

General Studies

Current Affair Test (August-2025)

1. Solution: C

- Statement 1 is correct. Altermagnets represent a distinct class of magnetic materials. They uniquely combine characteristics of both ferromagnets (strong internal spin ordering) and antiferromagnets. Despite the ordered spins, their arrangement results in zero net external magnetization, making them appear non-magnetic from the outside. This dual nature allows them to have strong internal magnetic effects without generating external magnetic fields.
- Statement 2 is correct. The discovery of Direction-Dependent Conduction Polarity (DDCP) in Chromium Antimonide (CrSb) is a significant breakthrough. In CrSb, the material behaves as an n-type conductor (charge carried by electrons) when current flows along its crystal layers and as a p-type conductor (charge carried by holes) when current flows across the layers. This is the first time such a property has been observed in a single-crystal magnetic material.
- Statement 3 is incorrect. Contrary to limiting their use, altermagnets like CrSb show high thermal stability. CrSb, for instance, remains magnetic at temperatures well above room temperature (reportedly twice that), which makes it a viable and robust candidate for practical applications in spintronics and industrial electronics, which often operate at elevated temperatures.

2. Solution: B

- Statement 1 is incorrect. The Sea Ship Observer Mission is a multilateral initiative, not a bilateral one. It involves all four QUAD countries: India, the United States, Japan, and Australia. The participating agencies are the respective coast guards and the Australian Border Force.
- Statement 2 is correct. The mission is a direct outcome of the Wilmington Declaration, which was adopted at the QUAD Leaders' Summit in 2024. This declaration outlined a framework for enhancing maritime cooperation among the member nations' coast guards.
- Statement 3 is correct. A specific and highlighted objective of the mission is to promote gender inclusion. The mission mandates the participation of women officers from each of the four nations, marking a conscious effort to integrate gender diversity into maritime security operations.
- Statement 4 is incorrect. The mission's scope is broader than just military interoperability. It focuses on coast guard functions such as enhancing Maritime Domain Awareness (MDA),

coordinating on humanitarian assistance and disaster response (HADR), capacity-building, and promoting a rules-based maritime order. It is not exclusively about naval drills.

3. Solution: D

- Statement 1 is incorrect. The GOSAT-GW satellite was developed primarily by the Japan Aerospace Exploration Agency (JAXA) in collaboration with Japanese industry partners like Mitsubishi Heavy Industries. While it provides data to global stakeholders, including the National Oceanic and Atmospheric Administration (NOAA) of the USA, it is not a joint development project with them.
- Statement 2 is incorrect. The satellite has a dual focus, which is one of its unique features. The "GW" in its name stands for Greenhouse Gases and Water Cycle. It is designed to simultaneously monitor atmospheric concentrations of gases like carbon dioxide and methane, as well as key hydrological parameters such as sea surface temperature, cloud cover, and precipitation trends.

4. Solution: D

- Statement-I is incorrect. The Akash system is classified as a medium-range, not long-range, air defence system. Its operational range is approximately 4.5 km to 25 km. Furthermore, it is a mobile system, mounted on road or rail platforms for rapid deployment to protect vulnerable points and areas, not a stationary platform. Its primary role is to neutralize tactical aerial threats like aircraft and cruise missiles, rather than strategic ballistic missiles, which are tackled by different systems.
- Statement-II is correct. The Akash is a flagship product of India's indigenous defence development, primarily designed and developed by the Defence Research and Development Organisation (DRDO) in collaboration with public sector undertakings like BDL and BEL. It is characterized by its high mobility and a fully automatic system that can track and engage multiple aerial targets simultaneously in a cluttered environment. Its effectiveness against threats like fighter aircraft, helicopters, UAVs, and cruise missiles has been operationally proven.

5. Solution: B

- Statement 1 is correct. The fundamental process for making Kombucha involves the fermentation of sweetened tea (usually black or green). This fermentation is carried out by a Symbiotic Culture of Bacteria and Yeast, commonly known as

SCOBY. The SCOBY, a biofilm that looks like a pancake, metabolizes the sugars, producing a range of organic acids, probiotics, and other compounds that define the beverage.

- Statement 2 is incorrect. Studies indicate that Kombucha can positively modulate gut microbiota, but it does so by increasing beneficial strains (like Akkermansiaceae) and decreasing harmful bacteria (like Ruminococcus gnavus and Dorea) that are associated with metabolic disorders and inflammation. The statement incorrectly claims it increases the population of harmful bacteria.
- Statement 3 is incorrect. Fermentation is a process that produces alcohol as a byproduct when yeast consumes sugar. While commercial Kombucha has very low levels of alcohol (typically below 0.5% ABV to be sold as a non-alcoholic beverage), it is not entirely free of it. Trace amounts of alcohol are an inherent result of the fermentation process.

6. Solution: A

- Statement 1 is correct. The geography of Ghana is significantly shaped by the Volta River System. This system includes the Black Volta, White Volta, and Oti rivers, which all flow into Lake Volta. Created by the Akosombo Dam, Lake Volta is one of the largest man-made reservoirs in the world by surface area, playing a crucial role in transportation, hydroelectric power, and fishing.
- Statement 2 is incorrect. Mount Afadjato, Ghana's highest peak, is located in the Akwapim-Togo Ranges, which run along the country's eastern border. The Kwahu Plateau is another major upland feature, but it is located in the south-central part of the country and is distinct from the mountain range containing Mount Afadjato.

7. Solution: A

- Statement 1 is correct. Bhashini, or the National Language Translation Mission (NLTM), is designed as a digital public good. It utilizes Artificial Intelligence to provide real-time translation services (speech-to-text and text-to-text) across various Indian languages, aiming to make digital services more accessible.
- Statement 2 is incorrect. Bhashini was developed by the Ministry of Electronics and Information Technology (MeitY). The recent Memorandum of Understanding (MoU) was signed between MeitY and the Ministry of Panchayati Raj (MoPR), not the Ministry of Education.
- Statement 3 is incorrect. The MoU specifically aims to integrate Bhashini's capabilities into rural governance platforms, such as eGramSwaraj. The objective is to bridge the language divide in Panchayati Raj Institutions (PRIs) and enhance e-governance for rural citizens, not urban ones.

8. Solution: C

- Statement 1 is incorrect. While increasing forest/

tree cover is a key objective (target of 5 million hectares), GIM's scope is broader. It also aims to improve the quality of another 5 million hectares of existing forests, restore degraded ecosystems like grasslands and wetlands, and enhance biodiversity, not just focus on planting trees.

- Statement 2 is correct. The Green India Mission is one of the eight core missions launched under the National Action Plan on Climate Change (NAPCC). Its objectives directly contribute to India's climate goals, particularly the creation of carbon sinks.
- Statement 3 is incorrect. The mission emphasizes multi-sectoral convergence. It is designed to leverage synergies and funds from other central and state schemes, such as the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) funds and the Aravalli Green Wall Project, to achieve its goals more effectively.
- Statement 4 is correct. The New Changes in GIM 2025 explicitly state a new focus on the eco-restoration of abandoned mining areas. This is a crucial addition to address land degradation from mining activities and aligns with the broader goal of ecosystem restoration.

9. Solution: A

- Statement 1 is incorrect. The NPT defines a nuclear-weapon state as one that had manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967. The five states that meet this definition are the USA, UK, Russia, France, and China (the P5). The year 1970 marks the treaty's entry into force, not the cut-off date for definition.
- Statement 2 is incorrect. India is one of the few countries that has never signed the NPT. It is not a signatory, let alone having ratified it. India has consistently maintained that the treaty is discriminatory because it creates a permanent division between the "haves" (the P5) and the "have-nots" in terms of nuclear weapons.
- Statement 3 is correct. A cornerstone of the NPT is the safeguards system administered by the International Atomic Energy Agency (IAEA). The IAEA conducts inspections and monitoring activities in non-nuclear-weapon states that are party to the treaty to verify that their civilian nuclear programs and materials are not being diverted for military purposes.

10. Solution: B

- Statement 1 is incorrect. The method used involves dispersing agents like silver iodide and rock salt into clouds, but it is done using aircraft-mounted flares, not ground-based generators. The use of aircraft allows for precise targeting of suitable clouds at the right altitude.
- Statement 2 is incorrect. The project specifically

targets nimbostratus clouds, which are rain-bearing sheet clouds, noted to have over 50% moisture content. Cumulus clouds are different in structure, and while they can develop into rain clouds (cumulonimbus), the project's specified target is nimbostratus.

- Statement 3 is correct. The project is a multi-agency effort. It is a collaboration between the Delhi Government, IIT-Kanpur (providing the technical expertise from their successful trials), and the IMD (providing meteorological support and data).

11. Solution: A

- Statement-I is correct. The Akash Prime is an upgraded version of the Akash SAM, explicitly developed by the DRDO to perform optimally in high-altitude and low-oxygen conditions, such as those found in Ladakh and Sikkim. This specialization is its defining feature.
- Statement-II is correct. The system is equipped with an indigenously developed active radar seeker, which improves accuracy by enabling the missile to lock onto targets independently in the terminal phase. Furthermore, its deployment on mobile platforms ensures tactical mobility and flexibility, which is critical for operating in the rugged, mountainous border regions where it is intended to be used.
- Statement-II directly explains how Akash Prime achieves its enhanced operational effectiveness (Statement-I).

12. Solution: C

Option (c) is correct. The most significant aspect of GW231123 is that the merging black holes (100 and 140 solar masses) and the resultant black hole fall into what is known as the "upper stellar mass gap" (roughly 60-130 solar masses). According to conventional models of stellar collapse, black holes in this mass range are not expected to form from a single star's death. This discovery forces a reassessment of stellar evolution physics, supernova models, or suggests alternative formation pathways like hierarchical mergers (mergers of already-merged black holes).

13. Solution: B

- Pair 1 is incorrectly matched. Prithvi-II is a Surface-to-Surface Short-Range Ballistic Missile (SRBM), not a Surface-to-Air missile. Its range is approximately 350 km, not 500 km.
- Pair 2 is correctly matched. Agni-I is classified as a Short-Range Ballistic Missile (SRBM), although some sources may place it in the medium-range category. Its operational range is between 700-900 km, and it is capable of carrying a payload of up to 1,000 kg. This makes it a crucial part of India's strategic deterrence.
- Pair 3 is correctly matched. Akash Prime is a

distinct, upgraded version of the Akash Surface-to-Air Missile (SAM). Its key improvement is its enhanced performance in the challenging conditions of high-altitude and extreme cold, making it an all-weather system specifically tailored for mountainous border regions.

14. Solution: D

- Statement 1 is correct. CARA was initially set up in 1990 but was granted the status of a statutory body under the Juvenile Justice (Care and Protection of Children) Act, 2015. This legislation provides it with the legal authority to frame regulations and issue binding directions related to adoption.
- Statement 2 is incorrect. CARA's mandate is not exclusive to in-country adoptions. A significant part of its role involves regulating and facilitating inter-country adoptions of Indian children as well. It serves as the nodal body for all adoptions, both domestic and international, ensuring a standardized and ethical process.
- Statement 3 is correct. India ratified the Hague Convention on Inter-country Adoption in 2003. CARA is the designated Central Authority in India for the purposes of this international treaty. In this capacity, it coordinates with foreign adoption agencies and authorities to ensure that inter-country adoptions are conducted in the best interests of the child and with respect for their fundamental rights.

15. Solution: B

- Statement-I is correct. Bolivia is one of only two landlocked countries in South America (the other being Paraguay). It shares borders with five countries: Brazil to the north and east, Paraguay and Argentina to the south, and Chile and Peru to the west.
- Statement-II is correct. Bolivia possesses a remarkably diverse topography. A major feature is the Altiplano, a high-elevation plateau situated in the Andes Mountains. This plateau is home to Lake Titicaca, the world's highest navigable lake, which it shares with Peru. It also contains the Salar de Uyuni, the world's largest salt flat, a significant geographical and economic feature.
- Both statements are factually correct descriptions of Bolivia. However, Statement-II, which describes Bolivia's internal geography (plateaus, lakes, salt flats), does not provide an explanation for Statement-I.

16. Solution: A

- Statement 1 is incorrect. The Group of Friends is an informal platform, not a formal, treaty-based organization. It was launched by member states to facilitate dialogue and cooperation on a specific issue. It does not derive its authority from a binding UNGA resolution that creates a formal body, though it supports the implementation of UNSC resolutions like 2589.

- Statement 2 is incorrect. The GoF does not have prosecutorial powers. Its role is to promote legal and policy frameworks, facilitate dialogue, support investigation mechanisms, and advocate for accountability within the legal systems of member states and through international legal channels. It is a diplomatic and advocacy group, not a judicial body. Prosecution remains the responsibility of the host state or the peacekeeper's home state.
- Statement 3 is correct. India is a co-chair and a driving force behind this initiative. This leadership role is a natural extension of India's long-standing and significant contributions to UN peacekeeping, having contributed the highest number of peacekeepers historically. Advocating for their safety and for justice against attacks is a strategic priority for India.

17. Solution: A

- Statement 1 is incorrect. While the Uyuni Salt Flat is located entirely within Bolivia, Lake Titicaca is a trans-boundary lake, shared between Bolivia and Peru. A significant portion of the lake lies in Peruvian territory.
- Statement 2 is correct. The Salar de Uyuni is indeed the world's largest salt flat, covering over 10,000 square kilometers. It is located on the Altiplano, a high-altitude plateau in the Andes, which is a defining feature of Bolivia's geography.
- Statement 3 is incorrect. While Lake Titicaca is the world's highest navigable lake, it is a freshwater lake, not saline. Its water levels are maintained by rainfall and runoff from surrounding glaciers and rivers. The presence of a large, stable body of freshwater at such a high altitude is one of its remarkable characteristics.

18. Solution: B

- Statement I is correct. User trials and operational tests of India's nuclear-capable missile systems, such as Prithvi-II and Agni-I, are conducted by the Strategic Forces Command (SFC) to validate their combat readiness and operational reliability.
- Statement II is correct. The Strategic Forces Command is the tri-service command responsible for managing and administering all of India's strategic and tactical nuclear weapons. Its role is to operationalize the country's nuclear deterrent. This directly explains why the SFC would be in charge of testing the delivery systems (the missiles) mentioned in Statement I.
- Statement III is correct. Both the Prithvi and Agni series of missiles were landmark achievements of India's Integrated Guided Missile Development Programme (IGMDP), which was initiated in the 1980s under the leadership of Dr. A.P.J. Abdul Kalam.
- Statement II provides the direct reason why the SFC supervises these tests – because these missiles are nuclear delivery systems, and the SFC controls

the nuclear arsenal. Statement III, while factually correct about the missiles' origin, explains their developmental history, not the reason for the SFC's operational supervision. Therefore, Statement II is the correct explanation for Statement I.

19. Solution: C

- Statement I is correct. As articulated by India, accountability is a strategic necessity. Ensuring that attacks on peacekeepers do not go unpunished is vital for protecting personnel, maintaining their morale, and ensuring the overall success of high-risk peacekeeping missions.
- Statement II is correct. This statement explains the core problem. Impunity—the failure to bring perpetrators to justice—emboldens future attackers. If crimes against peacekeepers have no consequences, the risk to them increases, undermining peacekeeping operations globally.
- Statement III is correct. UNSC Resolution 2589, co-sponsored by India, is a landmark resolution that explicitly condemns attacks on peacekeepers and calls upon member states to take all necessary measures to bring those responsible to justice. The GoF's work includes tracking the implementation of this very resolution.
- All three statements are correct. Statement II provides the direct causal reason (impunity leads to more attacks) that makes the action in Statement I (creating the GoF) a “strategic necessity”.

20. Solution: D

- Statement 1 is incorrect. While it is a form of vaccine diplomacy, the aid was part of the broader South-South Cooperation under India's Development Partnership Programme. ‘Vaccine Maitri’ was the specific name for the COVID-19 vaccine supply initiative. While related in spirit, the program name is different.
- Statement 2 is correct. Bolivia holds some of the world's largest lithium reserves, a critical mineral for battery technology. As a rapidly growing economy with a focus on renewable energy and electric vehicles, India has a strategic interest in securing lithium supplies and has engaged with Bolivia for collaboration in this sector.
- Statement 3 is correct. Both India and Bolivia have a long history of cooperation in multilateral forums that represent the interests of the developing world. They are prominent members of both the Non-Aligned Movement (NAM) and the G77, a coalition of developing nations at the UN.

21. Solution: C

- Statement-I is correct. There is a general consensus among art historians that certain features of the Ashokan pillars, particularly the highly polished finish (Mauryan polish) and the form of the animal capitals carved in the round, show stylistic similarities with Persian-Achaemenid

art. This suggests a degree of cultural and artistic interaction.

- Statement-II is incorrect. While the artistic influence is noted, there is no historical evidence to suggest that Ashoka's main purpose for engaging with the Achaemenids was to borrow their architectural styles. The artistic elements were not merely copied but were reimagined and adapted within a uniquely Indian and Buddhist context. The core purpose of the pillars was the dissemination of Ashoka's concept of Dhamma (ethical conduct and social welfare), an indigenous moral and political philosophy. The artistic style was a medium, not the primary objective of any political or cultural exchange.

22. Solution: A

- Statement 1 is incorrect. Formal broadcasting was started on July 23, 1927, by a private entity, the Indian Broadcasting Company (IBC). The British government, through the Indian State Broadcasting Service (ISBS), only took over in 1930 after the IBC went into liquidation.
- Statement 2 is incorrect. The Indian State Broadcasting Service (ISBS) was renamed All India Radio (AIR) in 1936, well before independence. The name 'Akashvani' was formally adopted for the national broadcaster much later, in 1956.
- Statement 3 is incorrect. The External Services Division began broadcasting in 1939, during the British colonial era. Its initial purpose was to counter Axis propaganda in Pashto and Afghan languages during the onset of World War II, not to connect with the diaspora post-independence.
- Statement 4 is correct. Vividh Bharati was launched in 1957 as a dedicated service for popular entertainment, featuring film music, comedies, and other light programs, which was a significant diversification from AIR's more formal news and classical content.

23. Solution: D

- Statement 1 is incorrect. The MiG-21 was designed and developed exclusively by the Mikoyan-Gurevich Design Bureau in the Soviet Union. Hindustan Aeronautics Ltd (HAL) was involved later, but only for licensed production of the aircraft in India, not its joint development.
- Statement 2 is incorrect. The MiG-21 was a versatile, multi-role fighter. While it excelled as a supersonic interceptor, it was also capable of ground-attack missions and was equipped to carry not only air-to-air missiles and cannons but also bombs.
- Statement 3 is incorrect. The MiG-21 squadrons are being phased out and are primarily being replaced by the indigenously developed Tejas Mk-1A Light Combat Aircraft (LCA). While the Rafale jets are a crucial part of the IAF's modernization,

they are not the designated replace

24. Solution: A

- Statement 1 is incorrect. The electoral college for the Vice-President, as defined in Article 66(1), consists of members (both elected and nominated) of the Lok Sabha and the Rajya Sabha only. Members of State Legislative Assemblies do not participate in the Vice-Presidential election, unlike in the Presidential election.
- Statement 2 is correct. The election for the Vice-President is conducted by the Election Commission of India using the system of Proportional Representation by means of the Single Transferable Vote (STV), and the voting is by secret ballot. This ensures that the elected candidate has a broad base of support from the members of Parliament.
- Statement 3 is incorrect. Article 68(2) of the Constitution states that an election to fill a vacancy caused by death, resignation, or removal must be held "as soon as possible after the occurrence of the vacancy." It does not prescribe a fixed deadline of six months, which is a provision applicable only to the office of the President under Article 62(2).

25. Solution: A

- Statement-I correctly points out a key characteristic of *Karenia mikimotoi* blooms: they cause widespread mortality in marine life but are not associated with human illnesses like neurotoxic shellfish poisoning, which is caused by its relative, *Karenia brevis*.
- Statement-II provides a comprehensive explanation for the phenomenon described in Statement-I. The lethality of these blooms stems from a dual mechanism.
- First, as the massive bloom of algae dies and decomposes, the bacterial action consumes vast amounts of dissolved oxygen, creating hypoxic (low oxygen) or anoxic (no oxygen) zones that suffocate marine organisms.
- Second, *K. mikimotoi* releases ichthyotoxins (fish-killing toxins) and reactive oxygen species that specifically damage the gills of fish, impairing their ability to respire even before oxygen levels plummet.
- Both mechanisms explained in Statement-II are the direct causes of the massive fish kills mentioned in Statement-I.

26. Solution: B

- Statement 1 is incorrect. UNESCO's constitution was adopted in London on November 16, 1945, and came into force in 1946. It was born out of the experience of World War II, not World War I, with the aim of building "the defenses of peace in the minds of men."
- Statement 2 is correct. UNESCO is renowned for its work in preserving global heritage. It

administers the World Heritage Convention (1972) for tangible sites (both cultural and natural) and the Convention for the Safeguarding of the Intangible Cultural Heritage (2003) for traditions, performing arts, and traditional knowledge.

- Statement 3 is correct. UNESCO's role has evolved to address contemporary challenges. It is actively involved in global dialogue and standard-setting on the ethics of science and technology, including its landmark Recommendation on the Ethics of Artificial Intelligence (2021). Furthermore, advocating for freedom of expression and safety of journalists is a central part of its communication and information mandate.

27. Solution: B

South Australia is described as the driest state on the driest continent. Its most significant and only major perennial river system is the Murray River, which flows to its end in the state. The coastal areas, including around the capital Adelaide, are known for their Mediterranean climate, characterized by warm, dry summers and mild, wet winters. The interior of the state is largely arid.

28. Solution: D

The core of this scientific achievement lies in genetic engineering, but of a specific kind. The researchers did not introduce a foreign gene from another species (as in many GMOs) or silence an existing gene. Instead, they identified an inherent (native) gene in the pineapple, AcSERK3, which is part of the plant's natural defence pathway. By using Agrobacterium-mediated transformation, they "overexpressed" this gene, meaning they amplified its activity. This overexpression boosts the plant's own defence mechanisms, making it significantly more resistant to the Fusarium fungus. This approach leverages and enhances the plant's own genetic toolkit rather than introducing external elements or disabling existing ones.

29. Solution: C

- Option (a) is incorrect. VRRR auctions are typically conducted when the RBI wants to offer banks a higher return than the fixed reverse repo rate to encourage them to park their surplus funds with the central bank for a longer tenor. The rate is market-discovered and generally higher.
- Option (b) is incorrect. VRRR is a liquidity absorption. By taking surplus cash out of the banking system, it leads to tighter liquidity, not easier. This tightening effect causes short-term interest rates, like the call money rate, to rise, not fall.
- Option (c) is correct. When the RBI absorbs a significant amount of liquidity through VRRR auctions, the availability of short-term funds in the market decreases. This scarcity of funds pushes up short-term interest rates. Consequently, the yields on short-term bonds and commercial

papers tend to rise, making borrowing costlier for the government and corporates in the short term.

- Option (d) is incorrect. The VRRR auction temporarily locks funds for a specified period (e.g., 7 or 14 days). It does not permanently reduce the funds. Once the tenor of the VRRR ends, the liquidity returns to the banking system.

30. Solution: C

- The core significance of this initiative lies in its innovative dual-pronged approach. It simultaneously tackles two major challenges faced by many countries: a rising burden of noncommunicable diseases (NCDs) and a shortage of domestic funds for development priorities (as outlined in the SDGs).
- By advocating for health taxes, the initiative provides a clear pathway to improve public health (by reducing consumption of harmful products) and strengthen fiscal health. The revenue generated is a form of sustainable domestic resource mobilization. This empowers countries to finance their own development, including but not limited to health, thereby reducing their long-term reliance on fluctuating foreign aid. This linkage is its most powerful and significant feature from a development perspective.

31. Solution: A

- Statement-I is correct. As an interstellar object, 3I/Atlas originated from outside our solar system. Studying its chemical and physical makeup provides a rare, direct sample of material from a distant planetary system. This allows scientists to gain insights into the building blocks of alien worlds without having to travel there, offering invaluable clues about exoplanetary formation and evolution.
- Statement-II is also correct. The key evidence confirming 3I/Atlas's interstellar origin is its trajectory and speed. Unlike objects native to our solar system which typically have elliptical orbits, 3I/Atlas follows a hyperbolic path—an open curve that indicates it will pass through our system only once. Its high velocity (~60 km/s) confirms that it is not gravitationally bound to our Sun and must have originated from another star system.
- Statement-II provides the direct reasoning for why 3I/Atlas is considered an interstellar object, which is the foundational reason for the significance mentioned in Statement-I. Therefore, Statement-II is the correct explanation for Statement-I.

32. Solution: B

- Statement 1 is correct. The average salt consumption is 9.2g/day in urban India and 5.6g/day in rural areas. Both these figures are above the WHO's recommended safe limit of 5g/day, highlighting a nationwide issue of excessive salt intake.
- Statement 2 is incorrect. The ICMR-NIE project is

not just about providing substitutes. It is a three-year study focused on salt-reduction counselling and promoting low-sodium alternatives. Furthermore, the intervention specifically targets hypertensive individuals in Punjab and Telangana, not the general population, to study the impact on blood pressure. The approach is targeted and research-oriented, not a general distribution scheme.

- Statement 3 is correct. ‘Silent salt consumption epidemic’ is linked to a rising healthcare burden from non-communicable diseases (NCDs). High sodium intake is identified as a leading risk factor for hypertension, which in turn increases the risk of strokes, heart attacks, arterial stiffness, and chronic kidney disease.

33. Solution: A

- Statement 1 is incorrect. The vaccine is derived from the TV003/TV005 strain, which was originally developed by the S. National Institutes of Health (NIH), not the ICMR. The technology was licensed to Indian firms, including Panacea Biotec, for further development and trials. ICMR is the primary funder and scientific lead for the Indian trials but not the original developer of the strain.
- Statement 2 is correct. ‘DengiAll’ is a tetravalent vaccine. This means it is formulated to protect against all four distinct dengue virus serotypes (DENV-1, DENV-2, DENV-3, and DENV-4). This is a critical feature, as infection with one serotype does not confer long-term immunity to the others, and subsequent infections can sometimes lead to more severe disease.

34. Solution: A

- Statement 1 is incorrect. The agreement is explicitly a long-term deal with a duration of five years, starting from FY 2025-26. This is intended to ensure a steady, predictable supply and enhance India’s long-term fertilizer stability, rather than just managing immediate, short-term issues.
- Statement 2 is incorrect. The agreement specifically concerns the import of 1 million metric tonnes (MMT) of DAP (Di-Ammonium Phosphate) fertilizer annually. While India imports various fertilizers, this particular deal is centered on DAP, a crucial phosphatic fertilizer.
- Statement 3 is correct. The significance of the agreement goes beyond a simple buyer-seller relationship. It includes a joint research agenda to collaborate on developing India-specific alternative fertilizers. This aims to improve soil health and crop productivity by creating customized solutions for India’s diverse agro-climatic zones, indicating a deeper strategic partnership.

35. Solution: B

- Statement-I is correct. The arrival of over 4,000

refugees in a short period has placed a significant strain on the resources of host communities in Mizoram’s Champhai district. The villagers and civil bodies are now voicing concerns over this pressure. Furthermore, issues like illegal trade and the state’s attempt to identify non-citizens through a new Bill reflect rising security fears.

- Statement-II is also correct. The Chins are described as belonging to the broader Zo ethnic group, sharing deep ethnic, cultural, and linguistic alignment with the Mizo people. This kinship is a key reason why Mizoram has historically been a welcoming host, providing food, shelter, and support to the refugees, often driven by civil society and church groups.
- However, Statement-II does not explain Statement-I.

36. Solution: B

- Statement 1 is incorrect. While TATR is correctly located in the Chandrapur district of Maharashtra, it falls under the Central Indian Tiger Landscape, not the Western Ghats. This landscape is a crucial habitat block for tigers in the heart of the country.
- Statement 2 is correct. The reserve’s full name reflects its history. It was established by merging the Tadoba National Park (created in 1955) and the Andhari Wildlife Sanctuary (created in 1986) in the year 1995 to form a single, larger protected area for tigers.
- Statement 3 is correct. The key rivers supporting the reserve’s ecosystem, explicitly naming the Andhari river along with the Era river and Tadoba Lake. These water bodies are vital for the lush tropical deciduous forest and its diverse fauna.
- Statement 4 is incorrect. The controversy is about the approval of a coal mining project, specifically the Durgapur Opencast Mine by Western Coalfields Ltd., not a bauxite mining project. This project threatens the vital tiger corridor connecting TATR with other sanctuaries.

37. Solution: C

- Statement I puts forth a general principle about the Indian Constitution’s intent regarding economic justice. It is a correct assertion that the framework, particularly the Directive Principles, aims to build a more equitable society.
- Statement II correctly identifies a specific constitutional provision that gives substance to Statement I. Article 39(c), a key DPSP, explicitly states that the state shall direct its policy towards securing “that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment.” This directly explains the constitutional mandate mentioned in Statement I.
- Statement III is incorrect. While Article 38(2) mandates the state to “minimise the inequalities in income” and opportunities, it does not prescribe the

specific mechanism of a wealth tax. It is a guiding principle for policy, not a direct empowerment for a specific tax. The power to levy taxes is derived from other parts of the Constitution, and while a wealth tax could be a policy tool to achieve the goal of Article 38(2), the article itself does not sanction it.

- Therefore, only Statement II is a correct and direct explanation for Statement I.

38. Solution: C

- Statement 1 is correct. The salt epidemic as “Silent in Nature,” noting that symptoms appear only after prolonged exposure. This delayed manifestation leads to the public largely underestimating the risk of a gradual sodium overload, making it a “silent” health crisis.
- Statement 2 is correct. The scientific insight that a switch to low-sodium salt, which often replaces a portion of sodium chloride (NaCl) with potassium or magnesium salts, can significantly reduce blood pressure (by an average of 7/4 mmHg). This offers a tangible and effective public health intervention.

39. Solution: D

The primary source of ecological concern is the mine’s location. The project lies “within a vital tiger corridor connecting three key reserves” and is “crucial for tiger movement and gene flow.” This corridor links Tadoba Andhari Tiger Reserve with Kanhargaoon and Tipeshwar Wildlife Sanctuaries. Disrupting such a corridor can isolate tiger populations, leading to genetic bottlenecks and increased human-wildlife conflict. This makes option (d) the most accurate reason for the controversy.

40. Solution: D

- Statement 1 is incorrect. The RDI Scheme’s explicit and primary objective is to catalyze and scale up R&D and innovation in the private sector. While public sector research is important, this particular scheme is designed to address the funding gap and risk aversion in private R&D investment.
- Statement 2 is correct. The scheme includes the establishment of a Deep-Tech Fund of Funds (FoF). This is a strategic component aimed at channeling capital into high-risk, high-reward frontier technology areas like AI, semiconductors, quantum computing, and biotechnology.
- Statement 3 is correct. The scheme has a clear focus on translating research into market-ready products. By prioritizing projects with higher TRLs, it aims to support innovations that have already demonstrated feasibility and are closer to commercialization, thus ensuring a tangible return on investment and faster economic impact.

41. Solution: B

- Statement 1 is incorrect. Pressurised Heavy Water

Reactors (PHWRs) are specifically designed to use natural uranium as their fuel, not enriched uranium. This is a significant advantage as it avoids the expensive and technologically complex process of uranium enrichment. The use of heavy water as a moderator makes this possible due to its excellent neutron economy.

- Statement 2 is correct. Heavy water (Deuterium oxide, D₂O) is a key component of PHWRs. It acts as a moderator, slowing down the fast neutrons produced during fission to a thermal energy level, which is necessary to sustain the chain reaction with natural uranium. Simultaneously, it functions as a coolant, transferring the heat generated in the reactor core to the steam generators to produce electricity.
- Statement 3 is correct. A distinct feature of Indian PHWRs is the online refuelling. This allows for the replacement of spent fuel bundles while the reactor is still operational. This process enhances the reactor’s efficiency and availability by eliminating the need for lengthy shutdowns for refuelling, leading to a higher capacity factor and continuous power supply.

42. Solution: B

- Statement 1 is correct. The natural hosts and reservoirs of the Nipah virus are fruit bats belonging to the Pteropodidae family, specifically the Pteropus. These bats can carry the virus without showing symptoms and can transmit it to other animals, like pigs, or directly to humans through contaminated fruits or their bodily fluids like saliva and urine.
- Statement 2 is incorrect. Human-to-human transmission of the Nipah virus is well-documented. It can occur through close contact with an infected person’s respiratory droplets, saliva, or other bodily fluids. This mode of transmission poses a significant risk, especially for family members and healthcare workers caring for infected patients. Several past outbreaks have confirmed clusters of cases arising from a single infected individual.
- Statement 3 is incorrect. The incubation period for Nipah virus, which is the time from exposure to the onset of symptoms, is typically much longer than 48 hours. It generally ranges from 4 to 14 days. However, in some rare cases, an incubation period as long as 45 days has been reported. This extended and variable incubation period can make early detection and containment of outbreaks challenging.

43. Solution: B

- Statement 1 is correct. The National Biobank is a critical component of the ‘Phenome India’ initiative. This initiative is designed as a longitudinal cohort study, meaning it will track

the health of a large group of individuals over an extended period. This long-term approach allows researchers to study the complex interactions between genes, lifestyle, and environment in the development of diseases.

- Statement 2 is incorrect. The scope of the National Biobank is much broader than just rare diseases in urban areas. It aims to create a comprehensive database that captures India's vast ethnic, lifestyle, and health diversity. It collects data on a wide range of conditions, including common non-communicable diseases like diabetes and cardiovascular diseases, as well as cancer and antimicrobial resistance (AMR). The sample collection is designed to represent diversity across geography, caste, and socio-economic conditions, not just urban populations.
- Statement 3 is incorrect. The National Biobank was inaugurated at and is developed by the Council of Scientific and Industrial Research (CSIR) – Institute of Genomics and Integrative Biology (IGIB) in New Delhi. While it is a national initiative supported by the Ministry of Science and Technology, the primary implementing agency is CSIR-IGIB, not the Indian Council of Medical Research (ICMR).

44. Solution: D

- Statement 1 is incorrect. Penico is not the oldest civilization in the Americas. That distinction belongs to the Caral civilization (c. 3000 BCE). Penico was founded later, between 1800–1500 BCE, and is considered a cultural continuation or a successor civilization that rose to prominence after the decline of Caral. Its discovery provides insights into the societal transition and resilience following Caral's collapse.
- Statement 2 is correct. One of the key aspects of Penico's significance is its strategic location in the Barranca Province. Situated on a hillside terrace, it was positioned to serve as a major trade hub. This location allowed it to connect and facilitate the exchange of goods, ideas, and culture between diverse geographical zones: the Pacific coastal societies, the Andean highlands, and the Amazonian region.
- Statement 3 is correct. Archaeological findings at the Penico site have revealed a distinct urban layout. The city is organized around a central circular plaza or structure, which was likely used for ceremonial purposes. Surrounding this central point are numerous buildings, including temples and residential complexes, constructed from locally available materials like stone and mud. This layout provides valuable information about their urban planning and social organization.

45. Solution: A

- Statement I is correct. India has formally expressed concerns and objections regarding

proposed changes to the Plant Treaty. The proposals aim to expand the list of crops covered under the Multilateral System (MLS) and make the sharing of all plant germplasm mandatory under a standardized agreement determined by the Treaty's Governing Body.

- Statement II is also correct, and it provides the precise reason for India's objection mentioned in Statement I. The core of India's concern is the issue of national sovereignty. The proposed amendments are seen as a threat to India's ability to regulate access to its own genetic resources according to its national legislation. Laws such as India's Protection of Plant Varieties and Farmers' Rights (PPVFR) Act, 2001, provide specific protections and benefit-sharing mechanisms that could be overridden or diluted if all germplasm must be shared under a uniform, internationally mandated Standard Material Transfer Agreement (SMTA).
- Therefore, the potential undermining of sovereign rights and national laws is the direct cause of India's objections.

46. Solution: C

- Statement 1 is incorrect. The primary and most reliable method for diagnosing an active Nipah virus infection is the RT-PCR (Real-Time Polymerase Chain Reaction). This test detects the viral RNA directly from bodily fluids like throat swabs or cerebrospinal fluid, providing confirmation of an ongoing infection. The ELISA (Enzyme-Linked Immunosorbent Assay) test detects antibodies, which the body produces in response to the virus. While useful for confirming past infection or for sero-surveillance, it is not the primary tool for diagnosing an acute case, as antibodies may not be present in the early stages of illness.
- Statement 2 is incorrect. A significant proportion of survivors of severe Nipah virus infection do experience long-term neurological sequelae. It is reported that about 20% of survivors may suffer from persistent health issues, which can include seizures, personality changes, and other neurological complications.
- Statement 3 is correct. Kerala has launched a comprehensive serological survey in high-risk zones. The key objective of this survey is to understand the spillover dynamics—how the virus moves from its natural reservoir (bats) to intermediate hosts or humans. By using advanced assays to detect antibodies in high-risk human populations (like those with contact with bats) and domestic animals, researchers aim to identify transmission chains and hidden outbreaks, which is crucial for preventing future epidemics.

47. Solution: A

- Statement I is correct. The 17th BRICS Summit

held in Brazil formally welcomed Indonesia as a full member. This was a notable event as Indonesia became the first nation from Southeast Asia to join the intergovernmental forum, thereby geographically extending the bloc's influence and representation into this economically dynamic region.

- Statement II is also correct. The broader strategic rationale behind the expansion of BRICS into what is now known as BRICS+ is to strengthen its role as a representative of the Global South. By including new members from different continents, the forum aims to promote multipolarity, deepen economic and political cooperation among emerging economies, and create a more influential platform that can serve as a counterbalance to the dominance of Western-led institutions such as the G7.
- Statement II provides the strategic context and explanation for the action described in Statement I.

48. Solution: D

- Statement 1 is correct. The 'Phenome India' initiative, and the National Biobank within it, are explicitly modeled after successful international projects like the UK Biobank. However, it is specifically tailored to capture the vast diversity of the Indian population, considering factors like ethnicity, geography, caste, and varying socio-economic conditions, which is crucial for creating a relevant, population-specific health database.
- Statement 2 is correct. A primary goal of establishing this comprehensive biobank is to advance the field of personalised medicine. By collecting and analyzing a rich dataset comprising genomic profiles, lifestyle information, and clinical data, researchers can identify genetic predispositions to diseases and develop gene-guided therapies and AI-powered diagnostics that are more effective for the Indian population.
- Statement 3 is incorrect. The scale of the project is significantly larger than described. The Phenome India initiative aims to collect samples and data from over 10,000 individuals, not 1,000. Furthermore, the sample collection is designed to be geographically and demographically representative of the entire country, not limited to just metropolitan cities, to ensure the database reflects India's true diversity.

49. Solution: C

- Statement-I is correct. A major goal of CSARC is to boost productivity by providing access to global germplasm and developing high-quality, climate-resilient seeds. India's current average yield is around 25 tonnes/ha, while the potential is up to 50 tonnes/ha. This significant "yield gap" is precisely what the research and development at CSARC aims to address. By introducing better varieties and farming practices, the centre can

play a crucial role in closing this gap.

- Statement-II is incorrect. While India is a major potato producer, it is the second-largest producer globally, after China.

50. Solution: A

- Statement I makes a general assertion that SAGAR SETU and DCoE were launched to improve port efficiency. This is the main claim to be evaluated.
- Statement II correctly describes the function of SAGAR SETU as a unified digital platform designed to streamline EXIM processes, thereby reducing delays. Reduced delays are a direct measure of enhanced efficiency. Thus, Statement II explains how SAGAR SETU contributes to the goal in Statement I.
- Statement III correctly describes the function of the DCoE, which is to apply advanced technologies like AI and IoT for creating smart ports with a focus on sustainability. Smart, automated, and sustainable operations are hallmarks of modern port efficiency. Thus, Statement III also explains how the DCoE contributes to the goal in Statement I.

51. Solution: A

- Statement 1 is incorrect. The Defence Acquisition Council (DAC) is chaired by the Union Defence Minister, not the Chief of Defence Staff (CDS). The CDS is a member of the council, along with the Chiefs of the Army, Navy, and Air Force. This composition ensures that the highest political and military leadership are involved in crucial defence procurement decisions.
- Statement 2 is correct. The DAC was formed in 2001 as a dedicated body to streamline and expedite the defence procurement process. Its creation was a direct outcome of the recommendations made by the Group of Ministers (GoM) that was constituted to review the national security system in the aftermath of the Kargil War (1999). The GoM identified several shortcomings in the existing defence procurement mechanism, which led to the establishment of the DAC to bring about greater efficiency and accountability.
- Statement 3 is incorrect. The DAC operates under the Ministry of Defence, not the Ministry of Home Affairs. Its mandate is exclusively related to the procurement of capital assets for the Indian Armed Forces. The Ministry of Home Affairs is responsible for internal security and the administration of Central Armed Police Forces, whose procurement processes are separate.

52. Solution: D

- Statement-I is incorrect. The OCI scheme does not grant dual citizenship. The Indian Constitution does not permit dual citizenship. OCI is a form of permanent residency that allows individuals of Indian origin to live and work in India indefinitely. It is a status that provides many of the benefits of citizenship without the actual grant of citizenship

itself. This distinction is crucial as OCI cardholders do not have political rights, such as the right to vote or hold constitutional offices.

- Statement-II is incorrect. While OCI cardholders have parity with NRIs in many economic, financial, and educational fields, there are specific restrictions. The most notable exception is the acquisition of agricultural land or farmhouses. OCI cardholders are not permitted to purchase such properties. This is a significant distinction in their property rights compared to Indian citizens. Therefore, the statement that they enjoy parity in “all matters” is incorrect.

53. Solution: B

- Statement 1 is incorrect. The RBI’s directive specifically bars lenders from levying pre-payment charges on floating-rate loans. It does not apply to fixed-rate loans. The rationale behind this is that borrowers with floating-rate loans are subject to interest rate risk, and penalising them for pre-payment is considered an unfair practice.
- Statement 2 is correct. The policy aims to create a “Harmonised Lending Environment” across institutions like commercial banks, NBFC-ULs (Upper Layer), urban cooperative banks, and RRBs, especially for loans up to 50 lakh.
- Statement 3 is correct. The policy is forward-looking and will be applicable to new or renewed floating-rate loans that are sanctioned on or after January 1, 2026. This gives lending institutions time to adjust their systems and loan agreement templates to comply with the new regulations.

54. Solution: C

The primary issues the new guidelines aim to address are the structural and technological limitations of the current system.

- Statement 1 is correct: The draft policy explicitly proposes to end the monopoly of BARC by allowing multiple agencies to operate in the sector. This is intended to foster competition and bring in new methodologies.
- Statement 2 is correct: A major focus of the reform is to expand the scope of measurement beyond traditional television sets to include modern digital platforms like connected TVs and OTT services, which are currently not part of the TRP measurement framework.
- Statement 3 is incorrect: The problem with the current system is a small and limited sample size, not a large one. The 58,000 meters are considered insufficient to accurately capture the viewing habits of a large and diverse nation.
- Statement 4 is incorrect: The TRP system is already under the oversight of the Ministry of Information & Broadcasting, which establishes the policy guidelines. The new guidelines are an exercise of

this oversight, not an introduction of it. The issue is not the lack of oversight but the effectiveness and structure of the existing regulatory framework.

55. Solution: B

- Statement I is correct. The MVAG, 2025 introduces a significant driver welfare measure by stipulating that drivers must receive at least 80% of the fare if they use their own vehicle, and a minimum of 60% if they use a vehicle owned by the aggregator. This is a direct intervention to ensure a fair earning structure for drivers.
- Statement II is correct. The guidelines aim to regulate the fare structure by allowing state governments to fix a base fare. Aggregators can then charge up to twice this base fare as a dynamic pricing cap. This effectively puts a ceiling on surge pricing, a common cause of passenger grievances.
- While both statements are correct and relate to the economic regulation of ride-hailing platforms, Statement II does not explain Statement I.

56. Solution: A

- Statement 1 is incorrect. A defining characteristic of a roll cloud is that it is detached from any thunderstorm base or rotating vortex. Funnel clouds, on the other hand, are associated with rotating supercell thunderstorms and are often the precursor to tornadoes. A roll cloud appears as a long, horizontal tube, distinct from the main cloud system.
- Statement 2 is correct. The formation of a roll cloud is a classic example of meso-scale atmospheric dynamics. It typically occurs when a cool, dense air mass (like a sea breeze) undercuts a warmer, less dense air mass. This interaction can trigger atmospheric gravity waves. The rising part of the wave causes air to cool and condense, forming the cloud, while the sinking part remains clear, creating the distinct “rolling” tube shape.
- Statement 3 is incorrect. Roll clouds are primarily a visual phenomenon and are not directly dangerous. While they indicate atmospheric instability in the lower levels, they are not a definite precursor to tornadoes. In some regions, they might precede a storm, but they are not a reliable indicator of severe weather like tornadoes.

57. Solution: A

Russia has the most land borders of any country in the world.

- 1, 2, and 3 are correct. Russia shares extensive land borders with Finland in the northwest, Ukraine in the southwest, and Mongolia in the south.
- 4 is incorrect. Russia does not share a land border with Japan. The two countries are separated by the Sea of Okhotsk and the Sea of Japan.

58. Solution: D

- Statement 1 is incorrect. The Fordow facility is

not located near Tehran but near the city of Qom. More importantly, it is not easily accessible; it is a heavily fortified facility built deep inside a mountain, making both physical access and potential military strikes extremely difficult.

- Statement 2 is correct. The existence of the Fordow Fuel Enrichment Plant was not initially declared by Iran. It was being built as a covert facility and its existence was revealed to the IAEA by Iran only in 2009, after it became clear that Western intelligence agencies were already aware of it. This concealment was a major point of contention.
- Statement 3 is correct. As part of the original 2015 nuclear deal, the JCPOA, Iran committed to significant limitations on its nuclear program. A key provision was that the Fordow facility would be repurposed. It was to be converted into a nuclear, physics, and technology centre, and Iran agreed to refrain from any uranium enrichment and R&D activities and not have any fissile material at the site. However, Iran has since resumed enrichment activities at Fordow following the US withdrawal from the deal.

59. Solution: B

- Statement 1 is correct. This is a standard definition in international economics. A Greenfield investment is a type of FDI where a parent company starts a new venture in a foreign country by constructing new operational facilities from the ground up. This is distinct from a merger/acquisition, where a company buys an existing facility.
- Statement 2 is correct. International Project Finance (IPF) is a specific method of funding very large, long-term projects, such as infrastructure (ports, power plants, highways) and energy projects. It is particularly vital for developing countries that may lack sufficient domestic capital for such capital-intensive undertakings.
- Statement 3 is incorrect. The World Investment Report 2025 highlights a concerning trend: a significant slump or decline in the value of International Project Finance deals globally. This decline has disproportionately affected developing countries and has specifically impacted sectors like renewable energy and infrastructure, which saw a contraction in financing, not robust growth.

60. Solution: C

- Statement I is a correct assertion. IPPB's core mandate and its operational model are designed to bring banking services to the unbanked and underbanked populations, especially in rural India, thereby directly contributing to the national goal of financial inclusion.
- Statement II is correct and provides a strong explanation for Statement I by using the India Stack (Aadhaar, e-KYC, etc.), IPPB enables rapid, paperless, and presence-less account opening.

Its multilingual interface breaks down language barriers, making banking accessible to a diverse population. These technological features are crucial mechanisms through which IPPB achieves the financial inclusion mentioned in Statement I.

- Statement III is incorrect. While IPPB might use various methods, its primary and most lauded doorstep banking model is delivered not by mobile vans in urban areas, but by the vast, existing network of over 2 lakh Postmen and Gramin Dak Sevaks. These individuals, equipped with smartphones and biometric devices, reach households in even the remotest villages, which is the cornerstone of its inclusion model. The focus is rural and semi-urban, not primarily urban centres with mobile vans.

61. Solution: C

The Food Corporation of India was setup under the Food Corporation's Act 1964, in order to fulfill following objectives of the Food Policy: Effective price support operations for safeguarding the interests of the farmers, distribution of foodgrains throughout the country for public distribution system and maintaining satisfactory level of operational and buffer stocks of foodgrains to ensure national food security.

Since its inception, FCI has played a significant role in India's success in transforming the crisis management-oriented food security into a stable security system.

62. Solution: C

BRICS is a multilateral group comprising Brazil, Russia, India, China, and South Africa, established to enhance economic, political, and cultural cooperation among emerging economies.

Option a is incorrect because BRICS does not mandate equal financial contributions from its members. Contributions vary based on specific initiatives and agreements.

Option b is incorrect as decisions within BRICS are not taken by majority vote but rather through consensus, ensuring equal say for all member nations.

Option c is correct because BRICS operates on the principle of consensus-driven decision-making and relies on rotational leadership, where the chairmanship rotates annually among its members. This flexible and informal operational framework distinguishes BRICS from many other international organizations.

Option d is incorrect because while the New Development Bank (NDB), an institution established by BRICS, has its headquarters in Shanghai, BRICS itself does not have a permanent headquarters.

63. Solution: B

Statement 1 is incorrect: The appointment of Ad hoc Judges does not involve the Supreme Court Collegium. It is made based on the Chief Justice of the High Court's recommendation and Presidential approval.

Statement 2 is correct: Ad hoc Judges can be appointed to any High Court, regardless of the state where they retired.

Statement 3 is incorrect: During their tenure as Ad hoc Judges, they receive allowances but not pensions for the duration of their service.

64. Solution: A

Statement 1 is correct: Iron tools facilitated deforestation, clearing forests for agriculture and settlements.

Statement 2 is incorrect: Iron tools and weapons were not restricted to elites; they were widely used by farmers, artisans, and warriors.

Statement 3 is correct: The Iron Age saw the emergence of fortified cities (e.g., Kausambi, Hastinapur) and early forms of currency like punch-marked coins.

65. Solution: A

Guillain-Barré Syndrome (GBS) is a rare, acute autoimmune disorder where the body's immune system mistakenly attacks the peripheral nervous system.

- Statement 1 is The hallmark feature of GBS is ascending paralysis, which starts in the lower extremities, such as the feet and legs, and gradually progresses upward to the upper body, arms, and sometimes the face and respiratory muscles. This feature distinguishes GBS from other neurological disorders with descending paralysis (e.g., botulism).
- Statement 2 is The exact cause of GBS remains unknown. However, it is often preceded by infections like Campylobacter jejuni, Epstein-Barr virus, or other viral and bacterial infections. These infections are thought to trigger the autoimmune response that damages the myelin sheath around nerves.
- Statement 3 is Incorrect. Unlike multiple sclerosis, which is a chronic progressive degenerative disease of the central nervous system, GBS is an acute autoimmune condition. Recovery is possible with treatment, including plasmapheresis and intravenous immunoglobulin (IVIG).

66. Solution: C

Green manuring does not increase soil salinity; instead, it improves soil structure, enhances soil microorganism activity, and helps control weeds. Green manuring involves growing and incorporating leguminous plants into the soil, which enhances its fertility and structure, promotes water retention, reduces erosion, and supports a healthy soil ecosystem. Increased soil salinity would be detrimental to crops and is not associated with the benefits of green manuring.

67. Solution: D

The Central Ground Water Authority (CGWA) was established under the Environment (Protection) Act, 1986. The CGWA is responsible for regulating and managing groundwater resources in India, including

the development of policies and programs to ensure sustainable use and conservation of groundwater. The authority also monitors and controls the exploitation of groundwater, especially in areas where it is overexploited or critically polluted.

68. Solution: A

- Statement 1 is Correct: ECBs are loans obtained by Indian entities from foreign lenders. The approval and regulation of these loans are overseen by the Reserve Bank of India (RBI).
- Statement 2 is Correct: ECBs can be used for specific purposes such as infrastructure development, repayment of existing rupee loans, and working capital requirements, among others.
- Statement 3 is Incorrect: ECB interest rates are not directly regulated by the Indian government. Instead, they are influenced by market dynamics and must comply with cost ceilings and guidelines established by the RBI.

69. Solution: C

Birthright citizenship in India has evolved through successive amendments to the Citizenship Act, 1955, making it more restrictive over time.

Statement 1 is incorrect because, while the Citizenship Act, 1955, originally granted citizenship to all children born in India, it included exceptions for children of foreign diplomats and enemy aliens, meaning not all children born in India automatically became citizens.

Statement 2 is incorrect as the 1986 Amendment actually made birthright citizenship more restrictive by excluding children born to foreign diplomats and non-Indian parents unless one parent was an Indian citizen. This amendment sought to prevent automatic citizenship for children of temporary foreign residents.

Statement 3 is incorrect because the 2003 Amendment further tightened the law, explicitly excluding children born to illegal immigrants from acquiring Indian citizenship by birth. Instead of expanding eligibility, it significantly restricted birthright citizenship in India.

70. Solution: C

A bomb cyclone is an intense mid-latitude storm that undergoes rapid intensification, defined by a pressure drop of at least 24 millibars in 24 hours. This process, known as bombogenesis, is driven by several key atmospheric and oceanic factors.

- Statement 1 (Correct): Jet streams play a crucial role in the formation of bomb cyclones. When a strong jet stream creates upper-level divergence, it allows air to rise rapidly, leading to low-pressure deepening at the surface. This accelerates storm development.
- Statement 2 (Correct): Warm Ocean surfaces provide heat and moisture, which act as fuel for the storm. This enhances cloud formation and intensifies the system, making it more powerful.

- Statement 3 (Incorrect): A high-pressure ridge over the polar region typically inhibits storm formation by suppressing cloud development and preventing deep low-pressure systems from strengthening.
- Statement 4 (Correct): Strong vertical wind shear (a significant change in wind speed or direction with height) increases atmospheric instability, promoting deep convection and the rapid intensification of the cyclone.

71. Solution: D

- Statement 1 is incorrect. The 'Mera Gaon Meri Dharohar' (MGMD) initiative's primary focus is on documenting the intangible cultural heritage of villages. This includes oral traditions, performing arts, social practices, rituals, festive events, and traditional craftsmanship, not just tangible heritage like monuments.
- Statement 2 is correct. The project is being implemented by the Indira Gandhi National Centre for the Arts (IGNCA) under the aegis of the Ministry of Culture. IGNCA is responsible for the cultural mapping and documentation processes.
- Statement 3 is correct. A key feature of the MGMD web portal is to serve as the National Cultural Workplace (NCWP). This platform facilitates the registration of artists and the creation of Unique Identification Codes (UICs), which helps in linking them to various government welfare schemes, thereby promoting their economic well-being and preserving cultural practices.

72. Solution: B

- Statement 1 is incorrect. The census was a collaborative effort involving Forest Department officials, researchers (like INSPIRE fellow Chiranjib Bora), and conservationists.
- Statement 2 is correct. A key innovation of the census was the use of Passive Acoustic Monitoring. Recorders were placed to capture bird songs, which were then analyzed using spectrograms and AI-based software like BirdNET for species identification.
- Statement 3 is correct. A significant conservation outcome of the census was the discovery of over 85 nests of the endangered Finn's Weaver, a bird species that is indeed endemic to the grasslands of the Brahmaputra floodplains.
- Statement 4 is incorrect. The census explicitly highlighted threats to the grassland habitat, including ecological succession (grasslands turning into woodlands), overgrazing, encroachment for cultivation, and the impacts of climate change.

73. Solution: D

- Statement 1 is incorrect. While there are 58 tiger reserves, they cover approximately 2% of India's land area, not 10%.
- Statement 2 is incorrect. India successfully doubled its tiger population from the 2006

baseline well ahead of the 2022 schedule. This early achievement is a significant milestone in India's conservation history.

- Statement 3 is incorrect. The National Tiger Conservation Authority (NTCA) is a statutory body, not a non-statutory one. It was established in December 2005 following a recommendation of the Tiger Task Force, and it was constituted under the provisions of the Wildlife (Protection) Act, 1972, as amended in 2006. This gives it legal authority for the management of Project Tiger.

74. Solution: A

- Statement 1 is incorrect. Exercise Divya Drishti was conducted by the Indian Army's Trishakti Corps. It was an army-specific exercise and did not involve the Navy or the Air Force, making it not a tri-service exercise.
- Statement 2 is incorrect. The exercise was conducted in East Sikkim, a high-altitude, land-locked region. Therefore, it focused on ground-based platforms, drones, and UAVs in a terrestrial combat scenario, not submarine-launched systems, which are a naval asset.
- Statement 3 is correct. The core purpose of Exercise Divya Drishti was to test and validate next-generation warfare technologies, specifically the use of artificial intelligence (AI)-integrated surveillance and sensor-to-shooter systems. This was done to improve real-time decision-making and battlefield awareness under the extreme operational conditions found in high-altitude Himalayan terrain.

75. Solution: B

- Statement I is the main premise, stating the overall objective of the Rules, which is correct. The rules provide India's first comprehensive legal mechanism for managing contaminated sites.
- Statement II correctly identifies a key mechanism through which the Rules achieve their objective. By setting a timeline for SPCBs to identify the polluter, the rules directly enforce the "Polluter Pays" principle. This is a core component of the legal framework mentioned in Statement I, and thus, Statement II explains Statement I.
- Statement III is incorrect. While the primary responsibility lies with the polluter, the rules include a specific provision for situations where the polluter is untraceable, has ceased to exist, or is insolvent. In such cases, the financial responsibility for remediation is to be borne jointly by the Central and State governments. This demonstrates a pragmatic approach to ensure that cleanup happens even when the polluter cannot pay, contradicting the claim that the entire burden is always on the polluter.

76. Solution: C

Divya Deshmukh became the first Indian woman to

win the FIDE Women's World Cup, a prestigious and difficult knockout tournament. This victory is not just symbolic; it has a direct competitive implication, as it earns her a coveted spot in the Women's Candidates Tournament 2026, which determines the challenger for the World Championship title.

Option (a) is incorrect as the event was held in Batumi, Georgia.

Option (b) is incorrect as she defeated veteran Koneru Humpy, not the reigning world champion.

Option (d) is incorrect as she became India's 4th female Grandmaster, not the first, and the title is one of the achievements associated with her performance, not an automatic conferral solely from this win.

77. Solution: D

- Statement 1 is incorrect. The National Mission on Cultural Mapping (NMCM) is a flagship mission of the Ministry of Culture, not the Ministry of Tourism. While it can contribute to tourism, its primary mandate is the preservation and promotion of culture and the empowerment of artists.
- Statement 2 is correct. A core feature of the NMCM is the creation of National Digital Inventories and a comprehensive national database of artists and art forms. This digital mapping is central to its goal of preserving India's cultural ecosystem.
- Statement 3 is correct. The 'Mera Gaon Meri Dharohar' (MGMD) initiative is a part of the National Mission on Cultural Mapping. MGMD focuses specifically on the village-level documentation of intangible heritage, contributing directly to the larger, national-level goals of the NMCM.

78. Solution: A

- Statement-I is correct. Tiger conservation is an example of an "umbrella species" strategy. Protecting tigers necessitates the conservation of their large habitats, which in turn protects a wide array of other flora and fauna. These broader benefits are known as positive externalities.
- Statement-II is correct. The large tracts of forest protected as tiger reserves play a crucial ecological role. They sequester significant amounts of carbon, thus acting as carbon sinks and contributing to climate change mitigation. Furthermore, these forests are the origins of many rivers and streams, functioning as vital water catchments that support regional agriculture and water security.
- Statement-II is the correct explanation for Statement-I.

79. Solution: B

- Statement 1 is incorrect. The rules have been notified under the umbrella legislation of the Environment (Protection) Act, 1986, not the Water Act, 1974. The EPA, 1986 provides the central government with wide-ranging powers to protect

and improve the environment.

- Statement 2 is correct. The rules have provisions for stringent action. In cases where contamination leads to proven harm to human life or the environment, criminal liability can be enforced under the relevant sections of the Bharatiya Nyaya Sanhita (BNS), 2023, which has replaced the Indian Penal Code.

80. Solution: A

- Statement-I is correct. The Gaganyaan mission aims to send Indian astronauts into space. A launch vehicle certified for human safety, or "human-rated," is an indispensable component for such a mission. Without a reliable and safe transportation system like the HLV3, the mission cannot proceed.
- Statement-II is also correct. Standard launch vehicles are built for satellite deployment and do not have the stringent safety requirements needed for carrying humans. The HLV3 incorporates human-rated modifications, such as system redundancy (backup systems), fault-tolerant avionics, and a Crew Escape System (CES). These features are specifically added to mitigate risks and ensure the crew can survive potential launch failures.
- Statement-II directly explains why the HLV3 is a critical prerequisite for Gaganyaan as stated in Statement-I.

81. Solution: C

- Statement 1 is correct. Rajendra Chola I, a formidable ruler of the Chola dynasty, established Gangaikonda Cholapuram around 1025 CE. This was done to commemorate his successful military expedition to the north, reaching the Gangetic plains. He assumed the title 'Gangaikonda Cholan,' meaning 'the Chola who conquered the Ganga.'
- Statement 2 is correct. The history and grandeur of this capital are well-documented in various historical records. The Tiruvalangadu and Karanthai copper-plate inscriptions, along with literary works like Kalingattuparani and Muvar Ula, provide significant epigraphic and literary evidence of the city's prominence.
- Statement 3 is incorrect. While the Gangaikonda Cholivaram temple is a magnificent structure that mirrors the grandeur of the Brihadisvara Temple in Thanjavur (built by his father, Rajaraja Chola I), its vimana (tower) is intentionally shorter and more graceful, with a distinctive curved contour, unlike the taller, more imposing, and straight-lined vimana of the Thanjavur temple.
- Statement 4 is correct. A key feature of the city was the Chola Gangam, a vast artificial lake. It served as a 'liquid pillar of victory' (jalasthambam), filled with water brought from the Ganga river

during Rajendra Chola I's northern campaign, symbolizing the Chola's military might and supremacy.

82. Solution: B

- Statement 1 is correct. A critical feature of measles' high infectivity is its transmission window. An infected individual is contagious for a period of about eight days, starting four days before the characteristic rash appears and lasting for about four days after. This pre-symptomatic (rash) transmission makes it difficult to control the spread, as individuals can pass on the virus before they are aware of their specific illness.
- Statement 2 is incorrect. Measles is an airborne disease, which makes it exceptionally contagious. It spreads through coughing and sneezing, releasing infectious droplets into the air. The virus can remain viable and infectious in the air or on contaminated surfaces for up to two hours, allowing it to infect people even after the original carrier has left the area.
- Statement 3 is correct. Because measles is so infectious (90% of exposed non-immune people get infected), a very high level of population immunity is required to break the chain of transmission. This concept is known as herd immunity. For measles, the threshold is estimated to be around 95% vaccination coverage with two doses of the MMR vaccine. This high threshold protects vulnerable individuals who cannot be vaccinated.

83. Solution: C

- Statement 1 is correct. The Resistance Front (TRF) is an offshoot of the Pakistan-based terror group Lashkar-e-Taiba (LeT). It was formed around 2019–2020, following the abrogation of Article 370. Its creation was a strategic move to rebrand the militancy in Jammu and Kashmir as a homegrown, indigenous, and secular resistance, thereby distancing it from the Islamist identity of its parent organization and aiming to gain wider acceptance.
- Statement 2 is correct. The designation as a Foreign Terrorist Organization (FTO) under Section 219 of the US Immigration and Nationality Act carries severe legal and financial consequences. It makes it illegal for any US person to knowingly provide "material support or resources" to the group and requires US financial institutions to freeze all assets belonging to the organization.
- Statement 3 is correct. The designation as a Specially Designated Global Terrorist (SDGT) complements the FTO status. It is a powerful tool that allows the US to impose secondary sanctions. This means that foreign financial institutions and other entities that knowingly conduct or facilitate significant transactions with the SDGT entity risk

being cut off from the US financial system, further isolating the terrorist group globally.

84. Solution: A

- Statement-I is correct. Radioactive iodine therapy, particularly using the isotope Iodine-131 (^{131}I), is renowned for its precision. It targets and destroys hyperactive thyroid cells or cancerous thyroid tissue with high specificity, thereby minimizing damage to surrounding healthy tissues and organs. This targeted action is the foundation of its therapeutic success.
- Statement-II is also correct. The reason for the therapy's precision lies in the fundamental biology of the thyroid gland. The thyroid is the only major organ in the body that actively absorbs and utilizes iodine to produce thyroid hormones. It cannot distinguish between stable (non-radioactive) iodine and radioactive isotopes like ^{131}I . This preferential uptake means that when ^{131}I is administered, it naturally concentrates in the thyroid tissue.
- Statement-II provides the precise scientific reason for Statement-I.

85. Solution: C

- The Sharm el-Sheikh Dialogue was established specifically to address a crucial, yet complex, goal of the Paris Agreement. Its central purpose is to facilitate a structured exchange on how to implement Article 2.1(c). This article calls for "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."
- This goes beyond just public climate finance (covered under Article 9) and looks at the systemic alignment of the entire global financial system—public and private—with long-term climate goals. The dialogue explores how to shift trillions of dollars in global investments away from high-carbon activities and towards sustainable ones, ensuring this is done equitably without penalizing developing nations.

86. Solution: B

- Statement 1 is correct. The Port of Eilat is geographically unique as it is Israel's only direct outlet to the Red Sea and, by extension, the Indian Ocean. It is situated at the northernmost point of the Gulf of Aqaba, a critical maritime chokepoint it shares with Jordan (port of Aqaba), Egypt, and Saudi Arabia.
- Statement 2 is correct. While the port handles a significant portion of Israel's vehicle imports, it also has dedicated infrastructure for exports. It serves as a key terminal for the export of potash and phosphate, which are mined in the Negev desert by companies like Israel Chemicals Ltd (ICL).
- Statement 3 is incorrect. A major logistical

challenge for the Port of Eilat is its lack of railway access. The nearest railhead is over 100 kilometers away in Dimona. This absence of direct rail connectivity limits its efficiency for transporting large volumes of cargo inland, making it more reliant on road transport and constraining its overall capacity compared to Israel's Mediterranean ports.

87. Solution: A

- Statement-I is correct. The United States had successfully eliminated endemic measles in the year 2000, a major public health achievement. The recent outbreaks are not due to a failure of the vaccine itself, but rather to the formation of clusters of unvaccinated individuals. This decline in immunisation rates, often fueled by vaccine hesitancy and misinformation, has created pockets of vulnerability where the virus can once again spread.
- Statement-II is also correct. Measles is one of the most contagious viral diseases known. Its high reproductive number means it spreads with extreme efficiency. The statistic that 9 out of 10 non-immune individuals exposed to the virus will contract it underscores its infectiousness.
- Statement-II is the correct explanation for Statement-I.

88. Solution: A

- Statement 1 is correct. Iodine-131 is a radioisotope that decays through a process that emits both beta particles and gamma rays. The beta particles are responsible for the therapeutic effect. They are a form of ionizing radiation with a very short range, meaning they deposit their energy and destroy cells only within the immediate vicinity of where the iodine is absorbed (i.e., the thyroid tissue), which is ideal for therapy. The gamma rays have a longer range and can be detected outside the body for imaging.
- Statement 2 is incorrect. Radioactive iodine therapy is strictly contraindicated in pregnant or nursing women. The radioactive iodine can cross the placenta and be absorbed by the fetal thyroid gland, potentially causing irreversible damage. It can also be secreted in breast milk. This is a critical safety exclusion for the procedure.

89. Solution: D

All four statements correctly identify key features of the new Motor Vehicle Aggregator Guidelines (MVAG), 2025.

- 1 is correct: The guidelines mandate significant social security benefits for drivers, including health insurance of 5 lakh and term insurance of 10 lakh.
- 2 is correct: For the first time at a national level, the guidelines provide a framework for the legal recognition of bike-taxis using non-transport

(private) motorcycles, although this is subject to state government approval.

- 3 is correct: To streamline the regulatory process, the guidelines propose a centralised portal for managing aggregator licenses, renewals, and other compliance-related activities, which will ease the administrative burden on companies.
- 4 is correct: In a move to enhance inclusivity, the guidelines make it compulsory for aggregators to include vehicles that are accessible to persons with disabilities (Divyangjan) in their fleet.

90. Solution: D

- (a) is incorrect. Roll clouds form precisely because of the interaction of contrasting, not homogenous, air masses (e.g., cool, moist air and hot, dry air).
- (b) is incorrect. Atmospheric gravity waves, which are oscillations in the atmosphere, are a key mechanism in the formation of roll clouds. Wind shear (a change in wind speed or direction with height) can also contribute to the conditions that create them.
- (c) is incorrect. Roll clouds are low-level clouds, forming in the lower part of the troposphere. Cirrus clouds are high-altitude clouds composed of ice crystals and are not associated with the dynamics that create roll clouds.
- (d) is correct. A crucial element for the formation of a roll cloud is a temperature inversion. This is a layer in the atmosphere where temperature increases with altitude, contrary to the normal pattern. This inversion acts like a lid, trapping a layer of cool air near the surface. When a disturbance like a sea breeze front moves through this stable layer, it can generate the gravity waves that form the roll cloud.

91. Solution: B

- Statements 1 and 3 are correct. The ERASR is a testament to India's growing self-reliance (Atmanirbharta) in defence technology, having been indigenously designed and developed by the DRDO. Its purpose is to enhance the Indian Navy's anti-submarine warfare (ASW) capabilities.
- A key design feature is its twin rocket motor system, which provides operational flexibility by allowing it to effectively engage submarine threats at varying distances, both near and far.
- Statement 2 is incorrect. The ERASR system is not restricted to static platforms. It is designed for operational deployment and can be fired from Indian naval warships that are equipped with Indigenous Rocket Launchers (IRLs). The recent successful user trials were conducted from INS Kavaratti, a frontline warship, demonstrating its dynamic, sea-borne launch capability and integration with the naval fleet.

92. Solution: A

- Both statements are correct, and Statement-II

provides the correct explanation for a key part of Statement-I.

- Statement-I accurately points out two major attractions of Cat Bonds for investors: high-yield returns and portfolio diversification. Investors are compensated with higher interest payments (premiums) for taking on the risk of losing their principal if a specified disaster occurs.
- Statement-II correctly explains why Cat Bonds are excellent for diversification. Their value and performance are tied to pre-defined natural events (like a cyclone of a certain intensity or an earthquake of a specific magnitude), not economic indicators or stock market trends. This lack of correlation with financial markets means that even if stock markets crash, the value of a Cat Bond remains stable unless the specific “trigger event” occurs. This independence makes them a valuable tool for investors looking to hedge against systemic market risks, thus explaining their role in diversification as mentioned in Statement-I.

93. Solution: B

- Statements 2 and 4 are correct. The functioning of an optical atomic clock relies on using a laser to excite atoms (like Strontium or Ytterbium) that are trapped in an optical lattice. The clock then counts the incredibly stable and frequent oscillations of these atoms as they absorb and emit light. The global scientific community is working towards a new definition of the SI second based on these clocks, with a target timeline of 2030.
- Statement 1 is incorrect. Optical clocks use light waves in the optical frequency range, not microwaves. Caesium clocks are the ones that rely on microwave transitions. The use of optical frequencies, which are thousands of times faster, is what gives optical clocks their superior precision.
- Statement 3 is incorrect. The accuracy of optical clocks is far superior to that of caesium clocks. While caesium clocks are highly accurate, some optical clocks are so precise that they would lose only one second in about 15 billion years, representing a massive leap in timekeeping precision.

94. Solution: A

- Statement 1 is correct. By definition, MALE (Medium Altitude Long Endurance) drones are characterized by their operational parameters. They are designed to fly at medium altitudes (up to ~35,000 feet) and for long durations (over 30 hours), which allows for persistent Intelligence, Surveillance, and Reconnaissance (ISR) missions.
- Statement 2 is incorrect. While India has previously sourced drones from Israel, the current procurement of 87 MALE drones is being fast-tracked from domestic firms under the Make in India initiative. A key feature of this procurement is to promote indigenous manufacturing, with a

goal of over 60% local content, thereby reducing import dependency.

- Statement 3 is incorrect. The strategic applications of MALE drones are diverse and not limited to maritime surveillance. They are intended for tri-services integration (Army, Navy, and Air Force) and will be used for land border surveillance with China and Pakistan, counter-insurgency operations, and disaster response, in addition to maritime security.

95. Solution: C

- The Order of the Most Ancient Welwitschia Mirabilis is Namibia’s highest civilian award, conferred upon individuals for their exceptional contributions to Namibia and its global partnerships.
- Namibia played a crucial role in India’s ambitious ‘Project Cheetah’, facilitating the world’s first inter-continental translocation of large carnivores by providing cheetahs for reintroduction into Kuno National Park in India. This collaboration is a significant symbol of the bilateral relationship.
- India’s engagement with Namibia is strongly influenced by strategic mineral interests. Namibia possesses significant deposits of uranium, rare earth elements (REEs), copper, and oil. Securing access to these critical minerals is vital for India’s clean energy transition, high-tech manufacturing, and overall strategic security, making it a key pillar of the partnership.

96. Solution: C

- Statement (c) is incorrect. The recent massive wildfire in Tarragona was not caused by volcanic activity. It was triggered by a combination of a severe heatwave that led to record-high temperatures and created extremely dry conditions, and strong gusty winds (Mistral wind) that accelerated the fire’s spread across the rugged, forested terrain. This combination of climatic factors is typical for igniting and propagating wildfires in the Mediterranean region.
- Statements (a), (b), and (d) are all correct. Tarragona is a coastal province in southern Catalonia, Spain. It experiences a classic Mediterranean climate, which makes its landscapes prone to fires during the hot summer months. The Ebro River is a major river system that flows through the province, supporting its agriculture and defining its geography.

97. Solution: B

- Statement 1 is correct. The Mahi River originates from the northern slopes of the Vindhya Range in the Dhar district of Madhya Pradesh.
- Statement 4 is correct. The Mahi Bajaj Sagar Dam in Rajasthan and the Kadana Dam in Gujarat are two of the most significant dams built on the Mahi River, crucial for irrigation, power generation, and flood control.
- Statement 2 is incorrect. The Mahi River is a major

west-flowing river. After originating in Madhya Pradesh, it flows through Rajasthan and Gujarat before finally draining into the Arabian Sea via the Gulf of Khambhat. It does not flow eastward into the Bay of Bengal.

- Statement 3 is incorrect. The Mahi River has the unique geographical distinction of intersecting the Tropic of Cancer twice, not three times. It crosses it first in Madhya Pradesh and a second time in Gujarat.

98. Solution: A

- Only statement 3 is correct. A defining and innovative feature of Catastrophe Bonds is their reliance on parametric triggers. This means the bond's payout is activated when a natural event meets pre-defined physical criteria (e.g., an earthquake reaches 7.2 on the Richter scale, or hurricane winds exceed 150 mph). This mechanism allows for rapid fund disbursement, as it avoids the lengthy and complex process of assessing actual on-the-ground financial losses.
- Statement 1 is incorrect. While governments (sponsors) can use Cat Bonds, they are often issued through intermediaries like the World Bank or Asian Development Bank (ADB) to reduce counterparty risk. Furthermore, private insurance and reinsurance companies are also major sponsors of Cat Bonds.
- Statement 2 is incorrect. The fundamental trade-off of a Cat Bond is that investors risk losing part or all of their principal. If the pre-defined trigger event occurs, the principal is forfeited and transferred to the sponsor to fund relief and recovery efforts. The investor's principal is only safe and repaid at maturity if the catastrophic event does not

99. Solution: D

- Statements 1 and 2 are correct. The Order of the Most Ancient Welwitschia Mirabilis derives its name from the Welwitschia mirabilis plant, which is native to the Namib desert and is renowned for its ability to survive for over a millennium, thus symbolizing endurance and longevity.
- The bilateral relationship between India and Namibia is multi-faceted, covering strategic areas. This includes the promotion of India's Unified Payments Interface (UPI) system in Namibia.
- Statement 3 is incorrect. Namibia is not a landlocked country. It has a long coastline along the Atlantic Ocean to its west, which is vital for its fishing industry and trade. It shares land borders with Angola and Zambia to the north, Botswana to the east, and South Africa to the south and east.

100. Solution: D

- Statement 1 is correct. Turmeric (*Curcuma longa*) is a tropical crop. The ideal climatic conditions for its cultivation include a warm and humid climate with a temperature range of 20°C to 30°C and high annual rainfall. It grows best in well-drained sandy or clay loamy soils.
- Statement 2 is incorrect. India is the world's largest producer of turmeric. It dominates the global market, producing over 75% of the world's total turmeric. This makes the statement that its share is less than 50% factually wrong.
- Statement 3 is correct. While turmeric is grown in over 20 states, a few states account for a majority of the production. Maharashtra and Telangana are consistently among the top producers, along with other states like Karnataka and Tamil Nadu. Nizamabad in Telangana is particularly famous for its turmeric.