

Solutions

DATE : (29th Dec- 4th Jan)

1. Answer (a) I only

Explanation

Statement (I): PMGSY was launched in December 2000 to provide all-weather rural road connectivity ✓

- **Pradhan Mantri Gram Sadak Yojana (PMGSY)** was launched in **December 2000** as a **Centrally Sponsored Scheme**.
- Objective: **All-weather road connectivity** to **unconnected rural habitations**.
- It is a critical instrument for **rural development, market access, service delivery, and poverty alleviation**, aligning with **inclusive growth** goals.

Statement (II): Under PMGSY-IV, population threshold in plains is not more than 1000 ✗

- Under **PMGSY-IV**, the population threshold in **plain areas** is **500+**, **not up to 1000**.
- Hence, the statement is **factually incorrect**.

2. Answer (a) I and II only

Explanation

Statement (I): The Intergovernmental Oceanographic Commission (IOC) was established in 1960 ✓

- The **IOC of UNESCO** was established in **1960**.
- Purpose: To promote **international cooperation in marine scientific research, observations, and capacity building**.

Statement (II): IOC coordinates the UN Decade of Ocean Science for Sustainable Development (2021–2030) ✓

- IOC is the **nodal coordinating body** for the **UN Decade of Ocean Science (2021–2030)**.
- The Decade aims to support **SDG 14 (Life Below Water)** through science-based ocean governance.

Statement (III): IOC Secretariat is located in Geneva ✗

- The **IOC Secretariat** is located in **Paris, France**, where UNESCO headquarters are situated.
- Geneva is **incorrect**.

3. Answer (c) I, II and III only

Explanation

Statement (I): BIS prescribes 45 mg/l as the permissible nitrate limit in drinking water ✓

- The **Bureau of Indian Standards (BIS)** sets the **maximum permissible nitrate limit** at **45 mg/l** in drinking water.
- This aligns with **public health safety standards**.

Statement (II): Excessive use of nitrogen-based fertilizers is a major source of nitrate contamination ✓

- Overuse of **chemical fertilizers**, especially **urea and nitrates**, leads to **leaching into groundwater**.
- Common in **intensive agricultural regions**.

Statement (III): High nitrate levels can cause methemoglobinemia ✓

- Excess nitrate intake can cause **methemoglobinemia (Blue Baby Syndrome)**, especially in **infants**.
- This reduces the blood's **oxygen-carrying capacity**.

Statement (IV): Nitrate contamination causes eutrophication ✗

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- While **nutrient runoff** contributes to eutrophication, the statement as framed is **incorrect in this context**, as the focus is on **groundwater contamination**, not surface water nutrient loading.

4. Answer (a) I, II and III only

Explanation

Statement (I): Unclaimed bank deposits can be traced through the UDGM portal ✓

- **UDGM (Unclaimed Deposits – Gateway to Access Information)** enables citizens to search **unclaimed bank deposits**.

Statement (II): Unclaimed mutual fund amounts can be traced through the MITRA portal ✓

- **MITRA (Mutual Fund Investment Tracing and Retrieval Assistant)** helps locate **inactive or unclaimed mutual fund investments**.

Statement (III): Unclaimed insurance amounts can be traced through Bima Bharosa portal ✓

- **Bima Bharosa** is a digital grievance and tracking platform for **insurance-related claims**, including unclaimed amounts.

Statement (IV): A national digital portal exists for unclaimed pension fund balances ✗

- **No dedicated national-level digital portal** currently exists for tracing **unclaimed pension fund balances**.

5. Answer (c) I, II and III only

Explanation

Statement (I): The amendment aims to enhance ease of doing business in the coal sector ✓

- The **Colliery Control (Amendment) Rules, 2025** are part of broader **economic reforms** to improve **ease of doing business**.

Statement (II): Prior opening permission from CCO for coal companies has been abolished ✓

- The amendment removes the requirement for **prior approval from the Coal Control Organisation (CCO)** for coal companies.

Statement (III): Boards of coal companies are empowered to approve mine openings ✓

- Decision-making authority is now vested in the **board of the concerned coal company**, improving **operational efficiency**.

Statement (IV): For non-company entities, approval no longer rests with CCO ✗

- For **non-company entities**, approval authority continues to rest with the CCO.
- Hence, the statement is **incorrect**.

6. Answer (d) I, II and III

Explanation

Statement (I): Chenab receives Jhelum in Pakistan and then joins Sutlej ✓

- The **Chenab River**, a major tributary of the **Indus River system**, meets the **Jhelum River in Pakistan**.
- Thereafter, it ultimately contributes to the **Indus system**, joining with other rivers before flowing into the Arabian Sea.
- This aligns with the **Indus Waters Treaty framework**, which governs western rivers.

Statement (II): Source is the confluence of Chandra and Bhaga in Himachal Pradesh ✓

- The Chenab originates at **Tandi in Lahaul–Spiti (Himachal Pradesh)** from the confluence of the **Chandra and Bhaga rivers**.
- This is a **standard geographical fact** frequently tested in UPSC Prelims.

Statement (III): Flows west between the Siwalik Range and Lesser Himalayas in J&K ✓

- In **Jammu & Kashmir**, the Chenab flows through **rugged Himalayan terrain**, largely between the **Siwalik range and the Lesser Himalayas**.
- This terrain provides immense **hydropower potential** (e.g., Baglihar, Salal projects).

7. Answer (d) I and III only

Explanation

Statement (I): Located in Dahod district along the Gujarat–Madhya Pradesh border ✓

- **Ratanmahal Wildlife Sanctuary** is located in **Dahod district of Gujarat**, adjoining **Madhya Pradesh**.
- It is notified under the **Wildlife (Protection) Act, 1972**.

Statement (II): Faunal composition as stated ✗

- While Ratanmahal has **rich biodiversity**, the specific claim as framed is **not fully supported in this context**.
- Hence, the statement is considered **incorrect for exam purposes**.

Statement (III): Houses the highest sloth bear population in Gujarat ✓

- Ratanmahal is regarded as a **stronghold of sloth bears**, often cited as having the **highest sloth bear density in Gujarat**.
- It also plays a key role in **ecosystem balance and conservation**.

8. Answer (a) Only one

Explanation

Pair (1): ITEWC – Located in Mumbai ✗

- The **Indian Tsunami Early Warning Centre (ITEWC)** is located in **Hyderabad**, under **INCOIS**, not Mumbai.
- It provides tsunami advisories to **Indian Ocean Rim countries**.

Pair (2): TRRP recognition renewable every two years ✗

- **UNESCO–IOC Tsunami Ready Recognition Programme (TRRP)** recognition is **renewable every four years**, not two.
- It is a **voluntary, community-based preparedness programme**.

Pair (3): NDMA guidelines focus only on technological upgradation ✓

- **NDMA Tsunami Risk Management Guidelines** emphasize a **holistic approach**:
 - ✓ Awareness generation
 - ✓ Capacity building
 - ✓ Education and training
 - ✓ Research and development
- Not limited to technology alone.

9. Answer (d) None

Explanation

Pair (1): Somalia – Borders Ethiopia to the north ✗

- **Somalia borders Ethiopia to the west**, not the north.
- To the north lies the **Gulf of Aden**.

Pair (2): Puntland – Borders Kenya ✗

- **Puntland**, located in **northeastern Somalia**, does **not border Kenya**.
- Kenya borders **southern Somalia**, far from Puntland.

Pair (3): Somaliland – Bordering direction as stated ✗

- While **Somaliland does border Djibouti**, the directional description in the pair is **contextually incorrect**.
- Hence, the pair is treated as incorrect.

10. Answer (d) All four

Explanation

Pair (1): Permethrin – Prohibited ✓ Permethrin, an insecticidal chemical, is **explicitly banned** under **BIS IS 19412:2025** for incense sticks.

Pair (2): Benzyl cyanide – Prohibited ✓ Benzyl cyanide, a **synthetic fragrance intermediate**, is prohibited due to potential **health hazards**.

Pair (3): Diphenylamine – Prohibited ✓ Diphenylamine is included in the list of **disallowed substances** under the standard.

Pair (4): Alethrin – Prohibited ✓ Alethrin, commonly used as an insecticide, is **explicitly banned** in agarbattis under the BIS standard.

Overall Context: IS 19412:2025 reflects BIS's role in **consumer safety, product standardization, and public health protection**, especially for daily-use items.

11. Answer (c) I, II, III and IV

Explanation

Statement (I): UNODC serves as the secretariat for the Conference of States Parties (COSP) ✓

- The **United Nations Office on Drugs and Crime (UNODC)** functions as the **secretariat** to the **UNCAC Conference of States Parties (COSP)**.
- It provides **technical assistance, coordination support, and implementation oversight**, strengthening global anti-corruption cooperation.

Statement (II): Doha Declaration 2025 was adopted at COSP-11 ✓

- The **11th COSP** culminated in the **Doha Declaration 2025**, reaffirming political commitment to combating corruption.
- The declaration sets **strategic priorities** for the Convention's future implementation.

Statement (III): Emphasis on digital technologies and AI at COSP-11 ✓

- COSP-11 underscored the role of **digital technologies, data analytics, and Artificial Intelligence (AI)** in **prevention, detection, and investigation** of corruption.
- This reflects a **contemporary shift** towards tech-enabled governance and enforcement.

Statement (IV): 140 signatories and 192 parties as of September 2025 ✓

- As of **September 2025**, UNCAC records **140 signatories and 192 States Parties**, indicating **near-universal acceptance** and global relevance.

12. Answer (a) II, III and IV only

Explanation

Statement (I): Facilitating international cooperation in asset recovery is a PRAGATI objective ✗

- **International asset recovery** falls under **UNCAC/UNODC frameworks**, not PRAGATI.
- Hence, the statement is **outside PRAGATI's mandate**.

Statement (II): Removing administrative silos ✓

- **PRAGATI (Pro-Active Governance and Timely Implementation)** aims to **break inter-departmental silos** through coordinated decision-making.

Statement (III): Promoting e-transparency and e-accountability ✓

- The platform leverages **ICT tools** to enhance **transparency, accountability, and grievance redressal**.

Statement (IV): Real-time monitoring using technology ✓

- **Real-time digital dashboards and video conferencing** enable close monitoring of projects, improving **implementation efficiency**.

13. Answer (d) I and II only

Explanation

Statement (I): Kalvari-class submarines are conventional diesel-electric submarines ✓

- Built under **Project 75**, the **Kalvari class** comprises **conventional (non-nuclear), diesel-electric submarines**.
- They enhance **stealth, endurance, and undersea combat capability**.

Statement (II): The class consists of six submarines ✓

- The six submarines are **Kalvari, Khanderi, Karanj, Vela, Vagir, and Vaghsheer**.
- All are constructed with **French collaboration** and Indian customization.

Statement (III): Named after riverine species of the Ganga ✗

- These submarines are named after **marine predators, not riverine species**.
- Hence, the statement is **incorrect**.

14. Answer (c) National Investigation Agency

Explanation

Option (a): Research and Analysis Wing (R&AW) ✗

- R&AW handles **external intelligence**, not domestic anti-terrorism coordination forums.

Option (b): Intelligence Bureau (IB) ✗

- IB focuses on **internal intelligence collection**, not serving as the **secretariat** for this conference.

Option (c): National Investigation Agency (NIA) ✓

- The **NIA**, established under the **NIA Act, 2008**, acts as the **secretariat of the Conference of Chief Secretaries on Anti-Terrorism**.
- It ensures **standardization of SOPs, inter-agency coordination, and capacity building**.

Option (d): National Security Guard (NSG) ✗

- NSG is a **specialized operational force**, not a coordinating or secretariat body.

15. Answer (c) A diesel-electric Scorpene-class submarine

Explanation

Option (a): Aircraft carrier ✗

- INS Vaghsheer is **not a surface combatant**.

Option (b): Nuclear-powered submarine ✗

- It is **not nuclear-powered**; it uses **diesel-electric propulsion**.

Option (c): Diesel-electric Scorpene-class (Kalvari-class) submarine ✓

- **INS Vaghsheer** is the **sixth and final submarine** of the **Kalvari (Scorpene) class** under **Project 75**.
- Built by **Mazagaon Dock Shipbuilders Ltd.** with **Naval Group (France)**, it enhances **undersea warfare and indigenization**.

Option (d): Amphibious warfare vessel ✗

- Amphibious vessels are **distinct from submarines** in role and design.

16. Answer (b) Andhra Pradesh

Explanation

Option (a): Kerala ✗

- Kerala has rich handicraft traditions, but **Narasapuram lace is not associated with Kerala.**

Option (b): Andhra Pradesh ✓

- **Narasapuram lace (crochet lace)** originates from **Narasapuram in West Godavari district, Andhra Pradesh.**
- It is **GI-tagged** and promoted under **One District One Product (ODOP).**
- The craft is **women-centric**, with a large proportion of **women artisans**, contributing to **women's empowerment and local livelihoods.**

Option (c): West Bengal ✗

- West Bengal is known for crafts like **Baluchari and Kantha**, not Narasapuram lace.

Option (d): Tamil Nadu ✗

- Tamil Nadu has distinct textile traditions, but **Narasapuram lace is not native to the state.**

17. Answer (c) CGST Act, 2017

Explanation

Option (a): Companies Act, 2013 ✗

- Governs corporate law; **no linkage with GST dispute resolution.**

Option (b): Finance Act, 2019 ✗

- Amends tax laws but **does not establish GSTAT.**

Option (c): Central Goods and Services Tax (CGST) Act, 2017 ✓

- **GSTAT is constituted under Section 109 of the CGST Act, 2017.**
- It hears appeals against **Appellate Authority/Revisional Authority orders** and **anti-profiteering matters**, ensuring **uniformity in GST adjudication.**

Option (d): Indian Contract Act, 1872 ✗

- Deals with contractual obligations, **not tax tribunals.**

18. Answer (c) 2003

Explanation

Option (a): 2007 ✗

- Not linked to UNCAC adoption.

Option (b): 2001 ✗

- Pre-dates UNCAC negotiations.

Option (c): 2003 ✓

- The **United Nations Convention against Corruption (UNCAC)** was **adopted by the UN General Assembly in 2003.**

- It is the **only legally binding universal anti-corruption instrument**.

Option (d): 2005 ✗

- 2005 marks **entry into force**, not adoption.

19. Answer (c) Repulsion of like magnetic poles

Explanation

Option (a): Wheel-rail friction ✗

- Maglev systems **eliminate mechanical contact**, unlike conventional trains.

Option (b): Diesel-electric propulsion ✗

- Used in **traditional locomotives**, not maglev.

Option (c): Repulsion of like magnetic poles ✓

- **Maglev trains levitate due to electromagnetic repulsion/attraction**, typically **repulsion between like poles**, lifting the train above the track.
- This enables **near-frictionless, high-speed travel**.

Option (d): High-pressure air cushions ✗

- Relevant to **hovercraft**, not maglev.

20. Answer (d) Establishment of a National Shipbuilding Mission

Explanation

Option (a): 100% subsidy on ship exports ✗

- No such provision under **SBFAS**.

Option (b): Direct government procurement of all vessels ✗

- The scheme **does not mandate procurement-only support**.

Option (c): Mandatory foreign collaboration ✗

- **Foreign collaboration is not compulsory** under SBFAS.

Option (d): Establishment of a National Shipbuilding Mission ✓

- **SBFAS provides for setting up a National Shipbuilding Mission** to ensure **coordinated policy execution**, financial support, and sectoral growth.
- It supports **Aatmanirbhar Bharat** and **global competitiveness** of India's shipbuilding industry.

21. Answer (d) Statement-I is incorrect, but Statement-II is correct

Explanation

Statement-I: NBFCs are allowed to accept demand deposits ✗

- **NBFCs are not permitted to accept demand deposits** under Indian regulatory norms.
- Unlike banks, they may accept **only certain term deposits** (subject to RBI conditions), and many NBFCs are **non-deposit taking**.
- This restriction exists due to the **absence of deposit insurance** and to limit **systemic risk**.

Statement-II: NBFCs cannot participate in the payment system or issue cheques ✓

- NBFCs **do not have access to the payment and settlement system**.
- They **cannot issue cheques drawn on themselves**, which is a key distinction from banks.

- This regulatory separation ensures **financial stability and consumer protection**.

22. Answer (b) II, III and IV only

Explanation

Statement (I): Frequency combs are primarily used for radio signal amplification in telecom ✗

- Frequency combs are **not designed for radio signal amplification**.
- Their primary domain is **precision measurement and photonics**, not telecom amplification.

Statement (II): Frequency combs use mode-locked lasers ✓

- Frequency combs are generated using **mode-locked lasers** that emit **regular, ultra-short pulses**, producing evenly spaced frequencies.

Statement (III): Used in precision spectroscopy ✓

- They are foundational tools in **precision spectroscopy**, enabling extremely accurate measurement of atomic and molecular transitions.

Statement (IV): Used in calibration of atomic clocks ✓

- Frequency combs are crucial for **atomic clock calibration**, improving **timekeeping accuracy**, GPS precision, and fundamental physics research.

23. Answer (a) I, II and IV only

Explanation

Statement (I): NTRAF replaces qualitative estimation with evidence-based checklists ✓

- NTRAF introduces a **structured, checklist-based assessment**, replacing subjective or qualitative evaluations.

Statement (II): Acts as the backbone for R&D funding under National Missions ✓

- It functions as the **operational framework** for evaluating projects funded under **national R&D missions**, improving accountability.

Statement (III): Covers only the proof-of-concept stage ✗

- NTRAF spans the **entire technology lifecycle**—proof of concept, prototype development, and market readiness.
- Hence, the statement is **factually incorrect**.

Statement (IV): Helps identify technical gaps prior to funding ✓

- The framework enables **early identification of risks and gaps**, aiding better **resource allocation**.

24. Answer (a) II, III and IV only

Explanation

Statement (I): INSV Kaundinya is a modern combat ship ✗

- INSV Kaundinya is **not a combat vessel**.
- It has **no diesel engines, weapons, or advanced navigation systems**.

Statement (II): Propulsion is entirely wind-powered ✓

- The vessel relies **solely on sails and wind energy**, reflecting ancient maritime practices.

Statement (III): Built using the Tankai (stitched ship) method ✓

- Constructed using **wooden planks stitched with coir rope and natural resin**, reviving ancient Indian shipbuilding techniques.

Statement (IV): Design inspired by Ajanta cave paintings ✓

- The ship's design draws inspiration from **5th-century CE Ajanta cave depictions**, linking it to India's maritime heritage.

25. Answer (a) I only

Explanation

Statement (I): 'Critical' category corresponds to 90–100% extraction ✓

- **Critical assessment units** are defined where **groundwater extraction is between 90–100%** of annual extractable resources.

Statement (II): Overexploited units have extraction less than recharge ✗

- **Overexploited units exceed 100% extraction**, meaning **withdrawal is greater than annual recharge**.

Statement (III): Semi-critical units have extraction below 50% ✗

- **Semi-critical units** fall in the **70–90% extraction range**, not below 50%.
- Below 70% is categorized as **Safe**.

26. Answer (a) II and III only

Explanation

Statement (I): Srimanta Shankardev was born in 18th-century West Bengal ✗

- **Srimanta Shankardev (1449–1568)** was born in **15th-century Assam**, not 18th-century West Bengal.
- He was a **medieval saint-reformer** rooted in Assamese society and Vaishnavite traditions.

Statement (II): He advocated social equality and anti-caste reforms ✓

- Shankardev's **Eka-Sarana Hari-Nama Dharma** emphasized **devotion over ritualism, social equality, and rejection of caste hierarchies**.
- His teachings fostered **inclusive bhakti** and challenged entrenched social barriers.

Statement (III): He introduced Sattriya, now a classical dance form ✓

- **Sattriya** was introduced by Shankardev as part of **religious and cultural expression** within Sattras.
- It is now recognized as one of **India's classical dance forms**, reflecting his enduring cultural legacy.

27. Answer (d) An AI-based predictive policing tool integrating workflows and India's criminal laws for real-time investigations

Explanation

Option (a): Tool for personnel monitoring ✗

- MahaCrimeOS AI is **not designed for HR or personnel monitoring**.

Option (b): Blockchain-based platform for financial transactions ✗

- There is **no blockchain-centric or finance-only focus**.

Option (c): Open-source biometric data collection tool ✗

- It is **not an open-source biometric repository**.

Option (d): AI-based investigative platform integrating workflows and legal frameworks ✓

- **MahaCrimeOS AI** integrates **AI assistants, automated workflows, RAG-based legal retrieval, and open-source intelligence**.

- Built with **Microsoft Azure OpenAI** support, it enhances **case-linking, evidence analysis, and real-time suspect profiling**, setting a model for **AI-driven policing**.

28. Answer (a) It reduces methane emissions by interrupting anaerobic decomposition

Explanation

Option (a): Reduces methane emissions ✓

- **Alternate Wetting and Drying (AWD)** periodically dries paddy fields, **breaking anaerobic conditions** responsible for methane generation.
- This supports **climate mitigation** while conserving water.

Option (b): Increases fertilizer demand ✗

- AWD **does not increase fertilizer requirements**; nutrient management remains efficient.

Option (c): Increases groundwater extraction ✗

- AWD **optimizes irrigation** and typically **reduces groundwater use**.

Option (d): Eliminates irrigation requirement ✗

- AWD **modifies irrigation cycles**; it does not eliminate irrigation.

29. Answer (b) Ministry of Statistics and Programme Implementation

Explanation

Option (a): Reserve Bank of India ✗

- RBI uses IIP for analysis but **does not publish it**.

Option (b): Ministry of Statistics and Programme Implementation (MoSPI) ✓

- **MoSPI** compiles and publishes the **Index of Industrial Production (IIP) monthly**.
- IIP covers **manufacturing, mining, and electricity** with **2011-12 as the base year**.

Option (c): Ministry of Heavy Industries ✗

- Not responsible for IIP compilation.

Option (d): Department for Promotion of Industry and Internal Trade (DPIIT) ✗

- DPIIT publishes other indices, **not IIP**.

30. Answer (a) Long-range artillery bombardment

Explanation

Option (a): Long-range artillery bombardment ✓

- **Pinaka** is a **multi-barrel rocket launcher system** designed for **long-range, high-volume artillery fire**.
- Recent tests of **guided rockets** enhance **precision and range**, strengthening deterrence.

Option (b): Aerial reconnaissance ✗

- Pinaka is **not an ISR platform**.

Option (c): Anti-submarine warfare ✗

- ASW roles are handled by **naval platforms**, not rocket artillery.

Option (d): Electronic surveillance ✗

- Pinaka is a **kinetic strike system**, not an electronic surveillance tool.

31. Answer (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

Explanation

Statement-I: Duopoly can lead to higher prices due to limited competition ✓

- In a **duopoly**, two dominant firms control market supply.
- **Limited competitive pressure** enables **price rigidity or coordinated price increases**, reducing **consumer affordability**.

Statement-II: Lack of alternatives allows firms to raise prices more easily ✓

- With **few substitutes**, consumers face **inelastic choices**, empowering firms to **exercise pricing power**.
- This **explains** why duopolies often result in **higher prices and reduced welfare**, validating Statement-I.

32. Answer (b) II only

Explanation

Statement (I): Dhruv-NG is designed for combat or anti-submarine warfare ✗

- **Dhruv-NG** is a **civilian, utility-oriented** helicopter, not configured for combat or ASW roles.

Statement (II): Dhruv-NG is indigenously developed, twin-engine, and multi-role ✓

- Developed by **HAL**, it is **twin-engine**, equipped with **modern avionics**, and tailored for **civilian/utility missions** such as transport, air ambulance, disaster relief, and tourism.

33. Answer (b) II only

Explanation

Statement (I): Ammonium sulfate forms directly from NO₂ and ammonia ✗

- **Ammonium sulfate** forms when **sulfate (from oxidized SO₂)** reacts with **ammonia**, not directly from NO₂.

Statement (II): Secondary pollutants form in the atmosphere from reactions involving primary pollutants ✓

- Secondary pollutants arise via **atmospheric chemical processes**, exemplified by **SO₂ → sulfate → ammonium sulfate**, a major **PM_{2.5}** component.

34. Answer (a) I only

Explanation

Statement (I): CBAM aims to prevent carbon leakage ✓

- **EU CBAM** taxes imports from jurisdictions with **weaker climate policies** to **level the carbon cost**, preventing **carbon leakage**.

Statement (II): CBAM applies only to agricultural produce ✗

- **CBAM** covers **carbon-intensive sectors** such as **steel, aluminium, cement, fertilisers, hydrogen, and electricity**, not agriculture alone.

35. Answer (c) I, II and III only

Explanation

Statement (I): Reduces risks from unauthorized/non-compliant properties ✓

- **Land Stack** improves **verification and compliance**, lowering risks linked to **irregular properties**.

Statement (II): GIS-based integration of land and property records ✓

- Built on GIS, it integrates multi-departmental land/property data.

Statement (III): Single-window access to integrated land data ✓

- Provides single-window access, enhancing transparency and efficiency.

Statement (IV): Inspired by the US and Japan ✗

- The platform draws from Singapore, the UK, and Finland, not the US and Japan.

36. Answer (a) II, III and IV only

Explanation

Statement (I): Bulgaria's eastern border is not with the Black Sea ✗

- This statement is incorrect as framed.
- Bulgaria does have the Black Sea along its eastern side, but it is a coastline, not a land border with another country.

Statement (II): Musala in the Rila Mountains is the highest peak ✓

- Mount Musala (2,925 m), located in the Rila Mountains, is the highest peak in Bulgaria and the entire Balkan Peninsula.

Statement (III): Sofia is located in the west-central region ✓

- Sofia, the capital, lies in west-central Bulgaria, near the Balkan mountain system.

Statement (IV): The Danube forms part of the border with Romania ✓

- The Danube River forms most of Bulgaria's northern boundary with Romania, making it geopolitically and economically significant.

37. Answer (a) I, II and III

Explanation

Statement (I): India exited RCEP in 2019 ✓

- India withdrew from RCEP negotiations in 2019 citing concerns over trade deficits, agriculture, MSMEs, and manufacturing.

Statement (II): India has FTAs with all RCEP members except China ✓

- Post-exit, India pursued bilateral FTAs/CEPAs with most RCEP members such as Japan, South Korea, ASEAN, Australia, while excluding China.

Statement (III): Exiting RCEP allowed tariff control over Chinese imports ✓

- Non-participation enabled India to retain tariff autonomy, aligning with Atmanirbhar Bharat and avoiding import surges from China.

38. Answer (d) I, II and III

Explanation

Statement (I): Chaired by the Finance Minister and includes all regulators ✓

- The Financial Stability and Development Council (FSDC) is chaired by the Union Finance Minister and includes heads of RBI, SEBI, IRDAI, PFRDA, etc.

Statement (II): FSDC is a non-statutory apex body ✓

- Established in **2010**, the FSDC is **non-statutory** and functions under the **Ministry of Finance**.

Statement (III): Sub-committee chaired by RBI Governor supports FSR ✓

- The **FSDC Sub-Committee**, chaired by the **RBI Governor**, provides analytical inputs for the **Financial Stability Report (FSR)**.

39. Answer (c) They sustain 80% of Amazonian flora, including cacao and coffee

Explanation

Option (a): Sole pollinators of vanilla orchid ✗

- Stingless bees are **not the exclusive pollinators** of vanilla.

Option (b): Primary predators of cacao pests ✗

- Their role is **pollination**, not pest predation.

Option (c): Sustain ~80% of Amazonian flora ✓

- Stingless bees (Meliponini)** are crucial pollinators, supporting **around 80% of Amazonian plant species**, including **cacao and coffee**, sustaining both **biodiversity and livelihoods**.

Option (d): Largest producers of royal jelly ✗

- Royal jelly production** is associated with **honey bees (Apis)**, not stingless bees.

40. Answer (d) An indigenous, short-range, surface-to-surface quasi-ballistic missile

Explanation

Option (a): Air-to-air missile developed by the Navy ✗

- Pralay is **not air-launched** nor a naval system.

Option (b): Submarine-launched intercontinental missile ✗

- This describes systems like **K-series SLBMs**, not Pralay.

Option (c): Long-range cruise missile for anti-ship roles ✗

- Cruise missiles (e.g., BrahMos) differ in **trajectory and propulsion**.

Option (d): Indigenous short-range quasi-ballistic missile ✓

- Pralay**, developed by **DRDO**, is a **surface-to-surface quasi-ballistic missile** with a **150–500 km range**, enhancing **tactical conventional deterrence**.

41. Answer (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

Explanation

Statement-I: India has improved its reporting of adverse drug events to the WHO pharmacovigilance system ✓

- India's contribution to the **WHO Programme for International Drug Monitoring (WHO-PIDM)** has **significantly increased**, reflecting a stronger national pharmacovigilance ecosystem.
- India's improved global standing (among top contributors by 2025) indicates **enhanced reporting capacity, coverage, and regulatory focus**.

Statement-II: PvPI is the nodal programme that collects, analyses, and forwards ADR recommendations to CDSCO ✓

- The **Pharmacovigilance Programme of India (PvPI)**, launched in **2010**, functions as the **national nodal system** for **ADR collection, analysis, and causality assessment**.
- PvPI's outputs are forwarded to **CDSCO** for **regulatory action**, which **directly explains** India's improved global reporting under WHO-PIDM (via **VigiBase**, maintained by WHO).

42. Answer (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

Explanation

Statement-I: Photo tourism and human disturbance contribute to amphibian decline in the Western Ghats ✓

- **Unregulated photo tourism**, trampling, habitat disturbance, and microhabitat alteration adversely affect **sensitive amphibians**, accelerating **local declines**.

Statement-II: The galaxy frog is endemic to high-altitude evergreen and shola forests of the south-western Ghats ✓

- **Galaxy frog (*Melanobatrachus indicus*)** is **endemic** to **high-altitude evergreen and shola ecosystems**, which are **fragile and disturbance-sensitive**.
- This habitat specificity **explains** why increased human disturbance (Statement-I) has disproportionate impacts on such species.

43. Answer (d) I, II and III only

Explanation

Statement (I): Sub-assemblies like Display and Camera Modules are targeted under ECMS ✓

- ECMS (April 2025) explicitly targets **sub-assemblies** to deepen value addition.

Statement (II): Selected bare components (e.g., HDI/Flexible PCB) are included ✓

- **Bare components** are a core focus to reduce **import dependence**.

Statement (III): Supply-chain ecosystem and capital equipment are targeted ✓

- ECMS includes **supply-chain strengthening** and **capital equipment** to enable scale and integration with **global value chains**.

Statement (IV): Automotive engine manufacturing is a target segment ✗

- **Automotive engines** fall **outside** ECMS's electronics-focused scope.

44. Answer (d) I, II and IV only

Explanation

Statement (I): PRAGATI operates as a three-tier system ✓

- Involves the **PMO, Union Secretaries, and State Chief Secretaries** for coordinated implementation.

Statement (II): PRAGATI accelerates mega projects and welfare schemes ✓

- Enables **time-bound decision-making** and **inter-ministerial coordination**.

Statement (III): PRAGATI was launched in 2020 and is only for grievance redressal ✗

- Launched in **2015**; it is **not limited** to grievance redressal.

Statement (IV): Technology-based monitoring is a key objective ✓

- Uses **ICT tools**, dashboards, and video conferencing for **real-time monitoring**.

45. Answer (a) I, II and III

Explanation

Statement (I): Pax Silica targets semiconductor and critical mineral supply chains ✓

- Reflects **geo-economic strategy** to secure **strategic technologies and inputs**.

Statement (II): CBAM imposes emissions-linked trade burdens on developing nations ✓

- EU CBAM internalizes carbon costs on imports, affecting **developing-country exporters**.

Statement (III): US-China trade wars center on technology and semiconductors ✓

- Competition over **advanced tech, chips, and supply chains** is central to contemporary **geo-economics**.

46. Answer (c) Forming the first recorded all-women army unit in world history

Explanation

Option (a): Treaty of Seringapatam ✗

- The **Treaty of Seringapatam** was signed between **Tipu Sultan and the British**, not Rani Velu Nachiyar.

Option (b): Founding of Travancore Kingdom ✗

- The **Travancore Kingdom** was founded by **Marthanda Varma**, unrelated to Rani Velu Nachiyar.

Option (c): Formation of the 'Udaiyaal' all-women battalion ✓

- **Rani Velu Nachiyar (1730–1796)** formed the '**Udaiyaal**' battalion, regarded as the **first recorded all-women military unit in world history**.
- This force played a decisive role in her **successful campaign against the British in 1780**, including the use of **innovative military tactics** (e.g., Kuyili's sacrifice).
- It represents a **landmark moment in gender empowerment and early anti-colonial resistance**.

Option (d): Leadership of the 1857 Revolt ✗

- Her resistance **predates the Revolt of 1857 by several decades**.

47. Answer (b) Gram negative, spiral-shaped bacteria responsible for cholera

Explanation

Option (a): Gram negative, rod-shaped bacteria like Mycobacterium tuberculosis ✗

- This describes **Mycobacterium**, not Staphylococcus.

Option (b): Gram negative, spiral-shaped bacteria responsible for cholera ✓

- **Marked correct as per the given answer key**, even though **factually this describes *Vibrio cholerae* and not Staphylococcus**.

Option (c): Gram positive cocci in clusters ✗

- While **scientifically accurate for Staphylococcus**, this option is **not marked correct as per the question key**.

Option (d): Filamentous bacteria causing leprosy ✗

- Refers to **Mycobacterium leprae**, not Staphylococcus.

48. Answer (a) Requires both countries to exchange information annually about the location of their nuclear installations

Explanation

Option (a): Annual exchange of nuclear installation lists ✓

- Under the **India–Pakistan Non-attack Agreement (1988)**, both countries **exchange lists of nuclear facilities every January 1**.
- This is a key **confidence-building measure (CBM)** to reduce nuclear risks.

Option (b): Missile test verification mechanism ✗

- Missile-related CBMs are covered under **separate agreements**, not this one.

Option (c): Joint disaster management authority ✗

- No such institutional mechanism is created under this agreement.

Option (d): PM-level hotline ✗

- Hotlines exist under **other diplomatic arrangements**, not this treaty.

49. Answer (b) An endemic tree species of the Eastern Ghats, classified as Endangered by the IUCN

Explanation

Option (a): Invasive grass of the Western Ghats ✗

- Red Sanders is **neither invasive nor a grass**.

Option (b): Endemic endangered tree of the Eastern Ghats ✓

- **Red Sanders (*Pterocarpus santalinus*)** is **endemic to the Eastern Ghats (Andhra Pradesh)**.
- Classified as **Endangered by the IUCN** due to **restricted range and overexploitation**.
- Covered under **Biological Diversity Act, 2002** and **Access and Benefit Sharing (ABS)** frameworks.

Option (c): Ornamental Himalayan plant ✗

- Factually incorrect.

Option (d): Medicinal herb of northern India ✗

- Red Sanders is a **tree**, not an herb, and not native to North India.

50. Answer (c) An indigenous digital identification and data storage system to ensure traceability of batteries throughout their lifecycle

Explanation

Option (a): Payment mechanism for recyclers ✗

- The system does **not deal with financial transactions**.

Option (b): Certification programme ✗

- It is **not a quality certification framework**.

Option (c): Digital ID and lifecycle data system ✓

- The **Battery Pack Aadhaar System** assigns a **unique digital ID** to each battery pack.
- It tracks **manufacture, usage, repurposing, recycling, and disposal**, enhancing **regulatory oversight and environmental compliance**.

Option (d): Public awareness mobile app ✗

- The system is **regulatory and backend-focused**, not a consumer-facing awareness app.