indian Ocean) during monsoon period. This is responsible for cross-equatorial flow through south Arabian Sea and it acts as southern hemispheric linkage. The variation in the intensity of High

Pressure causes monsoon surges across equatorial flow. These surges are responsible for heavy rains along the West coast.

- **Somali jet is** low level (1 to 1.5 km asl) inter hemispheric cross equatorial flow of Air, attains Jet speed at the west end of monsoon regime along the east coast of Africa. Its strengthening gives rise to strong monsoon over peninsular India.
- Interannual variations are the variations on the annual cycle of the monsoon producing anomalously wet or dry years. The major factors governing interannual variation of south west monsoon are El nino Southern oscillation (ENSO) and **Indian Ocean Dipole (IOD)**. Other contributing factors are North Atlantic Oscillation (NAO) and Pacific Decadal Oscillations (PDO).
- **The shift of the position of Inter Tropical Convergence Zone (ITCZ)** in summer, leads to onset of monsoon
- **The movement of the westerly jet stream to the north of the Himalayas** creates low pressure over the north west India and Pakistan.

Q.35 Answer: (c)

Explanation:

- **Context:** With record rise in Unified Payments Interface(UPI) transactions, Banks and UPI apps have decided to impose daily limits on UPI transactions on top of the limits set by the National Payments Corporation of India (NPCI) in 2021.
- **National Payment Corporation of India (NPCI)**
 - National Payments Corporation of India (NPCI), an umbrella organisation for operating retail payments and settlement systems in India, **is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007**, for creating a robust Payment & Settlement Infrastructure in India.
 - **Considering the utility nature of the objects of NPCI, it has been incorporated as a "Not for Profit" Company under the provisions of Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013)**, with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.
 - The ten core promoter banks are State Bank of India, Punjab National Bank, Canara Bank, Bank of Baroda, Union Bank of India, Bank of India, ICICI Bank Limited, HDFC Bank Limited, Citibank N. A. and HSBC.
 - Services provided by NPCI include:
 - IMPS (Immediate Payment Service)
 - RuPay card
 - UPI
 - BHIM
 - National Financial Switch (NFS)
 - Bharat Bill Payment System
 - National Electronic Toll Collection (NETC) program
 - National Financial Switch (NFS)
 - Aadhaar Payment Bridge (APB) System

Q.36 Answer: (d)

Explanation:

- **Context:** Iran has claimed regarding the development of a hypersonic missile capable of traveling 15 times the speed of sound.
- **Hypersonic Missiles:** Hypersonic missiles are defined by their ability to travel at speeds exceeding Mach 5, which is five times the speed of sound.
- **Hypersonic missiles can be more challenging to detect and track by radars due to their high speeds and manoeuvrability**
- Hypersonic cruise missiles can fly at various altitudes depending on the mission requirements, including low altitudes to evade radar detection and higher altitudes for longer-range strikes.
- **Hypersonic cruise missiles are typically not powered by nuclear energy. They commonly use advanced air-breathing propulsion systems such as scramjet engines, which rely on atmospheric oxygen for combustion to generate thrust.**

Q.37 Answer(b)

Explanation:

- **Context:** CACP (Commission for Agriculture Cost and Prices) released Report on Price Policy for Kharif Crop 2023-24
- **The Commission for Agricultural Costs & Prices (CACP) is an attached office of the Ministry of Agriculture and Farmers Welfare, Government of India. It came into existence in January 1965. (statement 1 is correct)**
- **Currently, the Commission comprises a Chairman, Member Secretary, one Member (Official) and two Members (Non-Official).** The non-official members are representatives of the farming community and usually have an active association with the farming community. It is headed by officials and not Minister of Agriculture. (statement 2 is not correct)
- **It is mandated to recommend minimum support prices (MSPs) to incentivize the cultivators to adopt modern technology,** and raise productivity and overall grain production in line with the emerging demand patterns in the country. (statement 3 is correct)
- Towards this end, MSP for major agricultural products are fixed by the government, each year, after taking into account the recommendations of the Commission.
- As of now, CACP recommends MSPs of 23 commodities, which comprise 7 cereals (paddy, wheat, maize, sorghum, pearl millet, barley and ragi), 5 pulses (gram, tur, moong, urad, lentil), 7 oilseeds (groundnut, rapeseed-mustard, soyabean, seasmum, sunflower, safflower, nigerseed), and 4 commercial crops (copra, sugarcane, cotton and raw jute).
- **CACP submits its recommendations to the government in the form of Price Policy Reports every year,** separately for five groups of commodities namely Kharif crops, Rabi crops, Sugarcane, Raw Jute and Copra. The government, in turn, circulates the CACP reports to state governments and concerned central Ministries for their comments. After receiving the feed-back from them, **the Cabinet Committee on Economic Affairs (CCEA) of the Union government takes a final decision on the level of MSPs and other recommendations made by CACP.**

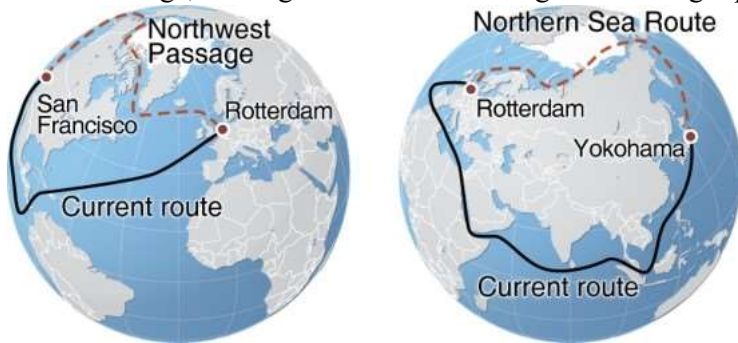
Q.38 Answer: (a)

Explanation:

- **Context: Russia has unveiled plans to invest 2 trillion rubles (\$24 billion) in the development of its Northern Sea Route (NSR) over the next 13 years**
- Northern Sea Route connects the eastern and western parts of the Arctic Ocean. The NSR runs from the Barents Sea, near Russia's border with Norway, to the Bering Strait between Siberia and Alaska.

NSR is different from the Northwest Passage which is a series of possible shipping routes connecting the Atlantic and Pacific Oceans through the Canadian Arctic. The entire route lies in Arctic waters and within Russia's exclusive economic zone. It is one-third of the distance of the traditional route through the Suez Canal.

- **The Northern Sea Route offers a significantly shorter transit time between Europe and Asia compared to traditional shipping routes such as the Suez Canal route.** By traversing the Arctic waters, ships can cut down on travel time, leading to faster delivery of goods and reduced fuel consumption. This advantage becomes more prominent as Arctic sea ice continues to recede due to climate change, making the route more navigable for longer periods of the year.



Q.39 Answer: (a)

Explanation

- **Context:** The power ministry has asked Central Electricity Regulatory Authority (CERC) to initiate the process of coupling multiple power exchanges, a mechanism which seeks to ensure uniformity in price discovery of energy at trading platforms.
- **CERC is a statutory body functioning under sec - 76 of the Electricity Act 2003 (CERC was initially constituted under the Electricity Regulatory Commissions Act, 1998 on 24th July, 1998). (statement 1 is correct)**
- The Commission intends to promote competition, efficiency and economy in bulk power markets, improve the quality of supply, promote investments and advise government on the removal of institutional barriers to bridge the demand supply gap and thus foster the interests of consumers.
- As entrusted by the Electricity Act, 2003 the Commission has the responsibility to discharge the following functions:-
-
- **Mandatory Functions:-**
 - to regulate the tariff of generating companies owned or controlled by the Central Government;
 - to regulate the tariff of generating companies other than those owned or controlled by the Central Government specified in clause (a), if such generating companies enter into or otherwise have a composite scheme for generation and sale of electricity in more than one State;
 - to regulate the inter-State transmission of electricity ;
 - to determine tariff for inter-State transmission of electricity;
 - to issue licences to persons to function as transmission licensee and electricity trader with respect to their inter-State operations;
 - Improve access to information for all stakeholders

- to adjudicate upon disputes involving generating companies or transmission licensee in regard to matters connected with clauses (a) to (d) above and to refer any dispute for arbitration;
- to levy fees for the purposes of the Act;
- to specify Grid Code having regard to Grid Standards;
- to specify and enforce the standards with respect to quality, continuity and reliability of service by licensees;
- to fix the trading margin in the inter-State trading of electricity, if considered, necessary;
- to discharge such other functions as may be assigned under the Act.
- **Advisory Functions:-**
 - formulation of National Electricity Policy and Tariff Policy;
 - promotion of competition, efficiency and economy in the activities of the electricity industry;
 - promotion of investment in electricity industry;
 - any other matter referred to the Central Commission by the Central Government.

Q.40 Answer: (a)

Explanation

- **Context:** Three states, Gujarat, Maharashtra and Telangana, have rebuffed a proposal, approved by the Centre's Genetic Engineering Appraisal Committee (GEAC), to test a new kind of transgenic cotton seed.
- **The seed in question was developed by Hyderabad-based Bioseed Research India and contains a gene, cry2Ai, that purportedly makes cotton resistant to pink bollworm, a major pest.** The seed has passed preliminary, confined trials and was recommended by the GEAC to be tested in farmer's fields at Janwada, Telangana; Jalna, Maharashtra; Akola, Maharashtra; Junagadh, Gujarat; and Barwala-Hisar, Haryana.

Q.41 Answer (a)

Explanation:

Context: Philippine volcano's eruption, which has displaced thousands, can last for months

- Introduction to Volcanic Influence on Climate: Volcanic eruptions not only release lava but also gases and dust particles into the atmosphere, impacting climate.
 - Effect of Particles: During large eruptions, particles like dust and ash can temporarily cool the climate by shading incoming solar radiation, especially if launched high into the atmosphere. This cooling effect can last for months to years
 - Types of Particles: While larger ash particles have minimal impact as they fall quickly, smaller particles form a dark cloud in the troposphere, shading and cooling the area below. Some tiny particles can reach the stratosphere, staying for months and causing widespread cooling.
 - Sulphur Emissions: Erupting volcanoes often emit sulphur dioxide, which is more effective at cooling the climate. This gas combines with water in the stratosphere to form sulphuric acid aerosols, creating a haze that reflects solar radiation, leading to surface cooling.
 - Persistence of Aerosols: These aerosols can linger in the stratosphere for up to three years, carried by winds and causing significant global cooling. Eventually, they fall back to Earth as droplets.

Q.42 Answer (c)

Explanation:

Context: Kari Ishad mango of Ankola in Uttar Karnataka gets GI tag

- About GI tag
 - Definition: A Geographical Indication (GI) tag is a designation applied to certain products indicating their specific geographical origin.
 - Purpose: The GI tag ensures that only authorized users or producers from the designated geographical area can use the product name, thereby protecting it from imitation or misuse.
 - Duration: Once registered, a GI tag is valid for a period of 10 years. **(Hence, Statement 3 is incorrect)**
 - Administration: GI registration is overseen by the Department for Promotion of Industry and Internal Trade under the Ministry of Commerce and Industry.
 - Legal Framework: The Geographical Indications of Goods (Registration and Protection) Act, 1999, governs the registration and protection of GIs in India.
 - International Agreements: The legal framework for GI protection is aligned with the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and acknowledges the importance of safeguarding geographical indications as part of intellectual property rights, as outlined in the Paris Convention.

Q.43 Answer (c)

Explanation:

Context: A recent study in the Nature journal says that the loss of Arctic sea ice is inevitable in the decades ahead

- What are the possible Implications melting of Arctic Ocean?
 - Polar ice caps are melting as global warming causes climate change. We lose Arctic sea ice at a rate of almost 13% per decade, and over the past 30 years, the oldest and thickest ice in the Arctic has declined by a stunning 95%. If emissions continue to rise unchecked, the Arctic could be ice-free in the summer by 2040. But what happens in the Arctic does not stay in the Arctic. Sea ice loss has far-reaching effects around the world.
 - Temperatures: The Arctic and Antarctic act as global coolants due to their ice-covered surfaces reflecting heat back into space. Reduced ice cover leads to less heat reflection, intensifying heatwaves worldwide and disrupting the polar jet stream, resulting in more extreme winters.
 - Coastal Communities: Rising sea levels, driven by glacial melt from the Greenland ice sheet, threaten coastal cities and small island nations. This exacerbates coastal flooding and storm surges, amplifying the risks posed by severe weather events.
 - Food Security: Loss of Arctic ice contributes to polar vortexes, heatwaves, and erratic weather patterns, damaging crops essential for global food systems. This instability leads to increased food prices and exacerbates crises for vulnerable populations.
 - Shipping Hazards: Melting ice opens new Arctic shipping routes, offering time-saving opportunities but also posing significant risks such as increased shipwrecks and oil spills in remote areas inaccessible to rescue or clean-up crews.
 - Impact on Wildlife: Diminishing sea ice threatens the survival of polar bears, walruses, arctic foxes, and other species reliant on it. This loss disrupts ecosystems, affecting both wildlife and human communities as animals seek refuge in Arctic regions, leading to potential conflicts.

- Permafrost Thawing: Arctic ice and permafrost store methane, a potent greenhouse gas. Thawing releases methane, accelerating climate change by further warming the planet and triggering a feedback loop of increased ice melt and permafrost thaw, exacerbating climate change predictions.
- The loss of Arctic ice disrupts the polar jet stream, a high-pressure wind circling the Arctic region. Warmer air destabilizes this jet stream, causing it to meander and dip southward. This altered pattern leads to more frequent and severe weather extremes, including heatwaves and cold snaps, impacting regions far beyond the Arctic. The destabilization of the polar jet stream exacerbates climate unpredictability and contributes to the intensification of extreme weather events worldwide. **(Hence, Statement 5 is incorrect).**

Q.44 Answer: (d)

Explanation:

Context: Dozens of migrants have been stranded for months on a tiny British territory in the Indian Ocean after being rescued from their struggling fishing boat.

- The Kuril Islands dispute revolves around the ownership of a chain of islands located in the Pacific Ocean, northeast of Japan and southeast of Russia. The primary nations involved in the dispute are Japan and Russia. The dispute stems from the end of World War II and the Kuril Islands' subsequent annexation by the Soviet Union, which Japan claims as its Northern Territories. Recent international judgments have not provided a definitive resolution to the dispute, leaving tensions between Japan and Russia regarding the sovereignty of the islands unresolved.
- The Falkland Islands dispute involves a territorial claim between Argentina and the United Kingdom over the sovereignty of the Falkland Islands in the South Atlantic Ocean. Both nations have historically asserted their rights over the islands, leading to a brief war in 1982. Recent international judgments have upheld the right to self-determination of the Falkland Islanders, reaffirming their status as a British Overseas Territory. Despite diplomatic efforts, the sovereignty issue remains unresolved, with Argentina persisting in its claim over the islands. The dispute also involves surrounding maritime areas, highlighting the significance of ocean jurisdiction in the conflict.
- The Diego Garcia Island dispute revolves around its sovereignty and use, situated in the Indian Ocean. Nations involved include the United Kingdom, which controls the island as part of the British Indian Ocean Territory, and Mauritius, which claims sovereignty over the island. Recent international judgment: In February 2019, the International Court of Justice (ICJ) ruled that the United Kingdom must transfer the island back to Mauritius, stating that the decolonization process of Mauritius was not lawfully completed when it separated the Chagos Archipelago, including Diego Garcia, from its territory in 1965.
- The Perejil Island dispute involves a small uninhabited island located in the Mediterranean Sea. It is claimed by both Spain and Morocco. The island's sovereignty has been a point of contention between the two nations for decades. Recently, there hasn't been a significant international judgment specifically addressing the Perejil Island dispute. However, tensions periodically arise over the control and ownership of the island, with occasional diplomatic discussions between Spain and Morocco to address the issue. The proximity of Perejil Island to both countries adds complexity to the dispute, as it sits in waters that are crucial for maritime navigation and resource exploration.

Q.45 Answer (a)

Explanation:

Context: Piped potable water across India will avert 4, 00,000 diarrhoea deaths, finds WHO.

- About Jal Jeevan Mission
 - Launched in 2019, the mission aims to provide 55 litres of water per person per day to every rural household by 2024 through Functional Household Tap Connections (FHTC).
 - It seeks to instigate a jan andolan (people's movement) for water, making it a priority for everyone.
 - The initiative falls under the jurisdiction of the Jal Shakti Ministry.
- Aims of the Mission:
 - Ensuring the functionality of existing water supply systems and connections, monitoring water quality, and promoting sustainable agriculture.
 - Emphasizing on the conjunctive use of conserved water, augmentation of drinking water sources, development of supply systems, and treatment and reuse of greywater.
- Key Features:
 - Focuses on integrated demand and supply-side water management at the local level.
 - Includes the creation of local infrastructure for source sustainability, such as rainwater harvesting and groundwater recharge, in alignment with other government schemes.
 - Implements a community-centric approach to water, with extensive Information, Education, and Communication components.
- Implementation Strategy:
 - Paani Samitis are responsible for planning, implementing, managing, operating, and maintaining village water supply systems.
 - Comprising 10-15 members with at least 50% women representation, these committees include members from Self-Help Groups, Accredited Social and Health Workers, Anganwadi teachers, etc.
 - The committees develop a village action plan, integrating available resources, which is then approved in Gram Sabha meetings before execution.
- Funding Pattern:
 - The fund sharing arrangement between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states, and 100% for Union Territories.
- Water crisis in India
 - India is confronting one of its severest water crises, as highlighted by the NITI Aayog's Composite Water Management Index (CWMI) 2018.
 - The index predicts that 21 cities in India might encounter Day Zero, which signifies the day when a location could run out of its own drinking water supply. Notably, Bengaluru, Chennai, Delhi, and Hyderabad are particularly at risk.
 - According to the same report, approximately 75% of Indian households lack access to drinking water within their premises.
 - Furthermore, about 84% of rural households in India do not have access to piped water, exacerbating the water accessibility issue.

Q.46 Answer: (b)

Explanation:

Context: Particulate pollution increasing in Rajasthan's cities, says CSE report

- About Particle pollution:

- It is also known as particulate matter (PM), consists of tiny pieces of solids or liquids suspended in the air, including dust, dirt, soot, smoke, and drops of liquid.
- There are two main sources of particle pollution: primary and secondary. Primary sources, such as wood stoves and forest fires, directly emit particles. Secondary sources, like power plants and coal fires, release gases that can form particles.
- Some common sources of particle pollution, such as factories, cars, trucks, and construction sites, can be either primary or secondary sources.
- Smoke from fires and emissions from power plants, industrial facilities, and vehicles contain PM_{2.5}, which are fine particles that can penetrate deep into the lungs and even into the bloodstream.
- Breathing in particle pollution can have adverse health effects. Coarse particles (PM₁₀) can irritate the eyes, nose, and throat, while fine particles (PM_{2.5}) are more dangerous as they can reach the deep parts of the lungs and bloodstream.
- Due to the breeze, the places near the sea or coastal areas do not have a lot of variation in the temperature while the other areas experience a huge temperature variation. The sea breeze and land breeze also prevent the accumulation of atmospheric pollutants in the surrounding areas. **(Hence, Statement 1 is incorrect).**
- About National Clean Air Programme:
 - Launched by the Ministry of Environment, Forests and Climate Change (MoEFCC) in January 2019.
 - It is the first-ever effort in the country to frame a national framework for air quality management with a time-bound reduction target.
 - Aims to cut the concentration of coarse (PM₁₀) and fine particles (PM_{2.5}) by at least 20% in the next five years, using 2017 as the base year for comparison.
 - Covers 132 non-attainment cities identified by the Central Pollution Control Board (CPCB). Non-attainment cities are those that have failed to meet the National Ambient Air Quality Standards (NAAQS) for over five years.
 - NAAQS are the standards for ambient air quality with reference to various identified pollutants notified by the CPCB under the Air (Prevention and Control of Pollution) Act, 1981. List of pollutants under NAAQS includes PM₁₀, PM_{2.5}, SO₂, NO₂, CO, NH₃, Ozone, Lead, Benzene, Benzo-Pyrene, Arsenic, and Nickel.

Q.47 Answer: (c)

Explanation:

- **Context:** Menhir and megalithic burial sites declared as protected monuments at Kodumanal.
- What is megaliths?
 - Megaliths, large stones used in prehistoric constructions, were utilized either individually or in conjunction with other stones to create structures or monuments.
 - These constructions served two main purposes: as burial sites or as commemorative memorials, with the former containing actual burial remains.
 - Types of burial sites include dolmenoid cists, cairn circles, and capstones, with urns or sarcophagi typically made of terracotta housing the mortal remains.
 - Non-sepulchral megaliths, such as menhirs, functioned as memorial sites.
 - In India, the majority of megaliths are attributed to the Iron Age (1500 BC to 500 BC), although some sites predate this period, reaching back to around 2000 BC.

- Megalithic sites are distributed across the Indian subcontinent, with a concentration in Peninsular India, particularly in the states of Maharashtra (especially in Vidarbha), Karnataka, Tamil Nadu, Kerala, Andhra Pradesh, and Telangana.
- Kodumanal:
 - It is a village located in the Erode district in the southern Indian state of Tamil Nadu.
 - The place is an important archaeological site.
 - It is located on the northern banks of Noyyal River, a tributary of the Cauvery.
- Brahmagiri is an archaeological site located in the Chitradurga district of Karnataka. Legend has it that this is the site where sage Gautama Maharishi and his wife Ahalya lived. This site was first explored by Benjamin L. Rice in 1891, who discovered rock edicts of Emperor Ashoka here. These rock edicts indicated that the locality was termed as Isila and denoted the southernmost extent of the Mauryan empire
- Junapani in Maharashtra is a significant megalithic site dating back to ancient times. Excavations at Junapani have revealed a rich cultural heritage, including burial structures and artifacts. The site showcases distinctive megalithic features such as dolmens and cairns, indicating its importance in prehistoric burial practices. Archaeological studies suggest that Junapani was likely a prominent center for ritual activities and community gatherings during its time.

Q.48 Answer: (b)

Explanation:

- **Context:** Honduras President Xiomara Castro formally requested the country's admission to the BRICS-led New Development Bank (NDB)
- About New Development Bank:
 - NDB, formerly known as the BRICS Development Bank, is a multilateral development bank established by the BRICS countries (Brazil, Russia, India, China, and South Africa). (Hence, Statement 1 is incorrect)
 - Objective: Financing infrastructure and sustainable development projects in BRICS and other emerging economies and developing countries.
 - The idea of setting up NDB was first conceived in 2012 during the BRICS Summit in New Delhi, India. The Bank formally came into existence as a legal entity in 2015.
 - Headquarters: Shanghai, China.
 - The first regional office of the NDB was established in Johannesburg, South Africa. The second regional office was set up in 2019 in São Paulo, Brazil, followed by Moscow, Russia.
 - Capital: The Bank has an initial authorized capital of 100 billion dollars and an initial subscribed capital of 50 billion dollars.
 - Membership in NDB is open to any member of the United Nations.
 - Governance Structure: The Bank is governed by a Board of Governors consisting of the finance ministers of the five BRICS countries, and a Board of Directors. Voting power within the Board is based on each country's shares in the bank. While new members can join the NDB, the five BRICS countries will retain a minimum of 55% of total shares. The NDB's management includes a presidency which rotates among BRICS members, and four vice presidents selected from the remaining BRICS countries.

Q.49 Answer: (b)

Explanation:

- **Context:** MSP demand | NH-44 remains blocked at Pipli in Haryana as talks between farmers, district administration fail.
- About Minimum Support Price Policy:
 - MSP, the guaranteed amount paid to farmers when the government buys their produce, is based on the recommendations of the Commission for Agricultural Costs and Prices (CACP).
 - The CACP considers various factors such as cost of production, demand and supply, market price trends, inter-crop price parity, etc.
 - CACP is an attached office of the Ministry of Agriculture and Farmers Welfare, established in January 1965.
 - The final decision on the level of MSPs is taken by the Cabinet Committee on Economic Affairs (CCEA) chaired by the Prime Minister of India.
 - MSP aims at ensuring remunerative prices to growers for their produce and encouraging Crop Diversification.
 - Crops Under MSP: The CACP recommends MSPs for 22 mandated crops and fair and remunerative price (FRP) for sugarcane. Mandated crops include 14 crops of the kharif season, 6 rabi crops, and 2 other commercial crops.
- The list of crops are as follows.
 - Cereals (7) - paddy, wheat, barley, jowar, bajra, maize and ragi
 - Pulses (5) - gram, arhar/tur, moong, urad and lentil
 - Oilseeds (8) - groundnut, rapeseed/mustard, toria, soyabean, sunflower seed, sesamum, safflower seed and nigerseed
 - Raw cotton
 - Raw jute
 - Copra
 - De-husked coconut
 - Sugarcane (Fair and remunerative price)
 - Virginia flu cured (VFC) tobacco
- Three Kinds of Production Cost: The CACP projects three kinds of production cost for every crop, both at state and all-India average levels:
 - ‘A2’: Covers all paid-out costs directly incurred by the farmer.
 - ‘A2+FL’: Includes A2 plus an imputed value of unpaid family labour.
 - ‘C2’: A more comprehensive cost that factors in rentals and interest for owned land and fixed capital assets, on top of A2+FL.
 - CACP considers both A2+FL and C2 costs while recommending MSP, but reckons only A2+FL cost for return. However, C2 costs are used primarily as benchmark reference costs (opportunity costs) by CACP.

Q.50 Answer: (c)

Explanation:

- **Context:** Dubai Customs celebrated the graduation of participants from the United Nations Office on Drugs and Crime (UNODC) programme.
- About United Nations office on drugs and crime :
 - UNODC, a global leader in the fight against illicit drugs and international crime, is also responsible for implementing the United Nations lead programme on terrorism.

- Established in 1997 through a merger between the United Nations Drug Control Programme and the Centre for International Crime Prevention.
- Headquarters: Vienna, Austria.
- Functions:
 - Educating people worldwide about the dangers of drug abuse.
 - Strengthening international action against illicit drug production, trafficking, and drug-related crime.
 - Working to improve crime prevention and assist with criminal justice reform to strengthen the rule of law, promote stable and viable criminal justice systems, and combat the growing threats of transnational organized crime and corruption.
 - In 2002, the UN General Assembly approved an expanded programme of activities for the Terrorism Prevention Branch of UNODC, focusing on providing assistance to States in ratifying and implementing the eighteen universal legal instruments against terrorism.
- Working:
 - UNODC has 20 field offices covering over 150 countries.
 - By working directly with governments and non-governmental organizations, UNODC field staff develop and implement drug control and crime prevention programs tailored to countries' particular needs.
- Funding:
 - Relies on voluntary contributions, mainly from governments, to carry out the majority of its work.

Q.51 Answer: (c)

Explanation:

- **Context:** India and UAE successfully held the 1st Meeting of the Joint Committee (JC) of the India-UAE CEPA.
- About I2U2:

The I2U2 Group, also known as the West Asian Quad/Middle East Quad/New Quad, is a strategic partnership formed between India, Israel, the United Arab Emirates, and the United States.
- Objectives:
 - To promote economic development, scientific innovation, and regional stability.
 - To enhance cooperation and collaboration in various areas such as water, energy, transportation, space, health, and food security.
 - Member countries committed to working together to address common challenges and explore new opportunities for growth and progress.
- Origins and Evolution:
 - Originated in October 2021 after the Abraham Accords between Israel and the UAE, initially named the "International Forum for Economic Cooperation."
 - The platform aimed at addressing matters related to maritime security, infrastructure, and transportation in the area.
 - First virtual summit scheduled for July 2022 as part of I2U2 initiatives.

Q.52 Answer: (b)

Explanation:

- **Context:** Umbrella entity for urban co-op banks to soon approach RBI for registration as NBFC.
- About Cooperative Banks :
 - The constitutional reforms which led to the passing of the Government of India Act in 1919 transferred the subject of “Cooperation” from Government of India to the Provincial Governments.
 - The Government of Bombay passed the first State Cooperative Societies Act in 1925 “which not only gave the movement its size and shape but was a pace setter of cooperative activities and stressed the basic concept of thrift, self help and mutual aid.” Other States followed. This marked the beginning of the second phase in the history of Cooperative Credit Institutions.
- **Definition:** Cooperative banks are institutions established on a cooperative basis to handle ordinary banking business.
- **Founding and Operations:**
 - Founded by collecting funds through shares, accepting deposits, and granting loans.
 - They operate as cooperative credit societies where members from a community group together to extend loans to each other at favourable terms.
- **Legal Framework:**
 - Registered under the Cooperative Societies Act of the concerned state or the Multi-State Cooperative Societies Act, 2002.
 - Governed by the Banking Regulations Act, 1949, and the Banking Laws (Co-operative Societies) Act, 1955.
- **Classification:**
 - Broadly divided into Urban and Rural cooperative banks.
 - The UCBs were under dual regulation by the state registrar of societies and the RBI.
 - But in 2020, all UCBs and multi-state cooperatives were brought under the supervision of RBI.
 - In India, commercial banks have the highest share in the disbursement of credit to agriculture and related activities. Commercial banks disburse about 60% of credit, followed by cooperative banks at about 30%. (Hence, Statement 3 is incorrect)

Q.53 Answer: c

Explanation:

Context: Astronomers have captured a background supernova being gravitationally lensed by a foreground galaxy.

- **About Gravitational Lensing:**
 - Gravitational lensing occurs when a massive celestial body, such as a galaxy cluster, causes a sufficient curvature of space-time, visibly bending the path of light around it, akin to a lens.
 - According to Einstein’s general theory of relativity, time and space are fused together in space-time. Massive objects cause space-time to curve, with gravity being the curvature of space-time.
 - As light travels through space-time, the theory predicts that the path taken by the light will also be curved by an object’s mass, resulting in gravitational lensing.

- Gravitational lensing is a tangible demonstration of Einstein's theory, particularly observable around extremely massive celestial bodies like galaxy clusters, which significantly curve space-time, acting as gravitational lenses.
- This lensing effect results in magnification, allowing observation of distant objects otherwise too faint or distant to be seen, a phenomenon utilized by instruments like the Hubble Space Telescope to study the most distant galaxies ever encountered.

Q.54 Answer (c)

Explanation:

Context: CAG of India Shri Girish Chandra Murmu to deliver the inaugural address as chair G20 SAI

- About the CAG:
 - The Constitution of India (Article 148) establishes an independent office for the Comptroller and Auditor General of India (CAG), who heads the Indian Audit and Accounts Department, serving as a key pillar of the democratic governance system.
 - The CAG serves as the guardian of the public purse, overseeing the entire financial system of the country at both the central and state levels, and is tasked with upholding the Constitution of India and parliamentary laws in financial administration.
 - Article 279 mandates that the "net proceeds" are determined and certified by the CAG, whose certificate holds final authority.
- Appointment, Term & Removal:
 - The CAG is appointed by the President of India through a warrant under his hand and seal.
 - Holding office for a period of six years or until reaching the age of 65, whichever is earlier, the CAG can resign at any time by addressing the resignation letter to the president.
 - Removal of the CAG can occur on grounds of proved misbehavior or incapacity, through a resolution passed by both Houses of Parliament with a special majority, similar to the removal process of a Supreme Court judge.
 - The CAG submits three audit reports to the President: audit reports on appropriation accounts, finance accounts, and public undertakings.
- CAG of India only performed the role of an Auditor General and not of a Comptroller but in Britain it has the power of both Comptroller as well as Auditor General.

Q.55 Answer (c)

Explanation:

Context: Centre releases ₹1.18 lakh crore as third instalment of tax devolution to states in June

- Centre-State Financial Relations (Articles 268 to 293):
 - Article 271: Parliament has the authority to levy surcharges on taxes and duties specified in Articles 269 and 270, with the proceeds exclusively going to the Centre, and no share for states. Surcharge cannot be imposed on GST.
 - Article 269A: Introduced by the 101st Constitutional Amendment, it mainly deals with taxation and collection of tax on goods and services (GST) in the case of inter-state trade or commerce, with proceeds distributed between the Centre and states as per Parliament's guidelines.

- Chapter II of Part XII: Covers borrowing by the Central Government (Article 292) and State Governments (Article 293), with the latter requiring state governments indebted to the Centre to seek its consent before further borrowings.
 - Types of Grants Defining Financial Relations:
 - Statutory Grants (Article 275): Parliament provides grants to needy states with specific provisions for each state.(Hence, Statement 1 is incorrect)
 - Discretionary Grants (Article 282): Centre provides assistance to states based on its own discretion, not mandatory and only issued to certain states.
 - Other Grants: Include temporary grants, grants charged in the consolidated fund, grants recommended by the Financial Committee, and grants provided instead of export duties on jute & jute products to certain states.
- Finance Commission (Article 280):
 - Established in 1951, the Finance Commission determines the distribution of net tax proceeds between the Centre and states, as well as principles for grants-in-aid to states.
 - Regulated by Article 280, the Finance Commission is a quasi-judicial body established by the President.

Q.56 Answer (c)

Explanation:

Context: PM lauds new initiative of celebrating ‘Pradhan Mantri Matru Vandana Yojana’ as ‘God Bharai’ ceremony in Dausa, Rajasthan

- About PM Matru Vandana Yojana:
 - It is a Centrally Sponsored Direct Benefit Transfer (DBT) scheme launched in 2017.
 - Objectives:
 - Providing partial compensation for the wage loss in terms of cash incentive to pregnant women, enabling them to take adequate rest before and after delivery of the first child.
 - Improving health-seeking behaviour amongst Pregnant Women & Lactating Mothers (PW&LM).
 - Features:
 - The scheme aims to provide maternity benefits to women belonging to socially and economically disadvantaged sections of society.
 - Maternity benefits are provided for the first two living children, provided the second child is a girl.
 - Expecting mothers receive a monetary benefit of Rs. 5,000 from the initial stage of pregnancy until the child is born, along with Rs. 1,000 under the Janani Suraksha Yojana post-institutional delivery.
 - The Rs. 5,000 is provided in three instalments:
 - Rs. 1,000 at the time of pregnancy registration.
 - Rs. 2,000 at six months of pregnancy after receiving at least one antenatal checkup.
 - Rs. 2,000 after the birth and registration of the child and completion of the first cycle of immunization.
 - Cases of miscarriage/stillbirths are treated as fresh cases for providing maternity benefits under the scheme
- National Family Health Survey 5 -

- Institutional births have increased substantially from 79 per cent to 89 percent at all-India Level. Institutional delivery is 100 per cent in Puducherry and Tamil Nadu and more than 90 per cent in 7 States/UTs out of 12 Phase II States.
- Along with an increase in institutional births, there has also been a substantial increase in C-section deliveries in many States/UTs especially in private health facilities.

Q.57 Answer: b

Explanation:

Context: Odisha reels under intense heatwave conditions; IMD issues orange alert

- **IMD Heat Wave Criteria:**
 - Heat wave conditions are not considered until the maximum temperature of a station reaches at least 40°C for Plains and at least 30°C for Hilly regions.
 - For stations with a normal maximum temperature of 40°C or less, an increase of 5°C to 6°C from the normal temperature is considered a heat wave condition. An increase of 7°C or more is classified as a severe heat wave condition.
 - For stations with a normal maximum temperature of more than 40°C, an increase of 4°C to 5°C from the normal temperature is considered a heat wave condition. An increase of 6°C or more is classified as a severe heat wave condition.
 - Additionally, if the actual maximum temperature remains 45°C or more, irrespective of the normal maximum temperature, a heat wave is declared.
- **IMD Heat Index**
 - The Heat Index has been launched on an experimental basis by the India Meteorological Department (IMD) with the aim of providing general guidance for regions experiencing higher apparent temperatures causing discomfort to people.
 - Categorization of Heat Levels:
 - Green: Experimental Heat Index less than 35°C.
 - Yellow: Experimental Heat Index in the range 36-45°C.
 - Orange: Experimental Heat Index in the range 46-55°C.
 - Red: Experimental Heat Index greater than 55°C.
- The Indian government does not recognize heat waves as potential threat to human lives. The National Disaster Management Act and the National Policy on Disaster Management do not include heat wave fatalities in their list of natural calamities and so no budgetary allocation is made to address the problem.

Q.58 Answer: a

Explanation:

Context: Four fresh earthquakes jolted the Jammu and Kashmir.

- **About Earthquake Wave**
 - The pressure on rock layers gradually builds up over time, eventually overcoming frictional force and resulting in sudden movement that generates shockwaves known as seismic waves, which propagate in all directions.
 - The point where the energy is released during an earthquake is called the focus or hypocentre. **(Hence, Statement 1 is incorrect)**

- The epicentre refers to the point on the surface directly above the focus.
- Two types of body waves exist: P-waves or primary waves (longitudinal in nature) and S-waves or secondary waves (transverse in nature).
- Primary waves, also known as longitudinal waves, are the fastest seismic waves and are recorded first on seismographs due to their speed.
- Secondary waves, or S-waves, are also called transverse or shear waves, resembling water ripples or light waves. They create troughs and crests in the material they pass through as their vibrations are perpendicular to the direction of propagation.
- S-waves arrive at the surface after P-waves and possess slightly higher destructive power due to their high frequency.
- Shadow Zones
 - S-waves are unable to travel through liquids and are attenuated, leading to the observation of a shadow zone beyond 103° where S-waves are not received. (**Hence, Statement 2 is incorrect**)
 - This absence of S-waves beyond 103° helped in the discovery of the liquid outer core of the Earth.
 - Similarly, the shadow zone of P-waves is observed as a band around the Earth between 103° and 142° away from the epicentre.
 - P-waves are refracted as they pass through the transition between the semisolid mantle and the liquid outer core, causing the shadow zone.
 - Seismographs located beyond 142° from the epicentre record the arrival of P-waves but not S-waves, providing insights into the solid inner core.
 - Thus, a zone between 103° and 142° from the epicentre is identified as the shadow zone for both types of seismic waves.

Q.59 Answer: d

Explanation:

Context: As cyclone nears Kutch & Saurashtra, concern grows over Gir lions, Great Indian Bustards.

- About Great Indian Bustard:
 - The Great Indian Bustard (*Ardeotis nigriceps*), designated as the State bird of Rajasthan, is India's most critically endangered bird species.
 - Serving as the flagship species for grassland ecosystems, its presence reflects the overall health of grassland ecology.
 - The Great Indian Bustard inhabits dry grasslands and scrublands across India and Pakistan, preferring open landscapes with sparse vegetation. Its habitat features include flat terrain, scattered bushes, and patches of short grass, providing ample cover for foraging and nesting activities.
 - The population of this species is predominantly found in Rajasthan and Gujarat, with smaller populations existing in Maharashtra, Karnataka, and Andhra Pradesh.
 - Threats to the bird include collision/electrocution with power transmission lines, hunting (still prevalent in Pakistan), and habitat loss due to widespread agricultural expansion.
- Protection Status:
 - International Union for Conservation of Nature Red List (IUCN): Critically Endangered
 - Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Appendix I

- Convention on Migratory Species (CMS): Appendix I
- Wildlife (Protection) Act, 1972: Schedule I
- The bird, which once inhabited 12 states, is wiped out from 90% of its former habitat and is confined to three small pockets: Jaisalmer in Rajasthan, the grasslands of Kutch in Gujarat and the tri-junction of Maharashtra, Karnataka and Andhra Pradesh. About 100 of these birds are in Jaisalmer alone. One of the most important habitats for the Great Indian Bustard is Rajasthan's Desert National Park. It is Rajasthan's flagship species and state bird.

Q.60 Answer (b)

Explanation:

Context: The Centre has discontinued the sale of rice and wheat from the central pool under the Open Market Sale Scheme (OMSS) to State governments, a move that will hit some States, including Karnataka, offering free grains to the poor.

- The Open Market Sale Scheme (OMSS) is an initiative introduced by the **Food Corporation of India (FCI)** to manage surplus stocks of food grains, primarily wheat and rice, and to ensure their effective distribution in the open market.
- Under this scheme, the FCI offers surplus food grains for sale to various entities such as traders, bulk consumers, state governments, and exporters at pre-determined prices.
- The objective is to prevent overstocking, minimize wastage, and maintain stable prices in the market while meeting the food grain requirements of different segments of society.
- Key features of the OMSS include:
 - Sale of Surplus Stocks: The FCI sells surplus stocks of wheat and rice through open market channels to prevent food grains from deteriorating in storage facilities and to generate revenue.
 - Pre-determined Prices: Prices for the surplus stocks are fixed by the government and are announced periodically. These prices are typically lower than the market rates, making the grains attractive for buyers.
 - Transparent Auction Process: The sale of surplus stocks is conducted through transparent mechanisms such as e-auctions to ensure fair participation and price discovery.
 - Utilization of Commodity Exchanges: The Food Corporation of India (FCI) conducts **weekly** auctions as part of the Open Market Sale Scheme (OMSS) in the open market, utilizing the platform of the National Commodity and Derivatives Exchange Limited (NCDEX), a leading commodity exchange in India. **(Statement 2 is incorrect)**
 - Targeted Buyers: The scheme targets various buyers including traders, bulk consumers such as food processing industries and retailers, state governments for their public distribution systems, and exporters.

Q.61 Answer (c)

Explanation:

Context: National Commission for Scheduled Castes sends notice to Zomato, Delhi Police and YouTube over 'casteist' advertisement.

- **The National Commission for Scheduled Castes (NCSC)**
 - It is a **constitutional** body established to safeguard against the exploitation of Scheduled Castes and to promote and protect their social, educational, economic, and cultural interests.

- Its history dates back to the provision of a Special Officer under Article 338 of the Constitution, initially designated as the Commissioner for Scheduled Castes and Scheduled Tribes.
- The **65th Amendment Act of 1990** amended Article 338, replacing the single-member system with a multi-member National Commission for Scheduled Castes and Scheduled Tribes.
- Subsequently, the **89th Amendment Act of 2003** further amended Article 338, leading to the establishment of two separate commissions: the National Commission for Scheduled Castes (NCSC) and the National Commission for Scheduled Tribes (NCST), starting from the year 2004. **(Statement 2 is incorrect)**
- **Composition:**
 - The composition of the NCSC includes a Chairperson, a Vice-Chairperson, and three additional members, all appointed by the President. Their conditions of service and tenure of office are determined by the President as well. **(Statement 3 is incorrect)**
- **Function:**
 - The functions of the NCSC encompass investigating and monitoring matters related to the constitutional and legal safeguards for Scheduled Castes, evaluating their effectiveness, inquiring into specific complaints regarding the deprivation of their rights, participating in and advising on the planning of socioeconomic development for Scheduled Castes, and presenting reports to the President on the working of these safeguards.
 - Additionally, the NCSC makes recommendations for measures to be taken by the Union or states to ensure the effective implementation of safeguards and other measures for the protection, welfare, and socio-economic development of Scheduled Castes.
- It's noteworthy that until 2018, the NCSC also discharged similar functions concerning Other Backward Classes (OBCs). However, this responsibility was relieved by the 102nd Amendment Act of 2018.

Q.62 Answer (C)

Explanation:

Context: Recently TN government withdraws general consent given to CBI to probe cases without prior nod

- The general consent for the Central Bureau of Investigation (CBI) refers to the authorization granted by a state government, allowing the CBI to conduct investigations within the state without the need for case-specific approvals.
- This consent can be given either on a case-by-case basis or in a broader, 'general' manner.
- When a state provides general consent to the CBI, it permits the agency to operate seamlessly within its jurisdiction. In such cases, the CBI is not obligated to seek fresh permission each time it enters the state for investigation purposes or for handling individual cases.
- However, the withdrawal of general consent signifies that the state government revokes the blanket permission previously granted to the CBI.
- As a result, the CBI loses the authority to initiate new investigations involving central government officials or private individuals within that state without prior approval from the state government.
- Despite the withdrawal of general consent, the CBI retains the ability to continue ongoing investigations within the state that were initiated prior to the consent being revoked.
- In situations where the CBI lacks the general consent of a state government, it must seek permission on a case-by-case basis before initiating any investigation within that state.
- The Supreme Court and High Courts, however, can order CBI to investigate such a crime anywhere in the country without the consent of the State.
- Without specific consent for each case, CBI officials do not possess the powers of police personnel when operating within that state's jurisdiction.

Q.63 Answer (a)

Explanation:

Context: The Securities and Exchange Board of India (SEBI) has issued a circular, creating a new category of intermediaries – execution only platforms (EOPs).

- **About:**
 - An Execution Only Platform (EOP) is a digital or **online platform** designed to facilitate various transactions in direct plans of mutual fund schemes, including subscription, redemption, and switch transactions. Previously, there was no specific regulatory framework governing such platforms, including those provided by Investment Advisers or Stock Brokers to non-clients.
 - However, new guidelines introduced by the Securities and Exchange Board of India (SEBI) now mandate that entities wishing to operate as an EOP must obtain registration from SEBI or the Association of Mutual Funds in India (AMFI).
- There are two categories of EOPs defined by SEBI:
 - **Category 1 EOPs:** These platforms need to register with AMFI, the industry body representing mutual funds. Under this category, EOPs act as agents of asset management companies (AMCs) and integrate their systems with AMCs and/or Registrar and Transfer Agents (RTAs) authorized by AMCs to facilitate transactions in mutual funds. Category 1 EOPs may also serve as aggregators of transactions in direct plans of mutual fund schemes, providing services to investors or other intermediaries.
 - **Category 2 EOPs:** These platforms need to register as stock brokers with SEBI and can only operate through platforms provided by stock exchanges. Category 2 EOPs act as agents of investors and operate exclusively through stock exchange platforms.
- **Mutual Fund:**
 - A mutual fund is a pooled investment vehicle managed by a professional Fund Manager. It operates as a trust, collecting money from multiple investors who share a common investment objective.
 - The pooled funds are then invested in various assets such as equities, bonds, money market instruments, and other securities, in line with the fund's investment objectives.

Q.64 Answer (b)

Explanation:

Context: Recently the Infrastructure Finance Secretariat has introduced the IIPDF Portal to facilitate the submission of applications for consideration under the India Infrastructure Project Development Fund (IIPDF) Scheme, aiming to streamline and enhance the efficiency of the application process.

- **The India Infrastructure Project Development Fund (IIPDF):**
 - The India Infrastructure Project Development Fund (IIPDF) Scheme is a Central Sector Scheme designed to facilitate the development of high-quality Public-Private Partnership (PPP) projects by offering necessary funding support to project sponsoring authorities, both at the Central and State Government levels.
 - Funding for the IIPDF Scheme is initially allocated a budgetary outlay of Rs. 100 Crore by the Ministry of Finance. This funding is in addition to the existing Scheme for Financial Support to PPPs in Infrastructure (VGF Scheme).
 - The composition of the IIPDF approval committee includes
 - A Chairperson, who is **the Joint Secretary of the Department of Economic Affairs (DEA)**, (Statement 2 is incorrect)

- A representative from NITI Aayog,
- The Member Secretary, who is the Deputy Secretary/Private Investment Unit of the DEA.
- The committee is responsible
 - for selecting projects eligible for funding,
 - determining the terms and conditions for funding disbursement and recovery,
 - And establishing milestones for fund disbursement and recovery processes.
- To support the evaluation and processing of applications for assistance under the IIPDF, the Public-Private Partnership Cell of the DEA will provide essential support functions.

Q.65 Answer (a)

Explanation:

Context: On June 11, 2023, the 126th birth anniversary of Ram Prasad Bismil was observed with reverence and respect. Bismil, celebrated for his revolutionary zeal and literary talent, made indelible contributions to India's struggle for independence against British colonialism.

- Ram Prasad Bismil's journey towards revolutionary activism began with his association with the Arya Samaj, a reformist movement founded by Dayanand Saraswati in 1875. Under the influence of Arya Samaj's principles, Bismil emerged as a skilled writer and poet, adopting pen names like 'Bismil,' which signified 'wounded' or 'restless.'
- The seeds of revolution were sown in Bismil's mind when he learned about the death sentence given to Bhai Parmanand, an Indian nationalist and Arya Samaj missionary. At the age of 18, Bismil expressed his anguish through his poem 'Mera Janm.'
- Diverging from the Gandhian approach, Bismil **advocated for revolutionary methods** in the struggle for independence. Disillusioned with the moderate faction of the Congress Party, he founded the revolutionary organization 'Matrivedi.'
- **Hindustan Republican Association (HRA).**
 - In 1918, Bismil became involved in the **Mainpuri Conspiracy**, distributing banned literature and engaging in activities to raise funds for the revolutionary cause. He authored pamphlets like 'Deshwasiyon ke Naam Sandesh' (A Message to Countrymen) and '**Mainpuri ki Pratigya**' (Vow of Mainpuri), contributing significantly to the movement.
 - In 1920, Bismil, along with Sachindra Nath Sanyal and Jadugopal Mukherjee, founded the **Hindustan Republican Association (HRA)**. The manifesto of the HRA, largely penned by Bismil, aimed at establishing a federal Republic of the United States of India through armed revolution.
- **Kakori train robbery**
 - One of the most daring actions orchestrated by Bismil and the HRA was the **Kakori train robbery** in 1925. The objective was to acquire funds and garner attention for their cause.
 - Despite its success, the perpetrators, including Bismil, Chandrasekhar Azad, and Ashfaqulla Khan, were arrested and tried under the Kakori Conspiracy Case. Bismil, along with his comrades, was sentenced to death after an 18-month-long legal battle.
- The contributions of Ram Prasad Bismil in India's struggle for independence remain etched in history, symbolizing the unwavering spirit of revolution and sacrifice.

Q.66 Answer (c)

Explanation:

Context: The Reserve Bank of India (RBI) recently stated that India's disinflation process is expected to be gradual and prolonged, with the 4% inflation target likely to be achieved only over the medium term.

- Disinflation is characterized by a reduction in the rate of inflation, indicating that prices continue to rise but at a decelerated pace compared to previous periods. It is crucial to distinguish disinflation from deflation, which entails a sustained decrease in the overall price level.
- Disinflation plays a vital role in maintaining economic stability and preventing overheating within an economy. While moderate inflation can be beneficial for economic growth, excessive inflation can lead to various adverse effects such as erosion of purchasing power and uncertainties in financial markets.
- Several factors can contribute to disinflation:
 - Slowdown in economic growth or demand: When economic activity decelerates, businesses may face reduced demand for goods and services, leading to a moderation in price increases.
 - Tight monetary policy or higher interest rates: Central banks may implement contractionary monetary policies by raising interest rates to curb inflationary pressures. This can dampen consumer spending and investment, contributing to disinflationary trends.
 - Fiscal consolidation or lower government spending: Governments may implement austerity measures or reduce spending to address budget deficits. Lower government expenditure can lead to reduced demand in the economy, contributing to disinflation.
 - Stronger exchange rate: A stronger domestic currency can reduce the prices of imported goods, exerting downward pressure on overall price levels and contributing to disinflation. **(Statement 4 is incorrect).**
- What is inflation
 - Inflation is the phenomenon characterized by a general increase in the prices of goods and services over a period of time, leading to a decline in the purchasing power of a unit of currency.
 - It is measured by tracking changes in the average price level of a basket of commodities and services, including items like food, clothing, housing, transportation, and other consumer staples. Inflation is typically expressed as a percentage and indicates the rate at which prices are rising.
- What is deflation:
 - Conversely, deflation refers to a sustained decrease in the overall price level of goods and services. This rare occurrence results in the purchasing power of money increasing over time. Deflation can lead to various economic challenges, such as reduced consumer spending, falling wages, and increased debt burdens.

Q.67 Answer (C)

Explanation:

- **Context:** There has been a decision by the states of Gujarat, Maharashtra, and Telangana to defer a proposal approved by the Genetic Engineering Appraisal Committee (GEAC) to test a new type of transgenic cotton seed containing a gene known as Cry2Ai.
- Transgenic crops, also known as genetically modified (GM) crops, refer to plants that have been altered through genetic engineering techniques to introduce new characteristics or traits that are not naturally found in the species through traditional breeding methods.
- These crops are created **by inserting specific genes into the plant's DNA**, often sourced from unrelated species, to confer desirable traits such as pest resistance, herbicide tolerance, improved nutritional content, or enhanced yield. **(Statement 1 is correct)**
- Distinction between "GMO" (Genetically Modified Organism) and "transgenic organism":
 - A GMO refers to any organism, including plants, animals, or microbes, whose DNA has been altered using genetic engineering techniques.

- A transgenic organism is a specific type of GMO that contains DNA sequences or genes from a different species. In other words, all transgenic organisms are GMOs, but not all GMOs are transgenic. **(Statement 2 is correct)**
- This distinction emphasizes that while all transgenic organisms are considered GMOs due to their altered genomes, not all GMOs involve the insertion of genes from different species. Some GMOs may undergo genetic modifications using techniques such as gene editing or synthetic biology without introducing foreign DNA.
- Various crops, including brinjal, tomato, maize, and chickpea, are undergoing trials employing transgenic technology.
- **Cotton is the only transgenic crop currently being commercially cultivated in India.** It has been genetically modified to exhibit traits such as resistance to pests or tolerance to herbicides.
- **The Genetic Engineering Appraisal Committee (GEAC)**, which is responsible for evaluating proposals for testing genetically modified (GM) seeds in India, approved the environmental release of Mustard hybrid DMH-11

Q.68 Answer (a)

Explanation:

- **Context:** The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) summit end of this year will adopt a Bangkok vision 2030
- **About : Bangkok Vision 2030**
 - Bangkok Vision 2030, introduced by Thailand, outlines a strategic roadmap for the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) to achieve a Prosperous, Resilient, and Open (PRO) regional community by 2030. The vision underscores the commitment to enhancing collaboration among BIMSTEC member countries to address challenges and capitalize on opportunities over the next decade.
 - The core objectives of Bangkok Vision 2030 include fostering peace, stability, and sustainable economic growth within the BIMSTEC region, aligning with the United Nations' Sustainable Development Goals (SDGs), and promoting Thailand's bio-circular-green economic model.
- **Key points about BIMSTEC:**
 - Establishment: BIMSTEC was founded on June 6, 1997, with the signing of the Bangkok Declaration.
 - Member Countries: BIMSTEC consists of seven member countries, namely Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan, and Nepal. (Statement 2 Is incorrect)
 - Chairmanship: The chairmanship of BIMSTEC rotates among member states in alphabetical order based on the English names of the countries.
 - Secretariat: Established during the Third BIMSTEC Summit, the Secretariat is headquartered in Dhaka, Bangladesh. (Statement 3 Is incorrect)

Q.69 Answer (c)

Explanation:

Context: The recent decision by the Government of India, in consultation with the Reserve Bank of India, to issue Sovereign Gold Bonds (SGBs) in tranches for the fiscal year 2023-24

- The initiative that began with the launch of the first SGB scheme in November 2015. This initiative was introduced as part of the Gold Monetisation Scheme with the aim of reducing the demand for physical gold

and encouraging a shift of domestic savings traditionally used for purchasing gold into financial savings instruments.

- several key features and eligibility criteria:
 - Issuance: SGBs are issued by the Reserve Bank of India on behalf of the Government of India.
 - Eligibility: SGBs are available for sale to resident individuals, Hindu Undivided Families (HUFs), trusts, universities, and charitable institutions.
 - Tenor: The tenor of the SGB is for a period of eight years, with an option of premature redemption after the fifth year.
 - Minimum Size: The minimum permissible investment in SGBs is one gram of gold. (Statement 2 Is incorrect)
 - Maximum Limit: There are maximum limits for subscription per fiscal year: 4 kg for individuals, 4 kg for HUFs, and 20 kg for trusts and similar entities.
 - Joint Holder: In case of joint holding, the investment limit of 4 kg applies to the first applicant only.
 - Issue Price: The price of SGBs is fixed in Indian Rupees based on the simple average of the closing price of gold of 999 purity, published by the India Bullion and Jewellers Association Limited.
 - Sales Channel: SGBs are sold through scheduled commercial banks, stock holding corporations, designated post offices, and stock exchanges directly or through agents.
 - Interest Rate: Investors receive a fixed rate of interest of 2.50% per annum, payable semi-annually on the nominal value.
 - Collateral: SGBs can be used as collateral for loans. (Statement 4 is incorrect)
 - Tax Treatment: The interest on SGBs is taxable as per the provisions of the Income Tax Act, 1961. However, capital gains tax arising on redemption of SGBs by individuals is exempted.

Q.70 Answer: (b)

Explanation:

- **Context:** The state unit of the Geological Survey of India (GSI) has proposed to declare the ‘Natural Arch’ in the Kanika range of Sundargarh forest division, a Geo Heritage Site.
- **Geo Heritage Sites (GHSs)**
 - These are areas of exceptional geological significance, characterized by rare and unique geological features, landforms, and geological processes. These sites encompass a wide range of geological, geomorphological, mineralogical, petrological, and paleontological features, including caves, natural rock sculptures, fossils, and mineral deposits.
 - They are recognized for their national and international importance in understanding the Earth's history, evolution, and natural heritage.
 - In India, the Geological Survey of India (GSI) plays a significant role in identifying, declaring, and conserving Geo Heritage Sites. GSI designates certain sites as National Geological Monuments to ensure their protection and maintenance.
 - Additionally, state governments may also identify and protect Geo Heritage Sites within their respective jurisdictions.
- Measures taken to safeguard these sites typically include:
 - Establishment of protected areas: Geo Heritage Sites may be designated as protected areas or reserves to prevent unauthorized exploitation or damage.
 - Conservation and restoration efforts: Conservation initiatives focus on preserving the geological features and ecosystems within Geo Heritage Sites, including habitat restoration and management.
- **The Geological Survey of India (GSI)**
 - It is a premier earth science organization under the Ministry of Mines, Government of India. Established in 1851, it is one of the oldest geological survey organizations in the world.

- The primary mandate of the Geological Survey of India is to conduct geological surveys, exploration, and research to assess the mineral and geological resources of India and provide reliable geological information for various sectors, including mineral exploration, infrastructure development, environmental management, and disaster mitigation.

Q.71 Answer (a)

Explanation:

Context: Harmonised Guidelines and Space Standards for Universal Accessibility in India-2021 prepared by the Ministry of Housing and Urban Affairs has been amended in RPwD (Amendment) Rules, 2023.

- After India signed and ratified the UNCRPD in 2007, the process of enacting a new legislation in place of the Persons with Disabilities Act, 1995 (PWD Act, 1995) began and the Rights of PWD Act, 2016 (RPWD Act, 2016) was passed by both the houses of the Parliament (Statement 2 is incorrect)
- In the RPWD Act, 2016, the list has been **expanded from 7 to 21** conditions and it now also includes cerebral palsy, dwarfism, muscular dystrophy, acid attack victims, hard of hearing, speech and language disability, specific learning disabilities, autism spectrum disorders, chronic neurological disorders such as multiple sclerosis and Parkinson's disease, blood disorders such as haemophilia, thalassemia, and sickle cell anaemia, and multiple disabilities.
- Equal protection and safety in situations of risk, armed conflict, humanitarian emergencies, and natural disasters are to be provided to PWD.
- The Bill provides for the access to inclusive education, vocational training, and self-employment of disabled persons without discrimination and buildings, campuses, and various facilities are to be made accessible to the PWD and their special needs are to be addressed.
- All Government institutions of **higher education** and those getting aid from the Government are required to reserve at **least 5%** of seats for persons with benchmark disabilities.
- **Four percent** reservation for persons with benchmark disabilities is to be provided in posts of all Government establishments with differential quotas for different forms of disabilities. (Statement 1 is incorrect)
- Incentives to employer in private sector are to be given who provide 5% reservation for persons with benchmark disability. Special employment exchanges for the PWD are to be set up.

Q.72 Answer (b)

Explanation:

- **Context:** The Solar Ultraviolet Imaging Telescope (SUIT), a unique space telescope developed by **Pune's Inter-University Center for Astronomy and Astrophysics (IUCAA)**, is now ready and has been delivered to the Indian Space Research Organisation (ISRO). (Hence, Statement 2 is incorrect)
- About:
 - The telescope aboard Aditya-L1 stands out for its capability to capture full disk images of the Sun within the 2000 to 4000 Å wavelength range. This wavelength range has remained unexplored before, offering a new perspective on solar dynamics.
 - Key features of the telescope include:
 - **Unique Imaging Capability:** Providing full disk images of the Sun in a previously unobserved wavelength range.
 - **Comprehensive Solar Observation:** Contributing to the measurement of solar radiation across a broad spectrum, from Hard X-ray to Infrared.
 - **In-situ Measurements:** Providing data on particles in the solar wind and the Sun's magnetic field at the L1 point.

- Expected Lifespan: Anticipated to operate for **five years**, providing a sustained observation platform.
- Aditya-L1 Mission:
 - The Aditya-L1 mission marks India's inaugural dedicated scientific endeavor focused on solar studies. Positioned at the first **Lagrange point (L1)**, located 1.5 million kilometers from Earth towards the Sun, the spacecraft offers a strategic vantage point for uninterrupted solar observation.
 - Key aspects of the mission include:
 - Orbital Positioning: Placed in a halo orbit around the L1 point, ensuring continuous solar visibility without occultation or eclipses.
 - Payload Suite: Comprising seven instruments tailored to observe various layers of the Sun, from the photosphere to the corona, using electromagnetic and particle detectors.
 - Launch Details: Scheduled for deployment via a PSLV-XL launch vehicle from Sriharikota, leveraging India's proven launch capabilities.

Q.73 Answer: (b)

Explanation:

- **Context:** Russia has promised to eliminate legal and logistical hurdles preventing the International North-South Transport Corridor (INSTC) from becoming the main transport route of Eurasia in the future.
- **The International North-South Transport Corridor (INSTC):**
 - The International North-South Transport Corridor (INSTC) is a multi-modal transportation route connecting the Indian Ocean and the Persian Gulf to the Caspian Sea through Iran and onward to northern Europe via St. Petersburg, Russia. This corridor comprises seaports located in the Persian Gulf and the Caspian region, along with road and rail routes.
 - The primary aim of the INSTC is to reduce carriage costs and transit time between India and Russia. It is anticipated that once the corridor is fully operational, transit time will decrease by nearly half.
 - The concept of the INSTC was initially proposed in 2000 with the objective of establishing a transport corridor linking Russia's Baltic Sea coast to India's western ports in the Arabian Sea through Iran.
 - In 2002, Russia, India, and Iran signed preliminary agreements to develop the 7,200-kilometer-long corridor. Azerbaijan joined the project three years later.
 - Ultimately, the agreement was ratified by **13 countries, including India, Russia, Iran, Azerbaijan, Belarus, Bulgaria, Armenia, Kazakhstan, Kyrgyzstan, Oman, Tajikistan, Turkey, and Ukraine.** (Hence, option B is incorrect)
 - The multi-modal route of the INSTC begins in Mumbai, India, and extends to Bandar Abbas and Bandar-e-Anzali in Iran. It then crosses the Caspian Sea to reach Astrakhan, Moscow, and St. Petersburg in Russia.

Q.74 Answer (a)

Explanation:

- **Context:** The National Bank for Financing Infrastructure and Development (NaBFID) has raised ₹10,000 crore via maiden issuance of listed bonds of 10-year duration at a coupon rate of 7.43 per cent.
- **The National Bank for Financing Infrastructure and Development (NaBFID)**
- Established in 2021 through the enactment of The National Bank for Financing Infrastructure and Development Act, 2021, this institution operates as a specialized Development Finance Institution within India.

- Its primary objectives include addressing the deficiencies in **long-term non-recourse finance** for infrastructure development, enhancing the development of bonds and derivatives markets in India, and fostering sustainable economic growth within the nation.
- As mandated by the legislation, this institution falls under the regulatory and supervisory purview of **the Reserve Bank of India (RBI)** as an All India Financial Institution (AIFI). Hence, Statement 2 is incorrect
- It functions as a corporate entity, NaBFID possesses an authorized share capital of **₹1 lakh crore**, with the central government investing ₹20,000 crores as equity and ₹5,000 crores as a grant. Hence, Statement 3 is incorrect
- This structure empowers NaBFID to access funds from both domestic and international markets via a range of financial instruments, including bonds, debentures, loans, deposits, and guarantees.
- Crucially, NaBFID is equipped with the flexibility to develop innovative financial products and structures customized to the diverse needs of various infrastructure sub-sectors and projects. This adaptability ensures that NaBFID remains agile in addressing the evolving requirements of the infrastructure development landscape.

Q.75 Answer: (c)

Explanation:

- **Context:** Recently, India's participation in Norway's Oslo Forum, organized for peace talks on Afghanistan, made headlines.
- **The Oslo Forum:**
 - The Oslo Forum, initiated in 2003, stands as a premier series of retreats aimed at gathering international conflict mediators, high-level decision-makers, and other stakeholders in peace processes.
 - Hosted by the Royal Norwegian Ministry of Foreign Affairs and the Centre for Humanitarian Dialogue (HD), this forum provides a discreet and informal platform for reflection on current mediation practices, collaboration across institutional and conceptual boundaries, and progress in negotiations.
 - The Centre for Humanitarian Dialogue (HD), founded in 1999 and headquartered in Geneva, Switzerland, specializes in mediation and dialogue processes to prevent and resolve armed conflicts globally.
 - All discussions within the Oslo Forum adhere to the Chatham House Rule, ensuring confidentiality and freedom to use received information without disclosing the identities or affiliations of speakers or participants. Participation in the Oslo Forum is strictly by invitation.

Q.76 Answer (a)

Explanation:

- **Context:** The Government has launched a new fellowship programme to connect the Indian STEM diaspora with Indian academic and R&D institutions for collaborative research work leading to sharing of knowledge, wisdom, and best practices in the frontier areas of science & technology.
- The Vaishvik Bhartiya Vaigyanik (VAIBHAV) fellowships programme to be implemented by the **Department of Science and Technology (DST), Ministry of Science and Technology**, would be awarded to outstanding scientist/technologists of Indian origin (NRI/OCI/PIO) who are engaged in research activities in their respective countries. Hence, Statement 2 and 3 is incorrect
- The 75 selected fellows would be invited to work in 18 identified knowledge verticals including quantum technology, health, pharma, electronics, agriculture, energy, computer sciences, and material sciences amongst others.

- The Government of India had organized the VAIBHAV Summit to connect Indian STEM diaspora with Indian Institutions which was inaugurated by the Hon'ble PM and saw the participation of more than 25,000 attendees. Indian STEM diaspora from more than 70 countries participated in the deliberations.
- The fellowship programme launched as a step to further those efforts by shaping and implementing the VAIBHAV programme, envisages collaboration between scientists of Indian Diaspora with Indian Higher Educational Institutions (HEIs), Universities, and/ or public funded Scientific Institutions. Applications for the first call are being invited through call for proposals from 15 June 2023 till 31 July 2023.

Q.77 Answer (c)

Explanation:

- **Context:** Recently, the Ministry of Consumer Affairs, Food & Public Distribution has introduced restrictions on the quantity of Wheat that traders, wholesalers, retailers, large chain retailers, and processors can stock. This measure aims to oversee food security comprehensively and deter hoarding and speculative practices.
- **The Essential Commodities Act (ECA) of 1955**
 - The Essential Commodities Act (ECA) of 1955 was enacted during a period of food scarcity in India, marked by low levels of food grain production and dependence on imports and aid, such as wheat imports under the PL-480 agreement with the US.
 - The primary objective of the ECA was to combat hoarding and black marketing of essential food items.
 - The ECA provides the framework for the central government to empower state governments to regulate trade in various commodities, thereby helping to control inflation.
 - While the Act does not provide a specific definition of essential commodities, it includes those specified in its Schedule.
 - Under the Act, the central government has the authority to add or remove commodities from the Schedule and can designate items as essential in consultation with state governments, if deemed necessary in the public interest.
 - Once declared essential, the government can regulate the production, supply, distribution, and impose stock limits on the commodity to ensure availability and prevent hoarding. (Hence, Statement 2 is incorrect)

Q.78 Answer (c)

Explanation:

- **Context:** The government and Reserve Bank of India (RBI) are looking to integrate GSTN (Goods and Services Tax Network) with TReDS (Trade Receivables Discounting System) platforms to enable direct sanctions of MSME invoices.
- **Trade Receivables Discounting System:**
 - Trade Receivables Discounting System, is an online platform designed to streamline the financing of trade receivables for Micro, Small, and Medium Enterprises (MSMEs) from a range of buyers, including government departments and Public Sector Undertakings (PSUs), utilizing the services of various financiers.
 - Established in 2014 by the Reserve Bank of India (RBI), TReDS aims to alleviate cash flow challenges faced by MSMEs while enhancing their access to credit.
 - Presently, three entities operate TReDS platforms, facilitating transactions totalling approximately Rs 60,000 crore annually.
 - TReDS functions as a digital marketplace where MSMEs can sell their trade receivables to multiple financiers at competitive rates through an auction mechanism.

- This system benefits MSMEs by providing access to funds, while also enabling corporate buyers and financiers to improve their cash flow and diversify their portfolios, respectively.
- Operating under the authority of the **Payment and Settlement Systems Act, 2007 (PSS Act)**, TReDS serves as a platform for various activities, including uploading, accepting, discounting, trading, and settling invoices or bills of MSMEs. It facilitates both receivables and payables factoring, including reverse factoring.
- Direct participants in TReDS include MSME sellers, corporate and other buyers, government departments, PSUs, and financiers such as banks, NBFC-Factors, and other permitted financial institutions.
- Importantly, all transactions conducted through TReDS are "without recourse" to MSMEs, providing them with added financial security.

Q.79 Answer: (c)

Explanation

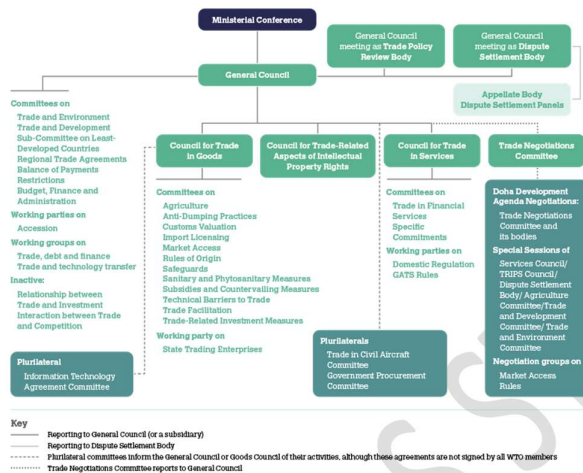
- **Context:** The government is working to bring amendments to the Ancient Monuments and Archaeological Sites and Remains (AMASR) Act-1958, which stipulates area around the protected monuments to make it “more flexible and friendly”.
- **Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958**
 - It is an Act to provide for the preservation of ancient and historical monuments and archaeological sites and remains of national importance, for the regulation of archaeological excavations and for the protection of sculptures, carvings and other like objects.
 - **It is being implemented by Ministry of Culture**
 - Under this Act “Ancient Monument” means any structure, erection or monument, or any tumulus or place of interment, or any cave, rock-sculpture, inscription or monolith which is of historical, archaeological or artistic interest and **which has been in existence for not less than 100 years.**
 - The Act defines a ‘**prohibited area**’ as an area of **100 meters around a protected monument or area.** The central government can extend the prohibited area beyond 100 meters. The Act does not permit construction in such prohibited areas, except under certain conditions.
 - The Act also empowers the government to regulate the activities in 300 metre area around the protected monument.

Q.80 Answer:(c)

Explanation:

- **Context:** The World Trade Organization’s 164 members (12th Ministerial Conference) in a historic step approved a series of trade agreements including commitments on fish, a partial waiver of intellectual property (IP) rights for COVID-19 vaccines, and pledges on health and food security.
- **World Trade Organisation**
 - **The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations.**

- **The WTO's top decision-making body is the Ministerial Conference.** Below this is the General Council and various other councils and committees. Ministerial conferences usually take place every two years.
- **Below this is the General Council** (normally ambassadors and heads of delegation in Geneva, and sometimes officials sent from members' capitals), which meets several times a year in the Geneva headquarters. **The General Council is day-to-day decision making body. It meets as the Trade Policy Review Body and the Dispute Settlement Body.**
- **The WTO has over 160 members representing 98 per cent of world trade.** Over 20 countries are seeking to join the WTO.
 - **The USA is also a member of WTO. (statement c is not correct)**
- To join the WTO, a government has to bring its economic and trade policies in line with WTO rules and negotiate its terms of entry with the WTO membership.



Q.81 Answer: (a)

Explanation:

- **Context:** Recently result of the TET exam conducted in the 6th Schedule area of the Assam was declared.
- The Sixth Schedule of Indian Constitution contains provisions related to the Administration of Tribal Areas in the States of **Assam, Meghalaya, Tripura and Mizoram.**
- This special provision is provided under Article 244(2) and Article 275(1) of the Constitution. Passed by the Constituent Assembly in 1949, the Sixth Schedule was formulated to provide the limited autonomy to the tribal regions of North-East.
- The people from Ladakh are also demanding the inclusion of the Ladakh in the 6th schedule to protect their land and cultural rights.

Q.82 Answer: (a)

Explanation

- **Context:** Prime Minister Narendra Modi has written to the leaders of the G-20 nations proposing that the African Union be given full membership of the grouping at its upcoming summit in India, official sources said on June 17.
- The G20 or Group of 20 is an intergovernmental forum comprising 19 sovereign countries, the European Union, and the African Union. It works to address major issues related to the global economy,

such as international financial stability, climate change mitigation and sustainable development. African Union has been admitted to G20 in New Delhi Summit.

- Members of G20 – **Argentina**, Australia, Brazil, Canada, China, France, Germany, India, **Indonesia**, Italy, Japan, **Mexico**, Russia, Saudi Arabia, **South Africa**, South Korea, Turkey, United Kingdom, United States, European Union (EU).

Q.83 Answer: (b)

Explanation

- **Context:** Earlier this week, India and the United States unveiled a roadmap for enhanced collaboration in high-technology areas, with a focus on addressing regulatory barriers and aligning export controls for smoother trade and “deeper cooperation” in critical areas. **This was part of the Initiative on Critical and Emerging Technology (iCET)** announced by President Joe Biden and Prime Minister Narendra Modi last year.
- **The Initiative on Critical and Emerging Technologies is a framework agreed upon by India and the U.S.** for cooperation on critical and emerging technologies in areas including artificial intelligence, quantum computing, semiconductors and wireless telecommunication. It was launched in January this year to strengthen their strategic partnership and drive technology and defence cooperation.

Q.84 Answer: (b)

Explanation:

- **Context:** Over a month ago, the World Health Organization declared the Mpox global health emergency over. However, even though cumulative cases across the world continue to decline, there has been an increase in reported cases from some countries, particularly in Southeast Asia and the Western Pacific Region.
- **Mpox (or monkeypox) is an illness caused by the monkeypox virus.** It is a viral infection which can spread between people and occasionally from the environment to people via things and surfaces that have been touched by a person with mpox. In settings where the monkeypox virus is present among some wild animals, it can also be transmitted from infected animals to people who have contact with them.
- It is primarily spread to the human population through zoonotic spillovers, with rodents and primates serving as potential reservoirs. **Mpox can be transmitted between humans through close contact and exposure to infected bodily fluids or lesions.** Sexual contact is also believed to contribute to the spread of the disease particularly among certain demographics.
- There are three vaccines against mpox. Many years of research have led to the development of newer and safer vaccines for an eradicated disease called smallpox. **Three of these (MVA-BN, LC16 and OrthopoxVac) have also been approved by WHO for prevention of mpox.** (statement 2 is not correct)

Q.85 Answer: (c)

Explanation

- **Context:** Prime Minister Narendra Modi has written to the leaders of the G-20 nations proposing that the African Union be given full membership of the grouping at its upcoming summit in India, official sources said on June 17.
- **The African Union (AU) is a continental body consisting of the 55 member states that make up the countries of the African Continent.** It was officially launched in 2002 as a successor to the Organisation of African Unity (OAU, 1963-1999). The African Union (AU) was officially launched in July 2002 in Durban, South Africa, following a decision in September 1999 by its predecessor, the OAU to create a new continental organisation to build on its work.
- **AGENDA 2063 is Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future.** It is the continent's strategic framework that aims to deliver on its goal for inclusive and sustainable development and is a concrete manifestation of the pan-African drive for unity, self-determination, freedom, progress and collective prosperity pursued under Pan-Africanism and African Renaissance.
- **Agenda 2063 is the concrete manifestation of how the continent intends to achieve this vision within a 50 year period from 2013 to 2063.**

Q.86 Answer: (b)

Explanation:

- **Context:** To support the Digital India initiative, the Infrastructure Finance Secretariat (IFS), under the **Ministry of Finance has launched the IIPDF (India Infrastructure Project Development Fund) Portal.** (statement 1 is not correct)
- The Union Finance Minister in the Budget Speech for 2007-08 announced in the parliament the setting up of a Revolving Fund with a corpus Rs. 100 Crore to quicken the process of project preparation. **It is a central sector scheme.**
- **Accordingly the corpus fund titled "India Infrastructure Project Development Fund" (IIPDF) has been created in Department of Economic Affairs, Ministry of Finance,** Government of India with an initial corpus of Rs. 100 Crore for supporting the development of credible and bankable Public Private Partnership (PPP) projects that can be offered to the private sector.
- The procurement costs of PPPs, and particularly the costs of Transaction Advisors, are significant and often pose a burden on the budget of the Sponsoring Authority. Department of Economic Affairs (DEA) has identified the IIPDF as a mechanism through which Sponsoring Authority will be able to source funding to cover a portion of the PPP transaction costs, thereby reducing the impact of costs related to procurement on their budgets.
- **The IIPDF will be available to the Sponsoring Authorities for PPP projects for the purpose of meeting the project development costs** which may include the expenses incurred by the Sponsoring Authority in respect of feasibility studies, environment impact studies, financial structuring, legal reviews and development of project documentation, including concession agreement, commercial assessment studies, etc.

Q.87 Answer: (a)

Explanation:

- **Context: NITI Aayog and the United Nations in India signed the Government of India - United Nations Sustainable Development Cooperation Framework 2023-2027.** The GoI-UNSDCF was signed by Mr. B V R Subrahmanyam, CEO, NITI Aayog, and Mr. Shombi Sharp, UN Resident Coordinator, India.

- GoI-UNSDCF 2023-2027 represents the UN development system's collective offer to the Government of India, in line with the national vision for development, for the achievement of the Sustainable Development Goals, promoting gender equality, youth empowerment and human rights.
- **The United Nations General Assembly Resolution A/RES/72/279 designates the United Nations Sustainable Development Cooperation Framework as the principal planning and implementation instrument for the UN Development System at country level.** Programme priorities of the UN entities working at the country are derived from the GoI-UNSDCF.

Q.88 Answer: (b)

Explanation

- **Context: The Gandhi Peace Prize for the year 2021 is being conferred on Gita Press, Gorakhpur.**
- **Gandhi Peace Prize is an annual award instituted by Government of India in 1995**, on the occasion of 125th Birth Anniversary of Mahatma Gandhi as a tribute to the ideals espoused by Mahatma Gandhi.
- **The award is open to all persons regardless of nationality, race, language, caste, creed or gender.** ('b' is not correct)
- The award carries an amount of Rs. 1 crore, a citation, a plaque and an exquisite traditional handicraft/handloom item.
- Recent awardees include Sultan Qaboos Bin Said Al Said, Oman (2019) and Bangabandhu Sheikh Mujibur Rahman (2020), Bangladesh.
- **The Jury headed by the Prime Minister Shri Narendra Modi**, after due deliberations on 18th June, 2023 unanimously decided to select Gita Press, Gorakhpur as the recipient of the Gandhi Peace Prize for the year 2021, in recognition of its outstanding contribution towards social, economic and political transformation through non-violent and other Gandhian methods.
- Established in 1923, Gita Press is one of the world's largest publishers, having published 41.7 crore books in 14 languages, including 16.21 crore Shrimad Bhagavad Gita. The institution has never relied on advertisement in its publications, for revenue generation. Gita Press along with its affiliated organizations, strives for the betterment of life and the well being of all.

Q.89 Answer: (c)

Explanation:

- **Context:** The recent US Federal Reserve policy meeting, keeping the policy rate unchanged at 5.25% but signalling two rate hikes to reach 6% by end-2023, has sparked speculation on India's interest rates and markets.
- **The rate actions of the US federal Reserve impact the Indian economy in several ways due to linkages of currency, investment and trade.**
 - Cuts by the US Fed bring down interest rates in the US which can lead to **higher foreign investment in Indian markets** as foreign investors find India more profitable than the US because the difference between the interest rates of India and the US widens.
 - Since lower interest rates in the US will lead to higher availability of dollars, the biggest impact for India can be **softening of the dollar and strengthening of the rupee** which would mean lower import bill for India. (2 is not correct)
 - **A strong Indian rupee lowers its import bill and the current account deficit**
 - Lower rates in the US mean more availability of dollars which leads to more investment in Indian markets. More foreign capital flows into India mean Indian companies getting more money and investing more which **boosts overall business activity.**

Q.90 Answer: (b)

Explanation:

- **Context: The PM in his Man Ki Baat praised a teacher, Rafi Ramnath who has changed the entire landscape in his area in Kerala through Miyawaki technique.**
- **Miyawaki forest is a pioneering method of afforestation or reforestation developed by Japanese botanist Akira Miyawaki.** Unlike traditional reforestation techniques, Miyawaki forests are characterized by their **dense, diverse planting of native tree species in a compact area.** This approach aims to mimic the structure and biodiversity of natural forests in a shorter time frame.
- At the heart of Miyawaki forest methodology is the selection of a wide variety of native plant species suited to the local climate, soil conditions, and ecosystem. These species are planted at a high density, with saplings positioned close together. This dense planting encourages competition among the plants for resources such as sunlight, water, and nutrients, leading to rapid vertical growth and the establishment of a dense canopy.

Q.91 Answer: (b)

Explanation:

- **Context: The right to change one's name or surname is a part of the right to life under Article 21, the High Courts of Allahabad and Delhi recently said.**
- Allahabad HC observed that the “right to keep a name of choice or change the name according to personal preference comes within the mighty sweep of the right to life guaranteed under Article 21.”
- The court relied on the Kerala HC ruling in “Kashish Gupta vs. Central Board of Secondary Education” (2020), stating, “To have a name and to express the same in the manner he wishes, is certainly **a part of the right to freedom of speech and expression under Article 19 (1)(a) as well as a part of the right to liberty under Article 21 of the Constitution of India.** State or its instrumentalities cannot stand in the way of the use of any name preferred by an individual or for any change of name into one of his choices except to the extent prescribed under Article 19(2) or by a law which is just, fair and reasonable.
- However, Name changes made in the High School or Intermediate education certificates issued by the educational boards have to be simultaneously incorporated in all documents of identity issued by various authorities like Aadhar, PAN, ration card, etc., as **congruence in all identity-related documents is essential**

Q.92 Answer: (a)

Explanation

- **Context: Archeologists have discovered a Mesolithic period rock painting in Guntur district, Andhra Pradesh. The paintings depicted a person tilling a piece of land. This is an indication of a semi-settled life pattern in which members of this community cultivated crops.**
- The Mesolithic Age, also known as the Middle Stone Age, is a period in prehistory that falls **between the Paleolithic (Old Stone Age) and the Neolithic (New Stone Age) periods.** (statement 1 is not correct)
- **It is characterized by a gradual shift from a purely hunter-gatherer lifestyle to more complex social structures and the beginnings of agriculture and animal domestication. Mesolithic societies**

relied on a combination of hunting, gathering, fishing, and foraging for their subsistence.
(statement 3 is not correct)

- Although stone tools were still prevalent during the Mesolithic Age, there were advancements in tool production and craftsmanship. Tools became smaller, more specialized, and more finely crafted, reflecting improvements in hunting, fishing, and food processing techniques. **The technological hallmark of this period are tiny stone tools or ‘microliths’.** In addition, the Mesolithic people also used non-microlithic tools made of flakes and blades. (statement 2 is correct)
- Mesolithic people created a variety of artistic expressions, including cave paintings, rock art, and intricate carvings. These artistic endeavours suggest the emergence of symbolic thought and cultural complexity during this period.

Q.93 Answer (c)

Explanation

- **Context:** As we commemorate yet another World Refugee Day (June 20), we honour the courage and resilience of the 103 million individuals who have endured forced displacement due to conflicts and unrest worldwide.
- **Positive Impacts of the Migration in host countries**
 - **Economic growth:** Migration can contribute to economic growth by filling labor shortages, increasing consumer demand, and boosting productivity. Migrants often participate in the workforce, pay taxes, and contribute to the overall economy through their spending.
 - **Innovation:** Migration brings diversity of ideas, skills, and perspectives to destination countries, fostering innovation and creativity.
 - **Cultural enrichment:** Migration enriches the cultural landscape of destination countries by introducing new languages, cuisines, traditions, arts, and customs
 - **Skills and Knowledge Transfer:** Migrants often bring valuable skills, expertise, and knowledge to destination countries, which can benefit local industries, educational institutions, and communities.
- **Negative Impacts of the Migration in host countries**
 - Pressure on Public Services
 - Social Tensions and Xenophobia: Migration can sometimes fuel social tensions and xenophobia among local populations, particularly if there are perceptions of competition for jobs, resources, or cultural dominance.
 - Wage Suppression and Job Displacement: In certain sectors or industries, an influx of migrant workers may lead to wage suppression and job displacement for native workers, particularly those in low-skilled or unskilled positions.
 - Cultural Assimilation and Identity Loss: Rapid cultural change and assimilation can occur as migrants adapt to the norms and values of the destination country.

Q.94 Answer: (d)

Explanation:

- **Context:** Recently, the Appointments Committee of Cabinet has approved the appointment of senior IPS officer Ravi Sinha as the chief of India’s external intelligence agency Research and Analysis Wing (R&AW) for a period of two years. (statement 2 is not correct)
- **RAW:**
 - It was established in 1968 to handle the India’s international intelligence affairs.
 - It came into force after the China-India War in 1962.

- **At present, the intelligence arm operates under the aegis of the Prime Minister’s Office. (statement 1 is not correct)**
- Working mechanism: It collects military, economic, scientific, and political intelligence through covert and overt operations.
- The agency is also charged with monitoring terrorist elements and smuggling rings that transport weapons and ammunition into India.
- Until 1968, the Intelligence Bureau (IB) was responsible for India’s internal intelligence and also handled external intelligence.

Q.95 Answer: (d)

Explanation

- **Context: The bright, red star Betelgeuse in the constellation Orion has shown some unexpected behaviour.**
- In late 2019 and 2020 it became fainter than we had ever seen it – at least in records going back more than a century. Briefly it became fainter (just about) than Bellatrix, the third brightest star of Orion. This event became known as the “**great dimming**”.
- But Betelgeuse has since become bright again. For a few days this year, it was the brightest star in Orion – brighter than we have ever seen it. Both events led to speculation about whether its demise in the form of an explosion is imminent.
- Stars are, by and large, remarkably stable. They shine with the same brightness year after year. **But there are exceptions and some stars – dubbed variable stars** – change in brightness. Most famous is Mira, the “star of wonder”, which was discovered as a variable star by the German pastor David Fabricius in 1596 – it is a pulsating star which regularly expands and contracts.
- **Although Betelgeuse is a variable star**, the great dimming in 2021 was extreme. Within months, it had in fact dimmed by about 60%. This was eventually shown to be caused by a cloud.

Q.96 Answer: (c)

Explanation:

- **Context: The United Arab Emirates and Qatar have announced the reopening of their embassies on Monday following a yearslong rift over Qatar’s support of Islamist groups.**
- The two countries issued statements saying the Qatari Embassy in Abu Dhabi and a Qatari Consulate in Dubai, as well as an Emirati Embassy in Qatar’s capital, Doha, had resumed operations.



Q.97 Answer: (b)

Explanation:

- Context: World Day to Combat Desertification and Drought is observed every year on the 17th of June. The theme for this year is “Her Land. Her Rights” which focuses on women’s land rights, essential for achieving the interconnected global goals of gender equality and land degradation neutrality by 2030 and contributing to the advancement of several other Sustainable Development Goals (SDGs).
- **The United Nations Convention to Combat Desertification (UNCCD)** was established in **1994** to protect and restore our land and ensure a safer, just, and more sustainable future.
- **The UNCCD is the only legally binding framework set up to address desertification and the effects of drought.** There are 197 Parties to the Convention, including 196 country Parties and the European Union.
- The Convention unites governments, scientists, policymakers, the private sector and communities around a shared vision to restore and manage the world’s land.
- **The Conference of the Parties (COP) was established by the Convention as its main decision-making body.** It is made up of governments and organizations such as the European Union and is responsible for guiding the Convention so that it can respond to global challenges and national needs.
- **The COP has been meeting biennially since 2001**, and has held 14 sessions. UNCCD COP15 was held from 9-20 May 2022 in Abidjan, Cote d’Ivoire. The next UNCCD COP16 will take place 2-13 December 2024 in Saudi Arabia. (statement 3 is not correct)

Q.98 Answer: (c)

Explanation:

- **Context:** According to the World Bank’s latest Migration and Development Brief, India, which saw a record-high of USD 111 billion in remittances in 2022, is expected to experience minimal growth of just 0.2% in remittance inflows in 2023.
- **When migrants send home part of their earnings in the form of either cash or goods to support their families, these transfers are known as workers’ or migrant remittances.** They have been growing rapidly in the past few years and now represent the largest source of foreign income for many developing countries.
- **Remittances are typically transfers from a well-meaning individual or family member to another individual or household.** They are targeted to meet specific needs of the recipients and thus tend to reduce poverty.
- **Remittance flows tend to be more stable than capital flows, and they also tend to be countercyclical—increasing during economic downturns or after a natural disaster in the migrants’ home countries, when private capital flows tend to decrease.** In countries affected by political conflict, they often provide an economic lifeline to the poor.
 - The World Bank estimated that in Haiti they represented about 12 percent of GDP in 2011, while in some areas of Somalia, they accounted for more than 70 percent of GDP in 2006.
- **There are a number of potential costs associated with remittances.**
 - Countries that receive remittances from migrants incur costs if the emigrating workers are highly skilled or if their departure creates labor shortages.
 - Also, if remittances are large, the **recipient country could face an appreciation of the real exchange rate that may make its economy less competitive internationally.**
 - Some argue that remittances can also create dependency, undercutting recipients’ incentives to work and thus slowing economic growth.

- **Remittances may also have human costs.** Migrants sometimes make significant sacrifices—often including separation from family—and incur risks to find work in another country. And they may have to work extremely hard to save enough to send remittances.

Q.99 Answer: (b)

Explanation:

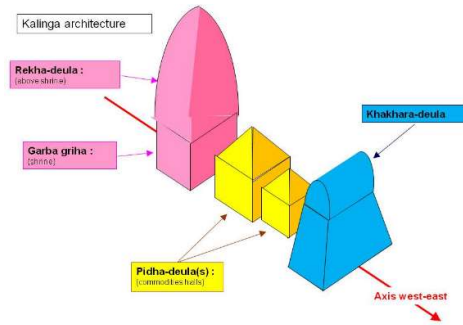
- **Context:** National Commission for Backward Classes(NCBC) is processing the request for the approval of about 80 more castes in six States, (Maharashtra, Telangana, Andhra Pradesh, Himachal Pradesh, Punjab, and Haryana) for the inclusion in the OBC list.
- Under Article 15(4) of the Constitution, the State has the power to make special provisions for the advancement of any socially and educationally backward class i.e., the OBC. Under Article 16(4), the state is empowered to enact laws for the reservation of appointments or posts in favour of OBCs.
- **Inclusion and Exclusion of castes in central list of OBCs**
 - **The National Commission for Backward Classes (NCBC) is a constitutional body under Article 338B of the constitution of India.** Article 338B was inserted in the constitution by **102nd constitutional amendment.** (statement 3 is correct)
 - NCBC advises the central government on the inclusion of the castes/communities in the central list of OBCs. **The advice rendered by the NCBC is not binding on the government.** (statement 1 is correct and 2 is not correct)
 - NCBC constitutes a Bench to examine proposals and forwards its decision to the Union government.
 - **Cabinet approves the additions and brings legislation, President notifies the change**

Q.100 Answer: (d)

Explanation:

- **Context:** The Jagannath Rath Yatra officially begins in Puri, Odisha. This year, the festival commenced on June 20, 2023 and will culminate on June 28, 2023.
- **Kalinga style of Architecture: Kalinga style is identified as a sub-class under the Nagara category.** As the name suggests, this temple style was mostly confined within the then Kalinga region, present Odisha.
- **Silpaprakasha is the most famous text describing the Odishan temple architecture.** It was authored by Ramachandra Kaulachara who belonged to the reign of king Viravarman. He quoted an earlier text Sauthhikagama. Silpaprakasha contains guidelines on overall temple construction, from the base of the temple to its top. It has two sections, one describing the construction and decoration of jagamohana and other garbha-grha. It provided details on all sections of the temple, their overall proportions even to the minutest element. The book also discusses soil selection and test, orientation, directions etc. It is dated in 10th-11th century CE.
- A typical Kalinga (Odishan) temple consists two parts, a sanctuary where an idol or linga is placed and a hall where pilgrims can view the lord installed in the sanctuary. The sanctuary is referred as deul while the hall is known as jagamohana.
- **Kalinga temple style is broadly classified into three main categories, namely Rekha, Pidha and Khakhara.**

- **Rekha-deul** (temple) is distinguished with its square plan topped with a curvilinear tower.
 - **A Pidha-deul, also referred as Bhadra deul**, also has a square plan topped with a pyramidal tower composed of horizontal tiers arranged in receding manner.
 - **A Khakhara deul is surmounted with a barrel-shaped (vault-shape) tower over a rectangular plan.** (option 'd' is not correct)
- Most of the Kalinga temples fall under the Rekha category. Very few temples depict Khakhara style, usually these temples are dedicated to a form of Devi. Pidha-style is usually used for jagamohanas but not for the main deul.



-